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Programming in HTML5 with JavaScript and CSS3

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Sections

1. Volume A
2. Volume B
3. Volume C
4. Volume D

Exam A

QUESTION 1

You are developing a customer web form that includes the following HTML.

```
<input id = "txtValue" />
```

A customer must enter a value in the text box prior to submitting the form.

You need to add validation to the text box control.

Which HTML should you use?

- A. `<input id="txtValue" type="text" required="required"/>`
- B. `<input id="txtValue" type="text" pattern="[A-Za-z]{3}" />`
- C. `<input id="txtValue" type="required" />`
- D. `<input id="txtValue" type="required" autocomplete="on" />`

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: Definition and Usage

The required attribute is a boolean attribute.

When present, it specifies that an input field must be filled out before submitting the form.

Example

An HTML form with a required input field:

```
<form action="demo_form.asp">
Username: <input type="text" name="username" required> <input type="submit">
</form>
```

Username: `<input type="text" name="username" required>`

Reference: HTML `<input>` required Attribute

http://www.w3schools.com/tags/att_input_required.asp

QUESTION 2

You are developing an HTML5 web application that displays the current temperature whenever a button is clicked. The following code provides this functionality.

```
function Loader() {
    this.status = "ready";
    this.temp = 50;
    this.updateStatus = function (newStatus) {
        status = newStatus;
    };
}

var loader = new Loader();

$(function () {
    $("#loadTemp").click(function (eventData) {
        loader.temp = loadTemp();
        loader.updateStatus("done");
    });
});
```

When the temperature is loaded, the status property on the loader instance does not change.

You need to ensure that the status property on the loader instance is updated when the temperature is loaded.

Which code segment should you use to replace the Loader function?

- A.

```
function Loader() {
  this.status = "ready";
  this.temp = 50;
  this.updateStatus = function (newStatus) {
    this.status = newStatus;
  };
}
```
- B.

```
function Loader() {
  this.prototype.status = "ready";
  this.temp = 50;
  this.updateStatus = function (newStatus) {
    this.status = newStatus;
  };
}
```
- C.

```
function Loader() {
  status = "ready";
  this.temp = 50;
  this.updateStatus = function (newStatus) {
    status = newStatus;
  };
}
```
- D.

```
function Loader() {
  window.status = "ready";
  this.temp = 50;
  this.updateStatus = function (newStatus) {
    status = newStatus;
  };
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation:

Incorrect:

not D: window.status property

The status property sets the text in the status bar at the bottom of the browser, or returns the previously set text.

QUESTION 3

You are creating a class named Consultant that must inherit from the Employee class. The Consultant class must modify the inherited PayEmployee method. The Employee class is defined as follows.

```
function Employee() {}
```

```
Employee.prototype.PayEmployee = function () {
```

```
  alert('Hi there!');
```

```
}
```

Future instances of Consultant must be created with the overridden method.

You need to write the code to implement the Consultant class.

Which code segments should you use? (Each correct answer presents part of the solution. Choose two.)

A. `Consultant.PayEmployee = function ()`

```
{  
  alert('Pay Consultant');  
}
```

B. `Consultant.prototype.PayEmployee = function ()`

```
{
```

```
    alert('Pay Consultant');
  }
C. function Consultant () {
  Employee.call(this);
}
Consultant.prototype = new Employee();
Consultant.prototype.constructor = Consultant;
D. function Consultant() {
  Employee.call(this); }
Consultant.prototype.constructor = Consultant.create;
```

Correct Answer: BC

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * Object.prototype.constructor

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string containing the function's

name. The value is only read-only for primitive values such as 1, true and "test".

* The constructor property is created together with the function as a single property of func.prototype.

Reference: Object.prototype.constructor

QUESTION 4

You are modifying an existing web page. The page is being optimized for accessibility. The current page contains the following HTML.

```
<ul>
  <li><a href="">Home</a></li>
  <li><a href="">Sales</a></li>
  <li><a href="">Operations</a></li>
</ul>
```

Standards-compliant screen readers must be able to identify the links contained within the navigation structure automatically.

You need to create the navigation link structure in the page.

With which container tags should you wrap the existing markup?

- A. `<navmap> </navmap>`
- B. `<div id="nav"> </div>`
- C. `<nav> </nav>`
- D. `<map> </map>`

Correct Answer: C

Section: Volume A

Explanation

Explanation/Reference:

Explanation: HTML `<nav>` Tag

Example

A set of navigation links:

```
<nav>
<a href="/html/">HTML</a> |
<a href="/css/">CSS</a> |
<a href="/js/">JavaScript</a> |
<a href="/jquery/">jQuery</a>
</nav>
```

Reference: HTML `<nav>` Tag

http://www.w3schools.com/tags/tag_nav.asp

QUESTION 5

You are creating a JavaScript object that represents a customer.

You need to extend the Customer object by adding the `GetCommission()` method.

You need to ensure that all future instances of the Customer object implement the `GetCommission()` method.

Which code segment should you use?

- A. `Customer.apply.GetCommission() = function()`
`{`
`alert('payroll');`
`}`
- B. `Customer.prototype.GetCommission() = function Customer.GetCommission() ()`
`{`
`alert('payroll');`
`}`
- C. `Customer.GetCommission() = function (){`
`alert('payroll');`
`}`
- D. `Customer.prototype.GetCommission() = function ()`
`{`
`alert('payroll');`
`}`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * Object.prototype.constructor

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string

containing the function's name. The value is only read-only for primitive values such as 1, true and "test".
* The constructor property is created together with the function as a single property of func.prototype.

Reference: Object.prototype.constructor

QUESTION 6

You are developing a web form that includes the following code.

```
<div id="dynamicForm">  
  <input type="checkbox" id="myCheckbox" onclick="ShowInputBox('dynamicForm');" >  
</div>
```

When a user selects the check box, an input text box must be added to the page dynamically.

You need to ensure that the text box is added.

Which function should you use?

- A.

```
function ShowInputBox(divName)
{
    var newInputDiv = document.createElement('div');
    newInputDiv.innerHTML = "<input type='text' id='newInputBox'>";
    document.getElementById(newInputDiv).appendChild(divName);
}
```
- B.

```
function ShowInputBox(divName)
{
    var newInputDiv = document.createElement('div');
    newInputDiv.innerHTML = "<input type='text' id='newInputBox'>";
    document.getElementById(divName).appendChild(newInputDiv);
}
```
- C.

```
function ShowInputBox(divName)
{
    var newInputDiv = document.createElement('div');
    newInputDiv.innerHTML = "<input type='text' id='newInputBox'>";
    document.getElementById(divName).applyElement (newInputDiv);
}
```
- D.

```
function ShowInputBox(divName)
{
    var newInputDiv = document.createElement('div');
    newInputDiv.innerHTML = "<input type='text' id='newInputBox'>";
    document.getElementById(newInputDiv).applyElement (divName);
}
```

A. Option A

- B. Option B
- C. Option C
- D. Option D

Correct Answer: B
Section: Volume A
Explanation

Explanation/Reference:

Explanation: We create a new div element with the textbox. We then use appendChild() method appends this node as the last child the input node divname.

Reference: HTML DOM appendChild() Method

QUESTION 7

You are developing an HTML5 page that has an element with an ID of logo. The page includes the following HTML.

```
<div>
```

```
Logo:<br>
```

```
<div id="logo">
```

```
</div>
```

```
</div>
```

You need to move the logo element lower on the page by five pixels.

Which lines of code should you use? (Each correct answer presents part of the solution. Choose two.)

- A. `document.getElementById("logo").style.position = "relative";`
- B. `document.getElementById("logo").style.top = "5px";`
- C. `document.getElementById("logo").style.top = "-5px";`
- D. `document.getElementById("logo").style.position = "absolute";`

Correct Answer: AB
Section: Volume A
Explanation

Explanation/Reference:

Explanation: * style.position = "relative";

The element is positioned relative to its normal position, so "left:20" adds 20 pixels to the element's LEFT position.

* For relatively positioned elements, the top property sets the top edge of an element to a unit above/below its normal position.

Example: Example

Set the top edge of the image to 5px below the top edge of its normal position:

```
img {  
position: relative;
```

```
top: 5px;  
}
```

Reference: CSS position Property; CSS top Property

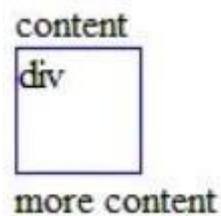
http://www.w3schools.com/cssref/pr_class_position.asp

http://www.w3schools.com/cssref/pr_pos_top.asp

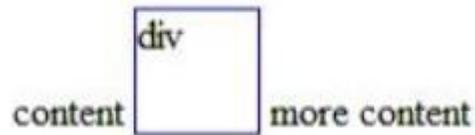
QUESTION 8

You are developing a web page by using HTML5 and CSS3. The page includes a <div> tag with the ID set to validate.

When the page is rendered, the contents of the <div> tag appear on a line separate from the content above and below it. The rendered page resembles the following graphic.



The page must be rendered so that the <div> tag is not forced to be separate from the other content. The following graphic shows the correctly rendered output.



You need to ensure that the page is rendered to meet the requirement.

Which line of code should you use?

- A. `document.getElementById("validate").style.display = "inline";`
- B. `document.getElementById("validate").style.margin = "0";`
- C. `document.getElementById("validate").style.padding = "0";`
- D. `document.getElementById("validate").style.display = "block";`

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * display: value;

value: inline

Default value. Displays an element as an inline element (like ``)

* Example

Display `<p>` elements as inline elements:

```
p.inline {  
  display: inline;  
}
```

Reference: CSS display Property

http://www.w3schools.com/cssref/pr_class_display.asp

QUESTION 9

You are creating a JavaScript function that displays the name of a web application.

You declare the following button element.

```
<input type="button" id= "About" value="About" />
```

When a user clicks the button, a JavaScript function named About must be called.

You need to create an event handler that calls the About function when the button is clicked.

Which two code segments can you use? (Each correct answer presents a complete solution. Choose two.)

A.

```
var button = document.getElementById("About");  
ScriptEngine.call(button, About());
```

B.

```
var button = document.getElementById("About");  
ScriptEngine.bind(button, About());
```

C.

```
var button = document.getElementById("About");  
button.addEventListener("click", About);
```

D.

```
var button = document.getElementById("About");  
button.attachEvent("onclick", About);
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: CD

Section: Volume A

Explanation

Explanation/Reference:

Explanation: C: addEventListener

The addEventListener() method attaches an event handler to the specified element. In context of a worker, both self and this refer to the global scope. The worker can either add an event listener for the message event, or it can define the onmessage handler to listen for any messages sent by the parent thread.

D: attachEvent method

Registers an event handler function (event listener) for the specified event on the current object.

Reference: addEventListener method; attachEvent method

<http://help.dottoro.com/ljeuqqoq.php>

<http://help.dottoro.com/ljinxrmt.php>

QUESTION 10

You need to test the value of the following variable in JavaScript.

```
var length = "75";
```

A block of code must execute if the length equals 75 regardless of the data type.

You need to use the statement that meets this requirement.

Which lines of code should you use? (Each correct answer presents a complete solution. Choose two.)

- A. `if (length === 75)`
- B. `if (length == 75)`
- C. `if (length! = 75)`
- D. `if (length == "75")`

Correct Answer: BD

Section: Volume A

Explanation

Explanation/Reference:

Explanation: When comparison is made using double-equals operator (`==`), it will check the values of variable and convert them to a common type and returns true if both are equals. So comparing number with string having the same value will return true.

Examples:

examples:

```
console.log(23 == "23"); // true
```

```
console.log(1 == true); // true
```

Incorrect:

not `===`: This is "strict" or "identical" equality.

Reference: JavaScript Triple Equals Operator vs Double Equals Operator (=== vs ==)

QUESTION 11

You are developing an application that uses a third-party JavaScript library named doWork().

The library occasionally throws an "object is null or undefined" error with an error code of

-2146823281.

The application must:

- Extract and handle the exceptions thrown by doWork()
- Continue normal program execution if other exceptions occur

You need to implement the requirements.

Which code segment should you use?

- A.

```
if (doWork() == -2146823281) {  
    ...  
}
```
- B.

```
if (doWork() == "object is null or undefined") {  
    ...  
}
```
- C.

```
try {  
    doWork();  
} catch(e) {  
    if (e.number == -2146823281)  
        ...  
}
```
- D.

```
try {  
    doWork();  
} catch(e) {  
    if (e.message == -2146823281)  
        ...  
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: C
Section: Volume A
Explanation

Explanation/Reference:

Explanation: * The try statement lets you test a block of code for errors.
The catch statement lets you handle the error.

The JavaScript statements try and catch come in pairs:

```
try {  
  Block of code to try  
}  
catch(err) {  
  Block of code to handle errors  
}
```

* object.number [= errorNumber]

Returns or sets the numeric value associated with a specific error. The Error object's default property is number.

* Example:

The following example causes an exception to be thrown and displays the error code that is derived from the error number.

```
try  
{  
  // Cause an error.  
  var x = y;  
}  
catch(e)  
{  
  document.write ("Error Code: ");  
  document.write (e.number & 0xFFFF)  
  document.write ("<br />");  
  
  document.write ("Facility Code: ")  
  document.write(e.number>>16 & 0x1FFF)  
  document.write ("<br />");  
  
  document.write ("Error Message: ")  
  document.write (e.message)  
}
```

The output of this code is as follows.

```
Error Code: 5009  
Facility Code: 10
```

Error Message: 'y' is undefined

Reference: JavaScript Errors - Throw and Try to Catch; number Property (Error) (JavaScript)

QUESTION 12

You are troubleshooting a web page that includes the following code. (Line numbers are included for reference only.)

```
01 <!DOCTYPE html>
02 <html lang="en" xmlns="http://www.w3.org/1999/xhtml">
03 <head>
04   <meta charset="utf-8" />
05   <title></title>
06   <script>
07     document.addEventListener("DOMContentLoaded", function () {
08       var elButton = document.getElementById("myButton");
09       var elDiv = document.getElementById("myDiv");
10       elButton.addEventListener("click", function () {
11         alert(this.type);
12       }, false);
13     }, false);
14   </script>
15 </head>
16 <body>
17   <div id="myDiv">Test</div>
18   <input type="button" id="myButton" value="Click Me" />
19 </body>
20 </html>
```

What is displayed in the alert from line 11?

- A. Div
- B. Function
- C. Button

D. Document

Correct Answer: C

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * The event handler here normalizes event object (passed as a first argument) and invokes handleCellClick in a proper context (i.e. referring to an element that was attached event listener to). The element is the button elButton.

* addEventListener

Syntax: element.addEventListener(event, function, useCapture)

Reference: HTML DOM addEventListener() Method

QUESTION 13

You are developing a web application that consumes services from a third-party application. A web worker processes the third-party application requests in the background. A page in the application instantiates the web worker process.

You need to establish two-way communications between the web worker process and the page.

Which two actions will achieve this goal? (Each correct answer presents a complete solution. Choose two.)

- A. From the web worker, use the onconnect event handler of the main page to capture events.
- B. From the main page, use the onmessage event handler of the web worker to capture events.
- C. From the web worker, use the onmessage event handler of the main page to capture events.
- D. From the main page, use the onconnect event handler of the web worker to capture events.

Correct Answer: BC

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * When postMessage() is called from the main page, our worker handles that message by defining an onmessage handler for the message event.

* Server-Sent Events - One Way Messaging

A server-sent event is when a web page automatically gets updates from a server.

Receive Server-Sent Event Notifications

The EventSource object is used to receive server-sent event notifications:

Example

```
var source = new EventSource("demo_sse.php");
source.onmessage = function(event) {
document.getElementById("result").innerHTML += event.data + "<br>";
};
```

Reference:

http://www.w3schools.com/html/html5_serversentevents.asp

<http://www.html5rocks.com/en/tutorials/workers/basics/>

QUESTION 14

You are developing an HTML5 web application that displays customer mailing address information.

The application loads addresses from a web service by using AJAX. The following code defines a Customer object and loads address data.

```
function Customer(firstName, lastName) {
    this.firstName = firstName;
    this.lastName = lastName;
    this.address = "";
}

Customer.prototype.parseAddress = function (data) {
    this.address = data.address;
}

Customer.prototype.loadAddress = function () {
}
```

You need to implement the loadAddress function.

Which code segment should you use?

- A.

```
$.get('data.xml', function (data) {  
  (function (scope) {  
    scope.parseAddress(data);  
  })(data);  
});
```
- B.

```
$.get('data.xml', function (data, innerScope) {  
  innerScope.parseAddress(data);  
});
```
- C.

```
var that = this;  
$.get('data.xml', function (data) {  
  that.parseAddress(data);  
});
```
- D.

```
$.get('data.xml', function (data) {  
  this.parseAddress(data);  
});
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: C
Section: Volume A
Explanation

Explanation/Reference:
Explanation:

QUESTION 15

You are developing an HTML5 web page.

The appearance of the text box must change when a user moves the focus to another element on the page.

You need to develop the page to respond to user action.

Which line of code should you use?

- A. `<input type="text" onblur="resetStyle(this);" />`
- B. `<input type="text" onfocus="resetStyle(this);" />`
- C. `<input type="text" onreset="resetStyle(this);" />`
- D. `<input type="text" onselect="resetStyle(this);" />`

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: Definition and Usage

The onblur event occurs when an object loses focus.

Example

Execute a JavaScript when a user leaves an input field:

```
<input type="text" onblur="myFunction()">
```

Reference: onblur Event

http://www.w3schools.com/jsref/event_onblur.asp

QUESTION 16

You are developing an HTML5 page that includes several paragraph elements.

You have the following requirements:

Add a drop shadow that is one inch below the text in the paragraph

Set the radius of the drop shadow to five pixels

You need to style the paragraphs to meet the requirements.

Which CSS style should you use?

- A. text-shadow: 72pt 0pt 5pt
- B. text-shadow: 5px 1in 0px;
- C. text-shadow: 72pt 5em 0px
- D. text-shadow: 72pt 0em 5px;

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation: D is the most correct.

Reference: CSS Text Module Level 3

<http://www.w3.org/TR/css3-text/#text-shadow>

Note:

All options are incorrect nearest correct answers are B or D.

```
#obj {text-shadow: <x-offset> <y-offset> <blur-radius> <color>; }
```

<x-offset> +n right -n left

<y-offset> +n bottom -n top

1 inch below means <y-offset> is 1in or 72 pt

Hence actually answer must be

0px, 1in, 5px

or

0px, 72pt, 5px

QUESTION 17

You are creating a web form that users will use to enter their personal information. The form includes the following HTML.

```
<body>
  <table>
    <tr>
      <td>Item</td>
      <td>Input</td>
      <td>Current</td>
    </tr>
    <tr>
      <td>First Name</td>
      <td>
        <input type="text" />
      </td>
      <td></td>
    </tr>
    <tr>
      <td>Last Name</td>
      <td>
        <input type="text" />
      </td>
      <td></td>
    </tr>
  </table>
</body>
```

You have the following requirements:

- When a user enters an input box, the cell on the right must turn green.
- When a user leaves an input box, the cell on the right must turn white.

You need to create the web form to meet these requirements.

Which code segment should you use?

nth-child


```
○ A. $(document).ready(function () {
    $('table td: nth-child(2) input').focus(
        function () {
            $(this).parent().next().css
                ("background-color", "#00FF00");
        });
    $('table td: nth-child(2) input').blur(
        function () {
            $(this).parent().next().css
                ("background-color", "#FFFFFF");
        });
    });
```

```
○ B. $(document).ready(function () {
    $('table td: eq(2) input').focus(
        function () {
            $(this).parent().parent().next().css
                ("background-color", "#00FF00");
        });
    $('table td: eq(2) input').blur(
        function () {
            $(this).parent().parent().next().css
                ("background-color", "#FFFFFF");
        });
    });
```

```
○ C. $(document).ready(function () {
    $('table td:eq(2) input').focus(
        function () {
            $(this).parent().next().css
                ("background-color", "#00FF00");
        });
    $('table td:eq(2) input').blur(
        function () {
            $(this).parent().next().css
                ("background-color", "#FFFFFF");
        });
    });
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * The :nth-child(n) selector matches every element that is the nth child, regardless of type, of its parent. n can be a number, a keyword, or a formula.

Example

Specify a background color for every <p> element that is the second child of its parent:

```
p:nth-child(2) {  
background: #ff0000;  
}
```

* parent.next()

Here: the cell to the right of the current cell.

Reference: CSS3 :nth-child() Selector

QUESTION 18

You are developing a web page. You create a grid layout by using the following CSS segment.

```
#myGrid {  
display: -ms-grid;  
background: gray;  
-ms-grid-columns: 100px 100px;  
-ms-grid-rows: 50px 50px 50px;  
}
```

You have the following requirements:

- You must place content in the first column of the second row.
- The content must span two columns.

You need to ensure that the style of the grid meets the requirements.

Which CSS segment should you use?

- A.

```
#itemSpan {  
  -ms-grid-row: 2;  
  -ms-grid-column: 1;  
  -ms-grid-column-span: 2  
}
```
- B.

```
#itemSpan {  
  -ms-grid-row: 2;  
  -ms-grid-column: 1;  
  -ms-grid-column-span: initial  
}
```
- C.

```
#itemSpan {  
  -ms-grid-row: 2;  
  -ms-grid-column: 1;  
  -ms-grid-column-width: 2;  
}
```
- D.

```
#itemSpan {  
  -ms-grid-row: 2;  
  -ms-grid-column: 1;  
  -ms-grid-column-span: inherit  
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A
Section: Volume A
Explanation

Explanation/Reference:

Explanation: -ms-grid-column-span

Gets or sets a value that specifies the number of columns of the grid that the object spans.

This property is read-only.

Property values

The number of columns.

Integer value that specifies the number of columns to span.

Reference: -ms-grid-column-span property

QUESTION 19

You are developing a web page by using HTML5.

You have the following requirements:

- An H1 element must be placed at the top left corner of the page.
- The size and location of the H1 element must not change if additional elements are added to the page.

You need to position the H1 element on the page.

Which CSS3 style should you use?

A.

```
h1
{
position:absolute;
left:0px;
top:0px;
}
```

C.

```
h1
{
position:static;
left:100%;
top:100%;
}
```

B.

```
h1
{
position:absolute;
left:100%;
top:100%;
}
```

D.

```
h1
{
position:static;
left:0px;
top:0px;
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A
Section: Volume A
Explanation

Explanation/Reference:

Explanation: * The position property specifies the type of positioning method used for an element (static, relative, absolute or fixed).
absolute: The element is positioned relative to its first positioned (not static) ancestor element

* For absolutely positioned elements, the left property sets the left edge of an element to a unit to

the left/right of the left edge of its containing element.

CSS Syntax

left: auto|length|initial|inherit;

length: Sets the left edge position in px, cm, etc.

Incorrect:

position static: Default value. Elements render in order, as they appear in the document flow

Reference: CSS position Property; CSS left Property

QUESTION 20

You are styling a box object on a page by using CSS3.

You need to set the transparency of the object to 50%.

Which two CSS3 styles will achieve the goal? (Each correct answer presents a complete solution. Choose two.)

A.

```
.Box {  
  background: rgb(255,0,0);  
  backface-visibility: hidden;  
}
```

B.

```
.Box {  
  background: rgb(255,0,0);  
  background: rgba(255,0,0,.5);  
}
```

C.

```
.Box {  
  background: rgb(255,0,0);  
  opacity: 0.5;  
}
```

D.

```
.Box {  
  background: rgb(255,0,0);  
  background-color: #fff;  
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: BC

Section: Volume A

Explanation

Explanation/Reference:

Explanation: The RGBA declaration allows you to set opacity (via the Alpha channel) as part of the color value.

Example:

```
div { background-color: rgba(255,0,0,0.5); }
```

The background color has been set to blue, and the opacity set to half.

Example 2:

```
background-color: rgb(0,0,255); opacity: 0.5;
```

The background color has been set to blue, and the opacity set to half.

Reference: A brief introduction to Opacity and RGBA

<http://www.css3.info/introduction-opacity-rgba/>

QUESTION 21

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which values are valid for the text-transform property?

- A. hidden
- B. blink
- C. capitalize
- D. line-through

Correct Answer: C

Section: Volume A

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 22

You are developing a page that includes text and an illustration. The web page resembles the following image.



- You have the following requirements:
- The illustration must be in the center of the page.
- The text must flow around the left, right, top, and bottom of the illustration.

You need to ensure that the layout of the web page meets the requirements.

Which line of code should you use?

- A. `-ms-wrap-flow: both;`
- B. `-ms-wrap-flow: clear;`
- C. `-ms-wrap-flow: maximum;`
- D. `-ms-wrap-flow: auto;`

Correct Answer: A
Section: Volume A
Explanation

Explanation/Reference:

Explanation: `-ms-wrap-flow`
Gets or sets a value that specifies how exclusions impact inline content within block-level elements.

Syntax

`-ms-wrap-flow: auto | both | start | end | maximum | clear`

both

Inline flow content can flow on all sides of the exclusion.

Reference: -ms-wrap-flow property

[http://msdn.microsoft.com/en-us/library/ie/hh673558\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ie/hh673558(v=vs.85).aspx)

<http://dev.w3.org/csswg/css3-exclusions/>

QUESTION 23

You are developing a web page that has a group of H1 and H2 elements. The page also includes a CSS class named underlineMe.

You have the following requirements:

- The font color of all H1 and H2 elements must be changed to red.
- The CSS class underlineMe must be applied to all H1 and H2 elements.

You need to update the web page to meet the requirements.

Which code segment should you use?

- A.

```
$( ":head" ).addClass( 'underlineMe' );  
$( ":head" ).css( { color: 'red' } );
```
- B.

```
$( "h1" ).css( { color: 'red' } );  
$( "h1" ).addClass( 'underlineMe' );
```
- C.

```
$( "h2" ).css( { color: 'red' } );  
$( "h2" ).addClass( 'underlineMe' );
```
- D.

```
$( ":header" ).css( { color: 'red' } );  
$( ":header" ).addClass( 'underlineMe' );
```

A. Option A

- B. Option B
- C. Option C
- D. Option D

Correct Answer: D
Section: Volume A
Explanation

Explanation/Reference:

Explanation: The :header selector selects all header elements (<h1> to <h6>).

Reference: jQuery :header Selector

http://www.w3schools.com/jquery/sel_header.asp

QUESTION 24

You are testing the value of the following variable in JavaScript.

```
var height = "300";
```

A block of code must execute if the following conditions are true:

- The height variable is set to 300
- The height variable is of type string

You need to implement the code to run the test.

Which line of code should you use?

- A. `if (height == 300)`
- B. `if (height == "300")`
- C. `if (height != "300")`
- D. `if (height != 300)`

Correct Answer: B
Section: Volume B
Explanation

Explanation/Reference:

Explanation: Use == to test for equality.

Use "300" to test for the string.

QUESTION 25

You are developing a web application that uses web workers to process images extracted from an HTML5 CANVAS object on a web page.

You need to pass messages between the web workers and the web page.

Which three types of objects should you use? (Each correct answer presents a complete solution. Choose three.)

- A. JSON
- B. Window
- C. Parent
- D. String
- E. JavaScript
- F. DOM

Correct Answer: ADE

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * Example:

```
var myHelloWorker = new Worker('helloworkers.js');
```

You'll then start the worker (and thus a thread under Windows) by sending it a first message:

```
myHelloWorker.postMessage();
```

Indeed, the Web Workers and the main page are communicating via messages. Those messages can be formed with normal strings or JSON objects.

* (E) The Web Workers API makes it possible to execute a JavaScript file asynchronously and autonomously. A web worker is essentially a thread executing a JavaScript file.

* (A, D) In the first implementations of web workers the browsers only allowed strings to be exchanged as messages. However, recent implementations allow for exchange of values or JSON objects.

Reference: HTML5 Web Workers

QUESTION 26

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. Lowercase
- B. Blink
- C. Line-through
- D. 20px

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Reference: CSS text-transform Property

QUESTION 27

You are creating a JavaScript object that represents an employee.

You need to extend the Employee object by adding the GetPayroll() method.

You need to ensure that all future instances of the Employee object implement the GetPayroll() method.

Which code segment should you use?

- A. `Employee.apply.GetPayroll() = function()`
`{`
`alert("payroll");`
`}`
- B. `Employee.prototype.GetPayroll = function Employee.GetPayroll()`
`{`
`alert("payroll");`
`}`
- C. `Employee.GetPayroll() = function(){`
`alert("payroll");`
`}`
- D. `Employee.prototype.GetPayroll = function()`
`{`
`alert("payroll");`
`}`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * `Object.prototype.constructor`

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string containing the function's name. The value is only read-only for primitive values such as 1, true and "test".

* The constructor property is created together with the function as a single property of func.prototype.

Reference: Object.prototype.constructor

QUESTION 28

You are developing an HTML5 page that includes several paragraph elements.

You have the following requirements:

- Add a drop shadow that is one inch below the text in the paragraph
- Set the radius of the drop shadow to five pixels

You need to style the paragraphs to meet the requirements.

Which CSS style should you use?

- A. Text-shadow: 72pt 0pt 5pt
- B. Text-shadow: 5px 1in 0px;
- C. Text-shadow: 72pt 0em 5px;
- D. Text-shadow: 100px 0px 5px;

Correct Answer: B

Section: Volume B

Explanation

Explanation/Reference:

Explanation: We set the second argument (vertical) to one inch (1in).

Note

Syntax

text-shadow: h-shadow v-shadow blur color;

Note: The text-shadow property attaches one or more shadows to text. The property is a comma-separated list of shadows, each specified by 2 or 3 length values and an optional color. Omitted lengths are 0.

* h-shadow

Required. The position of the horizontal shadow. Negative values are allowed

* v-shadow

Required. The position of the vertical shadow. Negative values are allowed

* blur
Optional. The blur distance

* color
Optional. The color of the shadow.

QUESTION 29

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. Capitalize
- B. Red
- C. 20px
- D. Italic

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 30

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

- A. <article>
- B. <table>
- C. <div>
- D.

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: The <article> tag specifies independent, self-contained content.

An article should make sense on its own and it should be possible to distribute it independently

from the rest of the site.

Potential sources for the <article> element:

Forum post
Blog post
News story
Comment

QUESTION 31

You are developing an HTML5 page that has an element with an ID of picture. The page includes the following HTML.

```
<div>  
  Picture:<br />  
  <div id = "picture">  
  </div>  
</div>
```

You need to move the picture element lower on the page by five pixels.

Which two lines of code should you use? (Each correct answer presents part of the solution.
Choose two.)

- A. `document.getElementById("picture").style.position = "relative";`
- B. `document.getElementById("picture").style.top = "5px";`
- C. `document.getEiementById("picture").style.top = "-5px";`
- D. `document.getElementById("picture").style.position = "absolute";`

Correct Answer: AB

Section: Volume B

Explanation

Explanation/Reference:

Explanation: We use relative position to move the position 5 pixels lower on page.

Using a negative value would move the picture higher on the page.

Note:

* The top property sets or returns the top position of a positioned element.

This property specifies the top position of the element including padding, scrollbar, border and margin.

Syntax

Set the top property:

```
Object.style.top="auto|length|%|inherit"
```

Where:

Length defines the top position in length units. Negative values are allowed

QUESTION 32

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

- A. `<section>`
- B. `<tbody>`
- C. `<div>`
- D. `<table>`

Correct Answer: A

Section: Volume B
Explanation

Explanation/Reference:

Explanation: The <section> tag defines sections in a document. Such as chapters, headers, footers, or any other sections of the document.

QUESTION 33

You are developing a customer web form that includes the following HTML.

```
<input id="txtValue"/>
```

You need to change the HTML markup so that customers can enter only a valid three-letter country code.

Which HTML should you use?

- A. <input id="txtValue" type="country"/>
- B. <input id="txtValue" type="text" required="xxx"/>
- C. <input id="txtValue" type="text" pattern="[A-Za-z]{3}"/>
- D. <input id="txtValue" type="code" pattern="country"/>

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: HTML <input> pattern Attribute

The pattern attribute specifies a regular expression that the <input> element's value is checked against.

Example

An HTML form with an input field that can contain only three letters (no numbers or special characters):

```
<form action="demo_form.asp">  
Country code: <input type="text" name="country_code"  
pattern="[A-Za-z]{3}" title="Three letter country code"> <input type="submit">  
</form>
```

Reference: HTML <input> pattern Attribute

http://www.w3schools.com/tags/att_input_pattern.asp

QUESTION 34

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. Capitalize
- B. Hidden
- C. Italic
- D. Line-through

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 35

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. Italic
- B. Line-through
- C. Capitalize

D. 20px

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 36

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

A. <tbody>

B. <article>

C. <div>

D.

Correct Answer: B

Section: Volume B

Explanation

Explanation/Reference:

Explanation: The <article> tag specifies independent, self-contained content.

An article should make sense on its own and it should be possible to distribute it independently from the rest of the site.

Potential sources for the <article> element:

Forum post
Blog post
News story
Comment

QUESTION 37

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

- A.
- B. <nav>
- C. <cable>
- D. <section>

Correct Answer: D

Section: Volume B

Explanation

Explanation/Reference:

Explanation: The <section> tag defines sections in a document. Such as chapters, headers, footers, or any other sections of the document.

QUESTION 38

You are developing an HTML5 web application and are styling text. You need to use the text- transform CSS property.

Which value is valid for the text-transform property?

- A. red
- B. hidden
- C. lowercase
- D. italic

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 39

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. lowercase
- B. 20px
- C. line-through
- D. italic

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 40

You are developing an HTML5 web application and are styling text.

You need to use the text-transform CSS property.

Which value is valid for the text-transform property?

- A. Italic
- B. Red
- C. Capitalize
- D. Line-through

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: CSS Syntax

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

Example

Transform text in different elements:

```
h1 {text-transform:uppercase;}
```

```
h2 {text-transform:capitalize;}
```

```
p {text-transform:lowercase;}
```

Reference: CSS text-transform Property

http://www.w3schools.com/cssref/pr_text_text-transform.asp

QUESTION 41

You develop an HTML5 webpage. You have the following HTML markup: (Line numbers are for reference only.)

```
01 <table>
02   <tr>
03     <th>Fruit</th>
04     <th>Quantity</th>
05     <th>Price</th>
06   </tr>
07   <tr>
08     <td>Apples</td>
09     <td>48</td>
10     <td>$0.29</td>
11   </tr>
12   <tr>
13     <td>Bananas</td>
14     <td>72</td>
15     <td>$0.19</td>
16   </tr>
17   <tr>
18     <td>Watermelon</td>
19     <td>14</td>
20     <td>$3.99</td>
21   </tr>
22 </table>
```

The webpage also contains the following CSS markup:

```
table { border: 1px solid black; font-family: Arial; }
tr:nth-child(odd) { background-color: red; }
tr td:nth-of-type(even) {background-color: blue; }
```

You need to determine how the webpage will appear when the CSS styles are applied.

Select two.

- A. The first row of the table will have a red background.
- B. The second row of the table will have a red background.
- C. The second cell in the first row of the table will have a blue background.
- D. The second cell in the third row of the table will have a blue background.
- E. The second cell in the third row of the table will have not have blue background.

Correct Answer: AE

Section: Volume B

Explanation

Explanation/Reference:

Fruit	Quantity	Price
Apples	48	\$0.29
Bananas	72	\$0.19
Watermelon	14	\$3.99

QUESTION 42

You develop a webpage.

The webpage must display a grid that contains one row and five columns. Columns one, three, and five are the same width. Columns two and four are the same width, but much wider than columns one, three, and five. The grid resembles the following image:



The grid must meet the following requirements:

- Each row must be tall enough to ensure that images are not cut off.
- Each row must contain five columns.
- The width of the columns must not change when the screen is resized or rotated.

You need to define the style for the grid. Which CSS3 style should you use?

- A.

```
<style type="text/css">
#grid {
  display: -ms-grid;
  -ms-grid-columns: 2fr (3fr 2fr) [2];
  -ms-grid-rows: auto;
}
</style>
```
- B.

```
<style type="text/css">
#grid {
  display: -ms-grid;
  -ms-grid-columns: 100px (250px 100px) [2];
  -ms-grid-rows: min-content;
}
</style>
```
- C.

```
<style type="text/css">
#grid {
  display: -ms-grid;
  -ms-grid-columns: 100px 250px 100px 250px 100px;
  -ms-grid-rows: auto;
}
</style>
```
- D.

```
<style type="text/css">
#grid {
  display: -ms-grid;
  -ms-grid-columns: 100px 250px 100px 250px 100px;
  -ms-grid-rows: min-content;
}
</style>
```

- A. Option A
B. Option B

- C. Option C
- D. Option D

Correct Answer: C
Section: Volume B
Explanation

Explanation/Reference:

Explanation: * -ms-grid-rows property
auto

The height of a row is computed based on the tallest child element in that column.

Incorrect:

Not A: The width of the columns must not change when the screen is resized or rotated.

Not B, Not D: -ms-grid-rows property
min-content

The minimum height of any child elements is used as the height of the row.

Note:

* width

The width of each column specified as one of the following values:

A length consisting of an integer number, followed by an absolute units designator ("cm", "mm", "in", "pt", or "pc") or a relative units designator ("em", "ex", or "px").

A percentage of the object width.

A proportion of the remaining horizontal space (that is, the object width, less the combined widths of other tracks), consisting of an integer number followed by a fractional designator ("fr"). For example, if "200px 1fr 2fr" is specified, the first column is allocated 200 pixels, and the second and third columns are allocated 1/3 and 2/3 of the remaining width, respectively.

QUESTION 43

You implement an application by using HTML5 and JavaScript. You create a webpage that contains the following HTML:

```
<!DOCTYPE html>
<html>
<head>
  <link href="site.css" rel="stylesheet" type="text/css" />
  <script type="text/javascript" src="jquery.js"></script>
</head>
<body>
  <div id="container">
    <ul>
      <li>First List Item
        <ul>
          <li>Child List Item</li>
        </ul>
      </li>
      <li>Second List Item</li>
      <li>Third List Item</li>
      <li>Fourth List Item</li>
    </ul>
    <p>Some interesting information that we need to display.</p>
    <p>More information that is important to this page.</p>
  </div>
</body>
</html>
```

The application must place a border on only the first UL element that is contained in the DIV element.

You need to update the webpage.

What should you do?

A. Add the following SCRIPT element after the DIV element:

```
<script>
  $("div").each(function () {
    $("ul").each(function (index, domEle) {
      $(domEle).css("border", "1px solid black");
    });
  });
</script>
```

B. Add the following SCRIPT element after the DIV element:

```
<script>
  $("div#container > ul").css("border", "1px solid black");
</script>
```

C. Add the following SCRIPT element after the DIV element:

```
<script>
  $("ul:first-of-type").css("border", "1px solid black");
</script>
```

D. Add the following style to the site.css file:

```
.container > ul {
  border: 1px solid black;
}
```

- A. Option A
- B. Option B
- C. Option C

D. Option D

Correct Answer: D

Section: Volume B

Explanation

Explanation/Reference:

Explanation: Example:

CSS File:

```
ul {  
border: 1px solid black;  
}
```

Inline CSS:

```
<ul class="container" style="border: 1px solid black">
```

QUESTION 44

You troubleshoot a webpage that contains the following HTML element:

```
<canvas id= "clickCanvas" width="300"> height= "300">Your browser does not support the HTML5 canvas.</canvas>
```

The following JavaScript code is included in a script tag in the HEAD section of the webpage:

(Line numbers are included for reference only.)

```
01 var canvas;
02 var context;
03 window.onload = function initialize() {
04     canvas = document.getElementById('clickCanvas');
05     context = canvas.getContext('2d');
06     drawBox();
07
08 }
09 function clickReporter(e) {
10     alert('clicked');
11 }
12 function drawBox() {
13     context.fillStyle = 'black';
14     context.strokeRect(20, 20, canvas.width - 20, canvas.height - 20);
15 }
```

You need to invoke the clickReporter() JavaScript function when a user clicks the mouse on the canvas HTML element.

What should you do?

- A. Add the following attribute to the canvas HTML element:
clicked= "clickReporter()"
- B. Replace the code segment at line 06 with the following code segment:
drawBox.Click += clickReporter;
- C. Insert the following code segment at line 07:
canvas.onclick = clickReporter;
- D. Insert the following code segment at line 07:
canvas, click = clickReporter;

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

QUESTION 45

You are implementing an application by using HTML5 and JavaScript. A web page contains the following HTML table.

```
<table id="dataTable">
  <tbody>
    <tr><td>...</td></tr>
    <tr class="selected"><td>...</td></tr>
    <tr><td>...</td></tr>
    <tr class="selected"><td>...</td></tr>
    <tr><td>...</td></tr>
    <tr class="selected"><td>...</td></tr>
  </tbody>
  <tfoot>
    <tr class="selected"><td>...</td></tr>
    <tr class="selected"><td>...</td></tr>
    <tr class="selected"><td>...</td></tr>
  </tfoot>
</table>
```

The application must:

- Identify all rows in the table body that have a class attribute of selected
- Exclude the last selected row in the table

You need to implement the web page according to the requirements.

Which CSS selector should you use?

- A. `tr:not(tr:last-child).selected < #dataTable`
- B. `#dataTable > tr.selected:not(tr:last-child)`
- C. `#dataTable tbody tr.selected:not(tr:last-child)`
- D. `#dataTable tr.selected:not(tr:last-child)`

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * [attribute]

[target]

Selects all elements with a target attribute

* :not(selector)

not(p)

Selects every element that is not a <p> element

Reference: CSS Selector Reference

QUESTION 46

You create an application that sends information to a web service by using the following code:
(Line numbers are included for reference only.)

```
01 function CustomError(code) {  
02     this.errorCode = code;  
03 }  
04  
05 var code = send();  
06 if (code != 0) {  
07     throw new CustomError(code);  
08 }
```

When the web service returns a non-zero result code, you must raise an exception that contains the result code.

You need to implement the code that generates the exception.

Which line of code should you insert at line 04?

- A. CustomError.prototype = Error.prototype;
- B. CustomError ["ErrorType"] = Error;
- C. CustomError.customError = true;
- D. Error-constructor = CustomError;

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * Object.prototype.constructor

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string containing the function's name. The value is only read-only for primitive values such as 1, true and "test".

* The constructor property is created together with the function as a single property of func.prototype.

Reference: Object.prototype.constructor

QUESTION 47

You are developing a customer web form that includes following HTML.

```
<input id= "textAccountType"/>
```

You need to develop the form so that customers can enter only a valid account type consisting of two English alphabet characters.

Which code segment should you use?

```
C A. function validate() {  
    var value = $("#txtAccountType").text();  
    if (value == null || value == "")  
        alert("please enter valid account type");  
    return;  
}
```

```
C B. function validate() {  
    var value = $("#txtAccountType").val();  
    var regex = /^[A-Za-z]{2}$/;  
    if (!regex.test(value) || value == "")  
        alert("please enter valid account type");  
    return;  
}
```

```
C C. function validate() {  
    var value = $("#txtAccountType").val();  
    if (value == null || value == "")  
        alert("please enter valid account type");  
    return;  
}
```

```
C D. function validate() {  
    var value = $("#txtAccountType").text();  
    var regex = /^[A-Za-z]{2}$/;  
    if (!regex.test(value) || value == "")  
        alert("please enter valid account type");  
    return;  
}
```

- A. Option A
- B. Option B
- C. Option C

D. Option D

Correct Answer: B

Section: Volume B

Explanation

Explanation/Reference:

Explanation: HTML <input> pattern Attribute

The pattern attribute specifies a regular expression that the <input> element's value is checked against.

Example

An HTML form with an input field that can contain only two letters (no numbers or special characters):

```
<form action="demo_form.asp">
Country code: <input type="text" name="country_code"
pattern="[A-Za-z]{2}" title="Three letter country code"> <input type="submit">
</form>
```

Reference: HTML <input> pattern Attribute

http://www.w3schools.com/tags/att_input_pattern.asp

QUESTION 48

You are developing an application that uses a JavaScript library. The library contains the following functions.

```

function ValidationException(number, message) {
    this.message = message;
    this.name = "myLibrary Validation Exception";
    this.number = number;
}

function LogicException(number, message) {
    this.message = message;
    this.name = "myLibrary Logic Exception";
    this.number = number;
}

function myFunction(dayOfWeek) {
    if (dayOfWeek > 7) {
        throw new ValidationException(123, "Day of week must be less than 7");
    }
}

```

The application uses the following code. (Line numbers are included for reference only.)

```

01 function doWork(value) {
02     try {
03         myFunction(value)
04     } catch (e) {
05
06     }
07 }

```

The library may throw many types of exceptions. The exceptions are grouped by category.

You need to catch and identify the exceptions by group.

Which code segment should you insert at line 05?

- A.

```
if (typeof (e) == "ValidationException") {
    handleValidationException (e.message);
} else if (typeof (e) == "LogicException") {
    handleLogicException (e.message);
} else {
    throw e;
}
```
- B.

```
if (e instanceof ValidationException) {
    handleValidationException(e.message);
} else if (e instanceof LogicException) {
    handleLogicException (e.message);
} else {
    throw e;
}
```
- C.

```
switch (e) {
    case ValidationException:
        handleValidationException (e.message);
        break;
    case LogicException:
        handleLogicException (e.message);
        break;
    default:
        throw e;
}
```
- D.

```
if (e.message == "ValidationException") {
    handleValidationException (e.message);
} else if (e.message == "LogicException") {
    handleLogicException (e.message);
} else {
    throw e;
}
```

A. Option A

- B. Option B
- C. Option C
- D. Option D

Correct Answer: B
Section: Volume B
Explanation

Explanation/Reference:

Explanation: instanceof

The instanceof operator tests whether an object has in its prototype chain the prototype property of a constructor.

The instanceof operator tests presence of constructor.prototype in object prototype chain.

Example::

```
// defining constructors
```

```
function C(){}
```

```
function D(){}
```

```
var o = new C();
```

```
// true, because: Object.getPrototypeOf(o) === C.prototype o instanceof C;
```

```
// false, because D.prototype is nowhere in o's prototype chain o instanceof D;
```

Reference: instanceof

QUESTION 49

An HTML page contains no embedded JavaScript or CSS code. The body of the page contains only the following line of code.

```
<p id="test">test</p>
```

A CSS style sheet must be applied dynamically. The style must visibly change the appearance of the paragraph on the page.

You need to apply a style the paragraph.

Which line of code should you use?

- A. `document.getElementById("test").style.border = "0";`
- B. `document.getElementById("test").style.position = "static";`
- C. `document.getElementById ("test").style.padding = "15px";`

D. `document.getElementById("test").style.top = "5px";`

Correct Answer: A

Section: Volume C

Explanation

Explanation/Reference:

Explanation: The border shorthand property sets all the border properties in one declaration.

The properties that can be set, are (in order): border-width, border-style, and border-color.

It does not matter if one of the values above are missing, e.g. `border:solid #ff0000;` is allowed.

Reference: Style border Property

QUESTION 50

You develop an HTML5 web application. The web application contains a form that allows users to enter only their month of birth.

The value that the users enter must be numbers between 1 and 12, inclusive.

You need to implement the form element for the month of birth.

Which element should you use?

- A. `<input type="time" options="month" />`
- B. `<input types="submit" value="month" />`
- C. `<input type="range" min="1" max="12" />`
- D. `<input type="month" itemscope="numeric" />`

Correct Answer: C

Section: Volume C

Explanation

Explanation/Reference:

Explanation: Example:

```
</head>
<body>
<input type="range" name="rangeInput" min="0" max="100" onchange="updateTextInput(this.value);">
<input type="text" id="textInput" value="">
</body>
</html>
```

QUESTION 51

You are developing an HTML5 web application for an architectural company that displays architectural blueprints.

The application must:

- Display the blueprints at different zoom levels without loss of detail
- Print the blueprints without loss of detail
- Work from only one source file per blueprint

You need to ensure that blueprints display according to the requirements.

Which HTML5 element should you use?

- A. CANVAS
- B. SAMP
- C. SVG
- D. AREA

Correct Answer: C

Section: Volume C

Explanation

Explanation/Reference:

Explanation: * SVG stands for Scalable Vector Graphics SVG is used to define graphics for the Web SVG is a W3C recommendation

* The HTML <svg> element (introduced in HTML5) is a container for SVG graphics.

SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

Reference: HTML5 SVG

QUESTION 52

You develop an HTML5 application that allows users to upload files from their local computers.

The user interface must remain responsive during the upload.

You need to implement the file upload functionality for the application.

Which two actions should you perform? (Each correct answer presents a complete solution.)

Choose two.)

- A. Use an HTML form with a file type INPUT element that targets a hidden IFRAME element.
- B. Use a file type INPUT element, and then use the Web Storage API to upload the file.
- C. Use a FormData object and upload the file by using XMLHttpRequest.
- D. Register the file protocol by using protocol handler registration API and then upload the file by using XMLHttpRequest.
- E. Use the FileSystem API to load the file, and then use the jQuery post method to upload the file to the server.

Correct Answer: BD

Section: Volume C

Explanation

Explanation/Reference:

Explanation: B: Example (notice the web storage api upload.aspx):

```
<!DOCTYPE html>
<html>
<head>
<title>Upload Files using XMLHttpRequest - Minimal</title> </head>
<body>
<form id="form1" enctype="multipart/form-data" method="post" action="Upload.aspx"> <div class="row">
<label for="fileToUpload">Select a File to Upload</label><br /> <input type="file" name="fileToUpload" id="fileToUpload" onchange="fileSelected();"/> </div>
<div id="fileName"></div>
<div id="fileSize"></div>
<div id="fileType"></div>
<div class="row">
<input type="button" onclick="uploadFile()" value="Upload" /> </div>
<div id="progressNumber"></div>
</form>
</body>
</html>
```

D:

* Because we're using XMLHttpRequest, the uploading is happening in the background. The page the user is on remains intact. Which is a nice feature to have if your business process can work with it.

* The XMLHttpRequest object has gotten a facelift in the Html5 specifications. Specifically the XMLHttpRequest Level 2 specification (currently the latest version) that has included the following new features:

Handling of byte streams such as File, Blob and FormData objects for uploading and downloading Progress events during uploading and downloading

Cross-origin requests

Allow making anonymous request - that is not send HTTP Referer The ability to set a Timeout for the Request

QUESTION 53

You are developing a web application that can function when users are not connected to the Internet.

You need to check the Internet connectivity status of a user's browser.

Which method should you use?

A.

```
function checkConnection()
{
  if (navigator.isOnline) {
    ...
  }
}
```

B.

```
function checkConnection()
{
  if (browser.isOnline) {
    ...
  }
  else
  {
    ...
  }
}
```

C.

```
function checkConnection()
{
  if (browser.online) {
    ...
  }
  else
  {
    ...
  }
}
```

D.

```
function checkConnection()
{
  if (navigator.online) {
    ...
  }
  else
  {
    ...
  }
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

Section: Volume C

Explanation

Explanation/Reference:

Explanation: Navigator onLine Property

The onLine property returns a Boolean value that specifies whether the browser is in online or offline mode.

Example

Find out whether the browser is online:

var x = "Is the browser online? " + navigator.onLine; The result of x will be:

Is the browser online? true

Reference: Navigator onLine Property

QUESTION 54

You are creating a page that contains detailed employee information for a company portal. The page uses a jQuery library. The page contains a hidden button named btnEdit that is defined by the following code.

```
<button id="btnEdit" style="display: none;">Edit</button>
```

The button is not displayed by default.

The button must be displayed only if the user is logged on.

You need to add code to the document.ready() function to meet the requirements for the button.

Which line of code should you use?

- A. `$('#btnEdit').appear ();`
- B. `$('#btnEdit').visible = true;`
- C. `$('#btnEdit').show();`

D. `$('#btnEdit').Visible();`

Correct Answer: C

Section: Volume C

Explanation

Explanation/Reference:

Explanation: With jQuery, you can hide and show HTML elements with the `hide()` and `show()`

methods:

Example

```
$("#hide").click(function(){  
    $("#p").hide();  
});
```

```
$("#show").click(function(){  
    $("#p").show();  
});
```

Reference: jQuery Effects - Hide and Show

QUESTION 55

You are developing an application that analyzes population data for major cities in the United States. The application retrieves population statistics for a city by using a web service.

You need to request data from the web service by using jQuery.

Which code segment should you use?

- A. `$.ajax({
 url: "Services/WSAjax.aspx/GetPopulationCity?city='Boston'",
 dataType: "text", type: "POST"
});`
- B. `$.ajax({
 url: "Services/WSAjax.aspx/GetPopulationCity",
 dataType: "text", type: "SEND", data: { city: "Boston" }
});`
- C. `$.ajax({
 url: "Services/WSAjax.aspx/GetPopulationCity?city='Boston'",
 dataType: "text", type: "SEND"
});`
- D. `$.ajax({
 url: "Services/WSAjax.aspx/GetPopulationCity",
 dataType: "text", type: "POST", data: { city: "Boston" }
});`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D
Section: Volume C
Explanation

Explanation/Reference:
Explanation: * type:
We post a SOAP request.

* data:

Data to be sent to the server.

The data option can contain either a query string of the form key1=value1&key2=value2, or an object of the form {key1: 'value1', key2: 'value2'}.

Reference: jQuery.ajax()

QUESTION 56

You are developing a blog web page that is being optimized for accessibility. The page includes the following HTML.

```
<body>

  <h1>Blog Post Title</h1>
  <h2>Subtitle</h2>
  <h3>Authors Byline</h3>

</body>
```

The heading tags represent a blog post title, a blog post subtitle, and the author's name.

You need to ensure that the three headings are treated as a unit but retain their individual formatting.

Which tags should you use to wrap the H1, H2, and H3 elements?

- A. <group> </group>
- B. <header> </header>
- C. <hgroup> </hgroup>
- D. <headings> </headings>

Correct Answer: C

Section: Volume C

Explanation

Explanation/Reference:

Explanation: The <hgroup> tag is used to group heading elements.

The <hgroup> element is used to group a set of <h1> to <h6> elements, when a heading has multiple levels (subheadings).

Reference: HTML <hgroup> Tag

QUESTION 57

You develop a web application by using jQuery. You develop the following jQuery code: (Line numbers are included for reference only.)

```
01 <script>
02   $(document).ready(function () {
03     $('#submit').click(function () {
04       $.ajax({
05
06         data: $('#myForm').serialize(),
07         success: function (result) {
08           $('#result').text(result.message);
09         }
10       });
11     });
12   });
13 </script>
```

The web application exposes a RESTful web API that has an endpoint of /product/create.

You need to create a new product by using AJAX.

Which code segment should you insert at line 05?

- A. `type: "POST",
dataType: "xml",
contentType: "application/x-www-form-urlencoded; charset=UTF-8",
url: "/product/create",`
- B. `type: "GET",
dataType: "xml",
contentType: "application/x-www-form-urlencoded; charset=UTF-8",
url: "/product/create",`
- C. `type: "POST",
dataType: "json",
contentType: "application/json",
url: "/product/create/post",`
- D. `type: "POST",
dataType: "json",
url: "/product/create",`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D
Section: Volume C
Explanation

Explanation/Reference:

Explanation: * url: /product/create
This is the endproduct.

* datatype:

The type of data that you're expecting back from the server.

* contentType (default: 'application/x-www-form-urlencoded; charset=UTF-8')

Reference: jQuery.ajax()

QUESTION 58

You develop a webpage that allows a user to download a JPEG image and convert it to a PNG file.

You need to implement the code to download the contents of the JPEG image with no additional decoding.

Which JavaScript function should you use?

- A. readAsBinaryString()
- B. readAsArrayBuffer()
- C. readAsDataURL()
- D. readAsText()

Correct Answer: B

Section: Volume C

Explanation

Explanation/Reference:

Explanation: The readAsArrayBuffer method is used to read a File, Blob, MSStream into memory as an ArrayBuffer object.

Reference: FileReader.readAsArrayBuffer

QUESTION 59

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

- A. <article>

- B.
- C. <tbody>
- D. <cd>

Correct Answer: A
Section: Volume C
Explanation

Explanation/Reference:

Explanation: How the Changes in HTML 5 Will Affect SEO (Search Engine Optimization)?

As a SEO expert, you are most likely interested mainly in those changes in the HTML 5 specification, which will affect your work. Here is one of them:

A new <article> tag. The new <article> tag is probably the best addition from a SEO point of view. The <article> tag allows to mark separate entries in an online publication, such as a blog or a magazine. It is expected that when articles are marked with the <article> tag, this will make the HTML code cleaner because it will reduce the need to use <div> tags. Also, probably search engines will put more weight on the text inside the <article> tag as compared to the contents on the other parts of the page.

QUESTION 60

You develop an HTML application that contains a table that displays a list of products. The table is defined with the following HTML markup:

```
<table>
  <thead>
    <tr>
      <th>Product</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Adjustable Race</td>
    </tr>
    <tr>
      <td>Blade</td>
    </tr>
    <tr>
      <td>Chainring</td>
    </tr>
    <tr>
      <td>Down Tube</td>
    </tr>
  </tbody>
</table>
```

You must style the table to look like the following image:

Product
Adjustable Race
Blade
Chainring
Down Tube

You need to implement the CSS selectors to select the rows that must have a blue background.

Which CSS selector should you use?

- A. `thead:only-child, tbody:after, table:before`
- B. `tr [line |-0, 1, 3]`
- C. `tr:first-of-type, tr:last-of-type`
- D. `tr:first-line, tr:last-child`

Correct Answer: B
Section: Volume C
Explanation

Explanation/Reference:

Explanation: Header (line 0), first line and third line.

QUESTION 61

You develop a webpage by using HTML5. You create the following markup:

```
<input type "url" name= "website" required="required" />
```

You need to ensure that the value that the user enters contains a secure URL.

What should you do?

- A. Add the following attribute to the input tag: `value="https://v`
- B. Add the following attribute to the input tag: `pattern="https://.+"`
- C. Add the following attribute to the input tag: `value="ssl"`
- D. Add the following attribute to the input tag: `itemtype="https"`

Correct Answer: B
Section: Volume C
Explanation

Explanation/Reference:

Explanation:

Note:

- * The pattern attribute is supported in Internet Explorer 10, Firefox, Opera, and Chrome.
- * The pattern attribute specifies a regular expression that the `<input>` element's value is checked against.
- * The pattern attribute works with the following input types: text, search, url, tel, email, and password

QUESTION 62

You develop a webpage by using HTML5. You create the following markup and code: (Line numbers are included for reference only.)

```
01 <head>
02   <script>
03     function removeInvalid(input) {
04
05     }
06   </script>
07 </head>
08 <body>
09   Given Name: <input type="text" id="GivenName" onblur="removeInvalid(this);" />
10   Surname: <input type="text" id="Surname" onblur="removeInvalid(this);" />
11 </body>
```

You need to ensure that the values that users enter are only numbers, letters, and underscores, regardless of the order.

Which code segment should you insert at line 04?

- A.

```
if (!/^[A-Za-z0-9_]+$/.test(input.value))
    input.value = "Invalid";
```
- B.

```
if (!/^[A-Za-z0-9_]/.test(input.value))
    input.value = "Invalid";
```
- C.

```
var regEx = new RegExp("^\\w");
if (!input.value.match(regEx))
    input.value = "Invalid";
```
- D.

```
var regEx = "[\\w\\d]";
if (!input.value.match(regEx))
    input.value = "Invalid";
```

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: A
Section: Volume C
Explanation

Explanation/Reference:

Explanation: Example:

Sometimes situations arise when user should fill a single or more than one fields with alphabet characters (A-Z or a-z) in a HTML form. You can write a JavaScript form validation script to check whether the required field(s) in the HTML form contains only letters.

Javascript function to check for all letters in a field view plainprint?

```
function allLetter(inputtxt)
{
var letters = /^[A-Za-z]+$;/;
if(inputtxt.value.match(letters))
{
return true;
}
else
{
alert("message");
return false;
}
}
```

To get a string contains only letters (both uppercase or lowercase) we use a regular expression (/^[A-Za-z]+\$/) which allows only letters. Next the match() method of string object is used to match the said regular expression against the input value.

Reference: JavaScript : HTML Form validation - checking for all letters

QUESTION 63

You are creating an HTML5 application that allows users to play video on a page by using the VIDEO element.

You need to enable the user to start, stop, and pause the video.

Which line of code should you add to the page?

- A. <video id= "myVideo" height="320" width="400" src="myVideo.vtt" contextmenu="pauseplay"> </video>
- B. <video id="myVideon height="320" width="400" src="myVideo.vtt" controls> </video>
- C. <video _d="myVideon height="320" width="400" src="myVideo.vtt" autoplay> </video>
- D. <video id="myVideo" height="320" width="400" src="myVideo.vtt" contextinenu="Startstopn"> </video>

Correct Answer: B

Section: Volume C

Explanation

Explanation/Reference:

Explanation: The HTML <video> Element

To show a video in HTML, use the <video> element:

The controls attribute adds video controls, like play, pause, and volume.

Example

```
<video width="320" height="240" controls>  
<source src="movie.mp4" type="video/mp4">  
<source src="movie.ogg" type="video/ogg">  
Your browser does not support the video tag.  
</video>
```

Reference: HTML5 Video

QUESTION 64

You are creating a web page that contains a canvas with text.

The page contains the following JavaScript code. (Line numbers are included for reference only.)

```
01 var canvas = document.getElementById('myCanvas');  
02 var context = canvas.getContext('2d');  
03
```

The text on the canvas must rotate 90 degrees when a user clicks a button on the page.

You need to ensure that the text rotates when the user clicks the button.

Which line of code should you add at line 03?

- A. context.transform(90);
- B. context.content.getRotation(90);
- C. context.rotate(90);
- D. context.content.rotate (90);

Correct Answer: C

Section: Volume C

Explanation

Explanation/Reference:

Explanation: The rotate() method rotates the current drawing.

Example

Rotate the rectangle 20 degrees:

JavaScript:

```
var c=document.getElementById("myCanvas");  
var ctx=c.getContext("2d");  
ctx.rotate(20*Math.PI/180);  
ctx.fillRect(50,20,100,50);
```

Reference: HTML canvas rotate() Method

QUESTION 65

You develop an HTML5 webpage that contains the following HTML markup:

```
<label for="loanTypes">Loan Types</label>  
<select name="loanTypes" id="loanTypes" multiple="multiple">  
  <option>Secured</option>  
  <option selected="selected">Unsecured</option>  
  <option>Demand</option>  
  <option selected="selected">Subsidized</option>  
</select>
```

You have the following requirements:

- Retrieve the content for any OPTION elements when the value of the selected attribute equals selected.
- Add the content to a comma separated string.

You need to retrieve the required data.

Which two code segments should you add to the webpage? (Each correct answer presents a complete solution. Choose two.)

- A.

```
$("#select option:checked").each(function () {
    selectedValues += $(loanTypes).text() + ',';
});
```
- B.

```
$("#select option:selected").each(function () {
    selectedValues += $(loanTypes).text() + ',';
});
```
- C.

```
$("#select option:selected").each(function () {
    selectedValues += $(this).text() + ',';
});
```
- D.

```
$("#loanTypes option:selected").each(function () {
    selectedValues += $(this).text() + ',';
});
```
- E.

```
$("#loanTypes option:checked").each(function () {
    selectedValues += $(loanTypes).text() + ',';
});
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D
- E. Option E

Correct Answer: BD

Section: Volume C

Explanation

Explanation/Reference:

Explanation: Note:

* select option:selected

selected Selector

Description: Selects all elements that are selected.

QUESTION 66

You develop an HTML5 application. You give users a numeric access code that can be used only one time.

Users must enter the numeric access code in the login form of the application. The numeric characters must be hidden by a masking character.

You need to implement the form element for users to enter the code.

Which HTML element should you use?

- A. `<input type="password" required autocomplete="off">`
- B. `<input type="input" autocomplete="off" required />`
- C. `<input type="password" stytem" visibility:hidden;" required />`
- D. `<input type="button" value="password" required />`

Correct Answer: A

Section: Volume C

Explanation

Explanation/Reference:

Explanation: * Input Type: password

`<input type="password">` defines a password field.

The characters in a password field are masked (shown as asterisks or circles).

* The autocomplete attribute specifies whether or not an input field should have autocomplete enabled.

The autocomplete attribute works with the following `<input>` types: text, search, url, tel, email, password, datepickers, range, and color.

Reference: HTML Input Types ; HTML `<input>` autocomplete Attribute

QUESTION 67

You are developing an HTML5 web application that displays stock information.

The application loads information from a web service by using AJAX.

The following code defines a Stock object and loads stock data.

```
function Stock(symbol) {
  this.symbol = symbol;
  this.low = 0;
  this.high = 0;
}

Stock.prototype.parseStock = function (data) {
  this.low = data.low;
  this.high = data.high;
}

Stock.prototype.loadStock = function () {
}
```

You need to implement the loadStock function.

Which code segment should you use?

- A.

```
var stock = this;
$.get('data.xml', function (data) {
    stock.parseStock(data);
});
```
- B.

```
$.get('data.xml', function (data, innerScope) {
    innerScope.parseStock(data);
});
```
- C.

```
$.get('data.xml', function (data) {
    this.parseStock(data);
});
```
- D.

```
$.get('data.xml', function (data) {
    (function (scope) {
        scope.parseStock(data);
    })(data);
});
```

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: A
Section: Volume C
Explanation

Explanation/Reference:

Explanation:

QUESTION 68

You are developing a web page that includes the following HTML.

```
<span id = "myTextSpan" class = "redText"> Hello There! </span>
```

The font color of text inside the span must be red.

You need to develop the web page to meet the requirement.

Which two CSS segments will achieve the goal? (Each correct answer presents a complete solution. Choose two.)

A.

```
.redText
{
  color: red;
}
```

B.

```
.myTextSpan
{
  color: red;
}
```

C.

```
span#myTextSpan
{
  color: red;
}
```

D.

```
#redText
{
  color: red;
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: AC

Section: Volume C

Explanation

Explanation/Reference:

Explanation: You can refer to class, by `.redText`, or the span, by `span#myTextSpan`.

Topic 4, Volume D

QUESTION 69

You are troubleshooting an application.

Users report that the UI is slow to respond.

You need to improve UI responsiveness by moving application tasks to web workers.

Which two tasks can you move to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

- A. A function that loops through the Document Object Model to update the style of page elements
- B. A long-running calculation that requires looping through an array
- C. A function that performs graphic-intensive animation
- D. A function that stores large amounts of data to local storage

Correct Answer: BC

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Note:

* Despite the improvements in JavaScript engines, it is not uncommon for users to encounter frozen user interfaces as the browser works through resource intensive tasks. This leads to a horrible user experience. The purpose of Web Workers is to give developers a way of instructing the browser to process large tasks in the background; therefore preventing the UI from freezing up.

* The Web Workers specification defines an API for spawning background scripts in your web application. Web Workers allow you to do things like fire up long-running scripts to handle computationally intensive tasks, but without blocking the UI or other scripts to handle user interactions

QUESTION 70

You develop an interactive scalable vector graphic (SVG) application.

You write the following code (Line numbers are included for reference only.):

```
01 <script>
02
03 </script>
04 <svg height="150" width="150" id="myGraphic">
05   <circle cx="25" r="20" cy="20" fill="orange" id="myCircle"/>
06 </svg>
07 <button id="zoom" onclick="zoomIn();">Zoom In</button>
```

You need to increase the size of the circle by 50 percent.

Which code segment should you insert at line 02?

A.

```
function zoomIn() {  
    var myGraphic = document.getElementById("myGraphic");  
    myGraphic.createSVGTransform(1.5);  
}
```

B.

```
function zoomIn() {  
    var myGraphic = document.getElementById("myGraphic");  
    myGraphic.setAttribute("currentScale", 1.5);  
}
```

C.

```
function zoomIn() {  
    var myCircle = document.getElementById("myCircle");  
    myCircle.setAttribute("currentScale", 1.5);  
}
```

D.

```
function zoomIn() {  
    var myCircle = document.getElementById("myCircle");  
    myCircle.r = myCircle.r * 1.5;  
}
```

A. Option A

B. Option B

- C. Option C
- D. Option D

Correct Answer: D
Section: Volume D
Explanation

Explanation/Reference:

Explanation: Increase the radius (the r property) of the circle (not the graphic) by a factor 1.5.

Incorrect:

CurrentScale is used for zooming.

Reference: The HTML <svg> Element

QUESTION 71

You develop an HTML5 webpage. You have the following HTML markup:

```
<label for="personname">Given and Surname:</label>
<input type="text" name="personname" /><br />

<label for="businessname">Business Name:</label>
<input type="text" name="businessname" /><br />

<label for="emailaddress">Email Address:</label>
<input type="text" name="emailaddress" />
```

You need to change the background color for all of the elements whose name attribute ends with the word name.

Which code segment should you add to the webpage?

- A. `$('input [name!="name"]').css ({ 'background-color' : ' #E0ECF8' }) ;`
- B. `$('input [name=~"name"]') .css ({ 'background-color' : ' #E0ECF8' }) ;`
- C. `$('input [name="*name"]').css ({ 'background-color' : ' #E0ECF8' }) ;`
- D. `$('input [name="$name"]') .css ({ 'background-color' : ' #E0ECF8' }) ;`

Correct Answer: C
Section: Volume D

Explanation

Explanation/Reference:

Explanation: The string pattern "*"name" matches all strings that ends with name.

QUESTION 72

You develop an HTML application that is located at www.adventure-works.com.

The application must load JSON data from www.fabrikam.com.

You need to choose an approach for loading the data.

What should you do?

- A. Design a REST URI scheme with multiple domains.
- B. Configure Cross-Origin Resource Sharing (CORS) on the servers.
- C. Load the data by using WebSockets.
- D. Use the jQuery getJSON method.

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Real 280

Microsoft 70-480 Exam

Explanation: * Cross-origin resource sharing (CORS) is a mechanism that allows Javascript on a web page to make XMLHttpRequests to another domain, not the domain the Javascript originated from. Such "cross-domain" requests would otherwise be forbidden by web browsers, per the same origin security policy. CORS defines a way in which the browser and the server can interact to determine whether or not to allow the cross-origin request.[2] It is more powerful than only allowing same-origin requests, but it is more secure than simply allowing all such cross-origin requests.

* You must use Cross Origin Resource Sharing

It's not as complicated as it sounds...simply set your request headers appropriately...in Python it would look like:

```
self.response.headers.add_header('Access-Control-Allow-Origin', '*'); self.response.headers.add_header('Access-Control-Allow-Methods', 'GET, POST, OPTIONS'); self.response.headers.add_header('Access-Control-Allow-Headers', 'X-Requested-With'); self.response.headers.add_header('Access-Control-Max-Age', '86400');
```

QUESTION 73

You are building a web page for a newspaper publisher.

- You have the following requirements:
- The web page should split the content into columns that are at least 100 pixels wide.
- The number of columns displayed must be set by the browser.

You need to implement the correct CSS properties.

Which line of code should you use?

- A. `<div id="outer" style="width: 100px; column-fill: balance;">...</div>`
- B. `<div id="outer" style="width: 100px; column-gap: 10px;">...</div>`
- C. `<div id="outer" style="column-width: 100px; "> . . </div>`
- D. `<div id="outer" style="width: 100px; columns: 100px 3">...</div>`

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: column-width

The width attribute specifies the width of a `<col>` element.

Normally, a `<col>` element takes up the space it needs to display the content. The width attribute is used to set a predefined width of a `<col>` element.

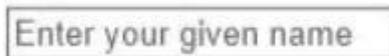
Syntax:

```
<col width="pixels|%|relative_length">
```

QUESTION 74

You develop a webpage with a standard input control by using HTML5.

The input control must display the text Enter your given name, as shown below:



When a user selects the input control, the text must disappear.

You need to create the input control.

Which input control should you use?

- A. <input name="GivenName" value=" Enter your given name" />
- B. <input name = "GivenName" default=" Enter your given name" />
- C. <input name="GivenName" text=" Enter your given name" />
- D. <input name="GivenName" placeholder=" Enter your given name" />

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The placeholder attribute specifies a short hint that describes the expected value of an input field (e.g. a sample value or a short description of the expected format).

The short hint is displayed in the input field before the user enters a value.

The placeholder attribute works with the following input types: text, search, url, tel, email, and password.

Reference: HTML <input> placeholder Attribute

QUESTION 75

You develop an HTML5 webpage. You have the following HTML markup:

```
<section id="news">
  <h1>World News</h1>
  <article id="news1">...</article>
  <article id="news2">...</article>
  <article id="news3">...</article>
</section>
<section id="sports">
  <h1>Sports</h1>
  <article id="sports1">...</article>
  <article id="sports2">...</article>
  <article id="sports3">...</article>
</section>
```

You need to add a background color to the first article in each section.

Which code segment should you add to the webpage?

- A. `$ ("section article:first-child").css("background-color", "#f2f2f2");`
- B. `$ ("section:first-child").css ("background-color", "#f2f2f2");`
- C. `$ ("article:first-of-type") .css("background-color", "#f2f2f2");`
- D. `$ ("section:first-of-type").css("background-color", "#f2f2f2");`

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The `:first-of-type` selector matches every element that is the first child, of a particular type, of its parent.

Reference: CSS3 `:first-of-type` Selector

QUESTION 76

You are creating a custom object as described by the following code.

```
function square(side) {  
  this.side = side;  
  this.area = calcArea;  
}
```

You need to implement the `calcArea` method.

Which code should you use?

- A.

```
function calcArea () {  
    return me.side * me.side;  
}
```
- B.

```
function calcArea (obj) {  
    return obj.side * obj.side;  
}
```
- C.

```
function calcArea () {  
    return side * side;  
}
```
- D.

```
function calcArea () {  
    return this.side * this.side;  
}
```

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D
Section: Volume D
Explanation

Explanation/Reference:

Explanation: Need to refer to .this in the calculation.

QUESTION 77

You are developing an HTML5 web form to collect feedback information from site visitors.

The web form must display an INPUT element that meets the following requirements:

- Allow numeric values between 1 and 10.
- Default to the value of 5.
- Display as a slider control on the page.

You need to add the INPUT element to the form.

Which HTML element should you add?

- A. Rating (Between 1 and 10): `<input type="number" name="rating" min="1" max="10">`
- B. Rating (Between 1 and 10): `<input type="number" name="rating" min="1" max="10" default="5">`
- C. Rating (Between 1 and 10): `<input type="range" name="rating" min="1" max="10" default="5">`
- D. Rating (Between 1 and 10): `<input type="range" name="rating" min="10" max="10" value="5">`

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: `input type="range"`

The `<input type="range">` is used for input fields that should contain a value within a range.

Depending on browser support, the input field can be displayed as a slider control.

Example

```
<form>
<input type="range" name="points" min="0" max="10">
</form>
```

QUESTION 78

You develop an HTML5 application. The application uses an image that is returned from an HTTP POST request.

You develop the following code: (Line numbers are included for reference only.)

```
01 var xhr = new XMLHttpRequest();
02 xhr.open('POST', '/Images/heroAccent.png', true);
03 var img = document.createElement('img');
04
05 xhr.send();
```

You need to display the loaded image in the application.

Which code segment should you insert at line 04?

A.

```
xhr.responseType = 'blob';
xhr.onload = function (e) {
  if (this.status == 200) {
    img.src = window.URL.createObjectURL(this.responseText);
    document.body.appendChild(img);
  }
};
```

B.

```
xhr.responseType = 'blob';
xhr.onload = function(e) {
  if (this.status == 200) {
    img.src = window.URL.createObjectURL(this.response);
    document.body.appendChild(img);
  }
};
```

C.

```
xhr.responseType = 'document';
xhr.onload = function (e) {
  if (this.status == 200) {
    img.src = window.URL.createObjectURL(this.responseText);
    document.body.appendChild(img);
  }
};
```

D.

```
xhr.responseType = 'document';
xhr.onload = function (e) {
  if (this.status == 200) {
    img.src = window.URL.createObjectURL(this.response);
    document.body.appendChild(img);
  }
};
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: B
Section: Volume D
Explanation

Explanation/Reference:

Explanation: As an image will be returned the response type must be blob, not document. Similarly, this.response must be used not this.responseText.

Reference: createObjectURL method

QUESTION 79

You develop an HTML5 webpage that contains the following HTML markup:

```
<input id="loanTermTextBox" type="text" />
```

Users must enter a valid integer value into the text box.

You need to validate the data type that is received from the input element.

Which two code segments should you include on the webpage? (Each correct answer presents a complete solution. Choose two.)

```
 A. function validateForm() {
    var loanTermInput = document.getElementById("loanTermTextBox");
    var loanTerm = parseInt(loanTermInput.value, 10);
    if (isNaN(loanTerm) || loanTerm.toString() !== loanTermInput.value) {
        alert("Loan Term must be an integer");
        return false;
    }
    return true;
};
```

```
 B. var validateForm = function () {
    var loanTermInput = document.getElementById("loanTermTextBox");
    var loanTerm = parseInt(loanTermInput.value, 10);
    if (isNaN(loanTerm) || loanTerm.toString() !== loanTermInput.value) {
        alert("Loan Term must be an integer");
        return false;
    }
    return true;
};
```

```
 C. var validateForm = function () {
    var loanTermInput = document.getElementsByName("loanTermTextBox");
    var loanTerm = parseFloat(loanTermInput.value);
    if (!isNaN(loanTerm) || loanTerm.toString() !== loanTermInput.value) {
        alert("Loan Term must be an integer");
        return false;
    }
    return true;
};
```

```
 D. var validateForm = function () {
    var loanTermInput = document.getElementById("loanTermTextBox");
    var loanTerm = parseInt(loanTermInput.text);
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D
- E. Option E

Correct Answer: AB

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * parseInt

The parseInt() function parses a string and returns an integer.

Syntax: parseInt(string,radix)

string Required. The string to be parsed

radix Optional. A number (from 2 to 36) that represents the numeral system to be used.

* The isNaN() function determines whether a value is an illegal number (Not-a-Number).

This function returns true if the value is NaN, and false if not.

Reference: JavaScript parseInt() Function; JavaScript isNaN() Function

QUESTION 80

You develop an HTML5 application for a company. Employees must enter a personal identification number (PIN) in an INPUT element named SecurityCode to access their employee records.

The SecurityCode element must meet the following requirements:

- Allow up to 6 digits.
- Do not display numbers as they are entered.
- Display the text Enter PIN Code before the user enters any data.

You need to implement the SecurityCode element.

Which HTML markup should you add to the application?

- A. Option A

- B. Option B
- C. Option C
- D. Option D
- E. Option E

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * Input Type: password

<input type="password"> defines a password field.

The characters in a password field are masked (shown as asterisks or circles).

* The placeholder attribute specifies a short hint that describes the expected value of an input field (e.g. a sample value or a short description of the expected format).

The short hint is displayed in the input field before the user enters a value.

The placeholder attribute works with the following input types: text, search, url, tel, email, and password.

Reference: HTML Input Types ; HTML <input> placeholder Attribute

QUESTION 81

You develop an application to host user-generated HTML and JavaScript content.

A common error handler in your application must process all unhandled errors.

You need to implement global error handling for the application.

Which code segment should you use?

A. `window.onerror = function () {`
 `...`
 `}`

B. `Error.constructor = function () {`
 `...`
 `}`

C. `Error = function () {`
 `...`
 `}`

D. `document.onerror = function () {`
 `...`
 `}`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: `GlobalEventHandlers.onerror`
An event handler for runtime script errors.

Syntax

```
window.onerror = funcRef;
```

Reference: GlobalEventHandlers.onerror

QUESTION 82

You are creating a custom function. You pass an object named testObj to the function as a parameter. You do not use inheritance through the functions.

The function must establish whether testObj inherits from another object named parentObj.

You need to ensure that the function performs as required.

Which method or operator should you add to the function?

- A. parentObj instanceof(testObj)
- B. testObj.isPrototypeOf(parentObj)
- C. testObj instanceof(parentObj)
- D. parentObj.isPrototypeOf(testObj)

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The isPrototypeOf() method tests for an object in another object's prototype chain.

Reference: Object.prototype.isPrototypeOf()

QUESTION 83

You develop an HTML5 webpage. You have the following HTML markup:

```
Total Products: <span id="products"></span><br />
Total Boxes: <span id="boxes"></span><br />
<input type="button" id="addOneItem" value="Add one item to the order" />
<input type="button" id="addBoxOfItems" value="Add a box to the order" />
```

You need to call the click event for the addOneItem button a determined number of times when the user clicks the addBoxOfItems button.

Which code segment should you add to the webpage?

- A.

```
$('#addBoxOfItems').on(function (event) {  
  for (var i = 0; i < itemsPerBox; i++) {  
    $('#addOneItem').trigger('click');  
  }  
});
```
- B.

```
$('#addBoxOfItems').click(function (event) {  
  for (var i = 0; i < itemsPerBox; i++) {  
    $('#addOneItem').click('click');  
  }  
});
```
- C.

```
$('#addBoxOfItems').on(function (event) {  
  for (var i = 0; i < itemsPerBox; i++) {  
    $('#addOneItem').click();  
  }  
});
```
- D.

```
$('#addBoxOfItems').click(function (event) {  
  for (var i = 0; i < itemsPerBox; i++) {  
    $('#addOneItem').trigger('click');  
  }  
});
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D
Section: Volume D

Explanation

Explanation/Reference:

Explanation: jQuery provides a way to trigger the event handlers bound to an element without any user interaction via the `.trigger()` method.

jQuery's event handling system is a layer on top of native browser events. When an event handler is added using `.on("click", function() {...})`, it can be triggered using jQuery's `.trigger("click")` because jQuery stores a reference to that handler when it is originally added. Additionally, it will trigger the JavaScript inside the `onclick` attribute.

Reference: Triggering Event Handlers

QUESTION 84

You develop an HTML application that is located at `www.adventure-works.com`. The application must load JSON data from `www.fabrikam.com`.

You need to choose an approach for loading the data.

What should you do?

- A. Add a `crossdomain.xml` file to the second server.
- B. Configure Cross-Origin Resource Sharing (CORS) on the servers.
- C. Load the data in a JavaScript timeout callback.
- D. Reference the remote data as an XML resource.

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * Cross-origin resource sharing (CORS) is a mechanism that allows Javascript on a web page to make XMLHttpRequests to another domain, not the domain the Javascript originated from. Such "cross-domain" requests would otherwise be forbidden by web browsers, per the same origin security policy. CORS defines a way in which the browser and the server can interact to determine whether or not to allow the cross-origin request.[2] It is more powerful than only allowing same-origin requests, but it is more secure than simply allowing all such cross-origin requests.

* You must use Cross Origin Resource Sharing

It's not as complicated as it sounds...simply set your request headers appropriately...in Python it would look like:

```
self.response.headers.add_header('Access-Control-Allow-Origin', '*'); self.response.headers.add_header('Access-Control-Allow-Methods', 'GET, POST, OPTIONS'); self.response.headers.add_header('Access-Control-Allow-Headers', 'X-Requested-With'); self.response.headers.add_header('Access-Control-Max-Age', '86400');
```

QUESTION 85

You are creating a blog site by using HTML5 and JavaScript. An inline frame enables users to post comments. It is possible for users to inject malicious scripts into their comments.

You need to minimize the ability for malicious scripts to execute on the site.

Which line of code should you use?

- A. `<iframe sandbox src="frame1.html" />`
- B. `<iframe seamless="allowscripts" src="frame1.html" />`
- C. `<iframe seamless src="frame1.html" />`
- D. `<iframe sandbox="allowscripts" src="frame1.html" />`

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The sandbox attribute enables an extra set of restrictions for the content in the iframe.

Syntax

```
<iframe sandbox="value">
```

Attribute Values

no value: Applies all restrictions

etc.

No attribute value: allowscripts (not D)

Reference: HTML <iframe> sandbox Attribute

QUESTION 86

You develop an HTML5 application that interacts with a REST service. The REST service accepts JSON data. A JavaScript object named form Data contains data that is sent to the REST service.

You need to convert the JavaScript object named formData into JSON.

Which code segment should you use?

- A. `jQuery.ajax.valueOf(formData);`

- B. `window.evai(formData);`
- C. `JSON.stringify (formData);`
- D. `formData.toString();`

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: `JSON.stringify` converts a JavaScript value to a JavaScript Object Notation (JSON) string.

Reference: `JSON.stringify` Function (JavaScript)

QUESTION 87

You are developing an HTML page that includes the following code.

```
<h1 id="header">A Static Page</h1>
```

You need to modify the content of the H1 element dynamically by using JavaScript.

Which code segment should you use?

- A. `var myHeader = document.getElementsByTagName("header");`
`myHeader = "A Dynamic Page";`
- B. `var myHeader = document.getElementById("header");`
`myHeader = "A Dynamic Page";`
- C. `var myHeader = document.getElementsByTagName("header");`
`myHeader.innerHTML = "A Dynamic Page";`
- D. `var myHeader = document.getElementById("header");`
`myHeader.innerHTML = "A Dynamic Page";`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D
Section: Volume D
Explanation

Explanation/Reference:

Explanation: innerHTML

The innerHTML property sets or returns the HTML content (inner HTML) of an element.

Example

Change the HTML content of a <h1> element with id="header":

```
document.getElementById("header").innerHTML = "A dynamic page";
```

Reference: HTML DOM innerHTML Property

QUESTION 88

You are developing a web page that will contain an animated logo. The web page currently has a logo image on a canvas object.

You need to spin the logo image on the canvas.

Which method should you use?

- A. context.rotate()
- B. context.spin()
- C. context.translatePosition()
- D. context.setTransform()

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The rotate() method rotates the current drawing.

Example

Rotate the rectangle 20 degrees:

JavaScript:

```
var c=document.getElementById("myCanvas");  
var ctx=c.getContext("2d");  
ctx.rotate(20*Math.PI/180);  
ctx.fillRect(50,20,100,50);
```

Incorrect:

not B: there is no canvas.spin method.

Reference: HTML canvas rotate() Method

QUESTION 89

You are developing a web page that includes the following HTML.

```
<span id="myTextSpan" class="myStyle">Hello, World!</span>
```

You need to use inline CSS styling to format the text with Arial font.

Which code segment should you use?

- A.

```
<style>
  .myStyle
  {
    font-style: Arial;
  }
</style>
```
- B.

```
<span id="myTextSpan" class="myStyle" style="font-family: Arial">Hello, World!</span>
```
- C.

```
<span id="myTextSpan" class="myStyle" style="font-style: Arial">Hello, World!</span>
```
- D.

```
<style>
  .myStyle
  {
    font-family: Arial;
  }
</style>
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The font-family property specifies the font for an element.

Incorrect:

not A, not D: This is not inline CSS.

not C: With font style we define style only:

Syntax: font-style: normal|italic|oblique|initial|inherit; Reference: CSS font-family Property

QUESTION 90

You create the following JavaScript code:

```

var myApplication = myApplication || {};
myApplication.Vehicle = function (displayControl, color, seatCount, tranType, wheelCount) {
  this.Color = color;
  this.NumberOfSeats = seatCount;
  this.TransmissionType = tranType;
  this.NumberOfWheels = wheelCount;
  this.showVehicle = document.getElementById(displayControl);
};
myApplication.Vehicle.prototype = {
  Describe: function () {
    var valuesToDisplay = '';
    for (var property in this) {
      if (typeof (this[property]) === 'string')
      {
        valuesToDisplay += 'Vehicle ' + property + ' is ' + this[property] + '<br />';
      }
      else if(typeof (this[property]) === 'number')
      {
        if (this[property] < 4)
        {
          valuesToDisplay += 'Stay safe!' + '<br />';
        }
        else if(this[property] >= 10)
        {
          valuesToDisplay += 'Big machine!' + '<br />';
        }
      }
    }
    this.showVehicle.innerHTML = valuesToDisplay;
  }
};

```

You have the following requirements:

- You must invoke a function that displays the vehicle information within the following HTML element: <div id="display"x/div>
- The output of the function must appear on the webpage as follows: Vehicle Color is silverStay safe!Vehicle TransmissionType is manualBig machine!

You need to invoke the JavaScript function to display the required output in the HTML element.

Which two code segments should you use? (Each correct answer presents a complete solution. Choose two.)

- A.

```
var mySportsCar = new myApplication.Vehicle('display', 'manual', 4, 'silver', 4);  
mySportsCar.Describe();
```
- B.

```
var myDumpTruck = new myApplication.Vehicle('display', 'silver', 10, 'manual', 2);  
myDumpTruck.Describe();
```
- C.

```
var myBigRig = new myApplication.Vehicle('display', 'silver', 2, 'manual', 16);  
myBigRig.Describe();
```
- D.

```
var myMotorcycle = new myApplication.Vehicle('display', 'blue', 2, 'manual', 2);  
myMotorcycle.Describe();
```
- E.

```
var myMotorhome = new myApplication.Vehicle('display', 'silver', 3, 'manual', 10);  
myMotorhome.Describe();
```

- A. Option A
- B. Option B
- C. Option C

- D. Option D
- E. Option E

Correct Answer: CE

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The second argument should be 'silver'.
The third argument should be a number less than 4.

QUESTION 91

You develop an HTML5 webpage. You have the following JavaScript code:

```
01 $(document).ready(function () {  
02  
03     e.preventDefault();  
04     ...  
05 });  
06 });
```

You need to handle the click event when a user clicks the showDialog button.

Which code segment should you insert at line 02?

- A. \$(document).trigger("click", "#showDialog", function (e) {
- B. \$(document).on("#showDialog", "click", function (e) {
- C. \$(document).toggle("click", "#showDialog", function (e) {
- D. \$(document).on("click", "#showDialog", function (e) {

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Syntax: .on(events [, selector] [, data], handler)

* Example:

```
$(function() {  
$(document).on('click', '.get-widgets', function (e) {
```

Reference: jQuery .on()

QUESTION 92

You are developing an application that processes order information. Thousands of orders are processed daily. The application includes the following code segment. (Line numbers are included for reference only.)

```
01 var counter = 0;  
02 while (process()) {  
03     counter++;  
04  
05     updateStatus();  
06 }
```

The application must:

- Display the number of orders processed and the number of orders remaining
- Update the display for every 25th record processed

You need to develop the application to meet these requirements.

Which line of code should you insert at line 04?

- A. if (!(counter % 25))
- B. if (counter == 25)
- C. if (counter >> 25 == 0)
- D. if (counter << 25 == 0)

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: %

(Modulus) Computes the integer remainder of dividing 2 numbers.

Incorrect:

>> (Sign-propagating right shift) Shifts the first operand in binary representation the number of bits to the right specified in the second operand, discarding bits

shifted off.

<< (Left shift) Shifts its first operand in binary representation the number of bits to the left specified in the second operand, shifting in zeros from the right.

Reference: JavaScript Operators

QUESTION 93

You develop an HTML5 webpage with custom CSS. You have the following HTML markup:

```
<div class="new" Item">...</div>
```

You have the following requirements:

- In addition to your CSS, you must use a corporate branded stylesheet named corporate.css.
- The corporate.css file contains the style rule that must be used for .newsItem.
- You must use the corporate.css file to ensure that the webpage changes when the brand changes.
- You must add additional style rules to the webpage.
- You cannot modify the corporate.css file.

You need to apply the appropriate CSS rules to meet the requirements.

What should you do?

- Add a CSS class named .newsItemUpdates to the webpage, add only the new styles to this class, and update the class attribute of the HTML markup:

```
<div class=newsItem newsItemUpdates">...</div>
```
- Update the corporate.css file to include! important for each rule for the .newsItem. class, and add the new CSS rules to the webpage by using the CSS class .newsItem.
- Add a CSS class named .newsItemUpdates to the webpage, add the new styles to this class, and update the HTML markup to replace the .newsItem class with this new class:

```
<div class*"newsItemUpdates">...</div>
```
- Add the new CSS rules to the webpage by using the CSS class .newsItem, and add! important to each rule.

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: CSS attempts to create a balance of power between author and user style sheets. By default, rules in an author's style sheet override those in a user's style sheet.

However, for balance, an "!important" declaration (the delimiter token "!" and keyword "important" follow the declaration) takes precedence over a normal

declaration. Both author and user style sheets may contain "!important" declarations, and user "!important" rules override author "!important" rules. This CSS feature improves accessibility of documents by giving users with special requirements (large fonts, color combinations, etc.) control over presentation.

Incorrect:

Not B: It is stated that you are not allowed to update the corporate.css file.

Reference: Assigning property values, Cascading, and Inheritance, !important rules

QUESTION 94

You are developing an e-commerce website. Users place products into a shopping cart.

You need to ensure that the shopping cart data is available between browser sessions.

Which object should you use to store the shopping cart data?

- A. clientStorage
- B. localStorage
- C. applicationStorage
- D. sessionStorage

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: With local storage, web applications can store data locally within the user's browser.

HTML local storage, better than cookies.

Before HTML5, application data had to be stored in cookies, included in every server request. Local storage is more secure, and large amounts of data can be stored locally, without affecting website performance.

Reference: HTML5 Local Storage

QUESTION 95

You are creating a JavaScript object that represents a customer.

You need to extend the Customer object by adding the GetCommission method.

You need to ensure that all future instances of the Customer object implement the GetCommission method.

Which code segment should you use?

- A. `Customer.apply.GetCommission = function()`
`{`
`alert('payroll');`
`}`
- B. `Customer.GetCommission = function () {`
`alert('payroll');`
`}`
- C. `Customer.prototype.GetCommission = function Customer.GetCommission()`
`{`
`alert('payroll');`
`}`
- D. `Customer.prototype.GetCommission = function ()`
`{`
`alert('payroll');`
`}`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * `Object.prototype.constructor`

Returns a reference to the Object function that created the instance's prototype. Note that the

value of this property is a reference to the function itself, not a string containing the function's name. The value is only read-only for primitive values such as 1, true and "test".

* The constructor property is created together with the function as a single property of func.prototype.

Reference: Object.prototype.constructor

QUESTION 96

You develop an HTML5 webpage. You have the following HTML markup:

```
<label for="personname">Given and Surname:</label>
<input type="text" name="personname" /><br />

<label for="businessname">Business Name:</label>
<input type="text" name="businessname" /><br />

<label for="emailaddress">Email Address:</label>
<input type="text" name="emailaddress" />
```

You need to change the background color for all of the elements whose name attribute ends with the word name.

Which code segment should you add to the webpage?

- A. `$('input [name!="name"]') .css ({ 'background-color' : ' #E0ECF8' }) ;`
- B. `$('input [name=~"name"] ') .css ({ 'background-color' : ' #E0ECF8' }) ;`
- C. `$('input[name="*name"]').css ({ 'background-color' : #E0ECF8 });`
- D. `$('input [name="$name"] ') .css ({ 'background-color' : #E0ECF8 });`

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The string pattern "*"name" matches all strings that ends with name.

QUESTION 97

You are developing a web application by using HTML5.

You have the following requirements.

- The color of a menu item must change when a user hovers over the item.
- The color of the menu item must change back to its original color after five seconds.

You need to ensure that the animation is applied to all menu items.

Which CSS3 code should you use?

A.

```
menuitem:hover {  
  color: yellow  
  opacity: 100  
  transition-timing-function:ease-in;  
  . . .  
}
```

B.

```
menuitem:hover {  
  background-color: yellow;  
  transition-duration:5s;  
  . . .  
}
```

C.

```
menuitem:hover {  
  color: yellow  
  transition-property:color;  
  transition-duration:5s;  
  . . .  
}
```

D.

```
menuitem:hover {  
  color: yellow  
  transition-duration:5s;  
  . . .  
}
```

- A. Option A
- B. Option B
- C. Option C

D. Option D

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: transition-property

The transition-property property specifies the name of the CSS property the transition effect is for (the transition effect will start when the specified CSS property changes).

Tip: A transition effect could typically occur when a user hover over an element.

Note: Always specify the transition-duration property, otherwise the duration is 0, and the transition will have no effect.

CSS3 transition-property Property

QUESTION 98

Your company uses a third-party component that generates HTML for a website. The third-party component creates DIV elements that display a yellow background.

The third-party component uses inline styles in the DIV elements that are inconsistent with your corporate standards. You must override the DIV elements in the style sheet with the corporate styles.

You need to ensure that the website meets corporate standards.

Which style should you use?

- A.

```
#alldiv
{
  background: yellow;
  font: 12px/22px Arial;
}
```
- B.

```
div p:only-child
{
  background: yellow;
  font: 12px/22px Arial;
}
```
- C.

```
div
{
  background: yellow !important;
  font: 12px/22px Arial !important;
}
```
- D.

```
div
{
  background: yellow;
  font: 12px/22px Arial;
}
```

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: C
Section: Volume D

Explanation

Explanation/Reference:

Explanation: CSS attempts to create a balance of power between author and user style sheets. By default, rules in an author's style sheet override those in a user's style sheet.

However, for balance, an "!important" declaration (the delimiter token "!" and keyword "important" follow the declaration) takes precedence over a normal declaration. Both author and user style sheets may contain "!important" declarations, and user "!important" rules override author "!important" rules. This CSS feature improves accessibility of documents by giving users with special requirements (large fonts, color combinations, etc.) control over presentation.

Reference: Assigning property values, Cascading, and Inheritance, !important rules

QUESTION 99

You develop an HTML5 webpage that contains the following HTML markup:

```
<label for='favoriteColor'>Favorite Color(2-10 characters):</label>
<input type='text' id='favoriteColor' />
<input type='button' value='Submit'
  onclick="testLength(document.getElementById('favoriteColor'), 2, 10)" />
```

Users must receive a message after they click the Submit button if the text entered into the favoriteColor text box is fewer than 2 characters or greater than 10 characters.

You need to implement the testLength() function.

Which code segment should you use?

C A.

```
function testLength(element, min, max) {
  var uInput = element.value;
  var min = element.value.length;
  var max = element.value.slice(0, element.value.length);
  if (uInput.length >= min && uInput.length <= max) {
    return true;
  } else {
    alert("Please enter between " + min + " and " + max + " characters");
    element.focus();
    return false;
  }
}
```

C B.

```
function testLength(min, max) {
  var uInput = this.value;
  if (uInput.length >= min && uInput.length <= max) {
    return true;
  } else {
    alert("Please enter between " + min + " and " + max + " characters");
    element.focus();
    return false;
  }
}
```

C C.

```
function testLength(this) {
  var uInput = this.value;
  var min = this.value.length;
  var max = this.value.slice(0, this.value.length);
  if (uInput.length >= min && uInput.length <= max) {
    return true;
  } else {
    alert("Please enter between " + min + " and " + max + " characters");
    element.focus();
    return false;
  }
}
```

C D.

```
function testLength(element, min, max) {
  var uInput = element.value;
  if (uInput.length >= min && uInput.length <= max) {
    return true;
  }
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Use three arguments: element, min, max.
Compare element.value with min and max.

QUESTION 100

You are developing a website that helps users locate theaters in their area from a browser. You created a function named findTheaters ().

The function must:

- Get the current latitude and longitude of the user's device
- Pass the user's location to findTheaters()

The user needs to access the geolocation information from the browser before searching for theaters.

Which code segment should you use?

- A.

```
function GetTheaters {
  theaters = findTheaters(navigator.geolocation.getCurrentPosition());
  ...
}
```
- B.

```
navigator.geolocation.getBrowserPosition(hasPosition);

function hasPosition(position) {
  theaters = findTheaters(position.coords.latitude, position.coords.longitude);
  ...
}
```
- C.

```
navigator.geolocation.getCurrentPosition(hasPosition, noPosition);

function hasPosition(position) {
  theaters=findTheaters(position.coords.latitude, position.coords.longitude);
  ...
}

function noPosition() {
  ...
}
```
- D.

```
function GetTheaters {
  theaters = findTheaters(navigator.geolocation.getLatitude(), navigator.geolocation.getLongitude());
  ...
}
```

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: C
Section: Volume D
Explanation

Explanation/Reference:

Explanation: * The `getCurrentPosition` method retrieves the current geographic location of the device. The location is expressed as a set of geographic coordinates together with information about heading and speed. The location information is returned in a `Position` object.

syntax of this method:

`getCurrentPosition(showLocation, ErrorHandler, options);` where

`showLocation` : This specifies the callback method that retrieves the location information. This method is called asynchronously with an object corresponding to the `Position` object which stores the returned location information.

`ErrorHandler` : This optional parameter specifies the callback method that is invoked when an error occurs in processing the asynchronous call. This method is called with the `PositionError` object that stores the returned error information.

* e example below is a simple Geolocation example returning the latitude and longitude of the user's position:

Example

```
<script>
var x = document.getElementById("demo");
function getLocation() {
if (navigator.geolocation) {
navigator.geolocation.getCurrentPosition(showPosition); } else {
x.innerHTML = "Geolocation is not supported by this browser."; }
}
function showPosition(position) {
x.innerHTML = "Latitude: " + position.coords.latitude + "<br>Longitude: " + position.coords.longitude;
}
</script>
```

Example explained:

Check if Geolocation is supported

If supported, run the `getCurrentPosition()` method. If not, display a message to the user. If the `getCurrentPosition()` method is successful, it returns a coordinates object to the function specified in the parameter (`showPosition`)

The `showPosition()` function gets the displays the Latitude and Longitude. The example above is a very basic Geolocation script, with no error handling.

Reference: [HTML5 Geolocation](#); [Geolocation `getCurrentPosition\(\)` API](#)

QUESTION 101

You are developing an HTML5 web application. The application loads data from a web service by using AJAX. The application displays the data by calling the displayData function. The data is loaded by using the following code.

```
var ajax = $.ajax({  
    url: dataUri,  
});
```

You need to ensure that the data is displayed when it is successfully retrieved from the web service.

Which code segment should you use?

- A. `displayData(ajax.data);`
- B. `ajax.done = function (data) {
 displayData(dataOperation);
};`
- C. `ajax.always = function (data) {
 displayData(dataOperation);
};`
- D. `displayData(ajax.val());`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The deferred.done() method accepts one or more arguments, all of which can be either a single function or an array of functions. When the Deferred is resolved, the doneCallbacks are called. Callbacks are executed in the order they were added. Since deferred.done() returns the deferred object, other methods of

the deferred object can be chained to this one, including additional `.done()` methods.

`$.ajax`

Reference: JQuery, `deferred.done()`

QUESTION 102

You are developing a web page that performs CPU-intensive calculations. A web worker processes these calculations on a separate background thread. The process is instantiated from the web page.

You need to stop the web worker process after the calculations are completed.

Which two actions can you perform to achieve this goal? (Each correct answer presents a complete solution. Choose two.)

- A. From the web page, call the `close()` method.
- B. From the web worker process, call the `terminate()` method.
- C. From the web page, call the `terminate()` method.
- D. From the web worker process, call the `close()` method.

Correct Answer: CD

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Terminating a worker

If you need to immediately terminate a running worker, you can do so by calling the worker's `terminate()` method:

```
myWorker.terminate();
```

The worker thread is killed immediately without an opportunity to complete its operations or clean up after itself.

Workers may close themselves by calling their own `close` method:

```
close();
```

Reference: Using Web Workers

QUESTION 103

You are developing an HTML5 page named `main.html`. The JavaScript code for the main page is located in a file named `myApp.js`.

You need to create a web worker and instantiate it from `main.html`.

Where should you place the web worker code?

- A. In the myApp.js file
- B. In the main.html file
- C. In a separate .js (JavaScript) file
- D. In a separate executable file

Correct Answer: C

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Spawning a dedicated worker

Creating a new worker is simple. All you need to do is call the Worker() constructor, specifying the URI of a script to execute in the worker thread (main.js):

```
var myWorker = new Worker("worker.js");
```

Reference: Using Web Workers

QUESTION 104

You are developing a JavaScript library.

You have the following requirements:

- Custom exceptions must include an error message and custom error number.
- These exceptions must be thrown when data validation errors occur.
- Developers must call the library to easily catch the exception and identify the problem.

You develop the following code. (Line numbers are included for reference only.)

```
01 function ValidationException(number, message) {
02     this.message = message;
03     this.name = "myLibrary Exception";
04     this.number = number;
05 }
06
07 function myFunction(dayOfWeek) {
08     if (dayOfWeek > 7) {
09
10     }
11 }
```

You need to complete the code to meet the requirements.

Which line of code should you insert at line 09?

- A. throw new ValidationException.Exception (123, "Day of week must be less than 7");
- B. return new ValidationException(123, "Day of week must be less than 7");
- C. throw ValidationException(123, "Day of week must be less than 7");
- D. catch ValidationException(123, "Day of week: must be less than 7");

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: Example:

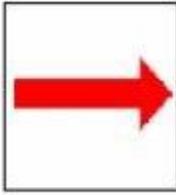
```
if (value < -100 || value > 100)
{
throw new ValidationException(String.Format("Value is {0} than {1}.", (value > 100 ? "greater" :
"less"), value));
}
```

QUESTION 105

You are developing an application that retrieves a stock rate from an external web service. A web page displays a simple rotating animation to indicate whether the stock rate is increased or decreased.

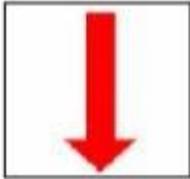
The default image, as shown in the following graphic, indicates unchanged or neutral.

Stock Price



The arrow must point down if the stock rate is decreased, as shown in the following graphic.

Stock Price



You need to ensure that the arrow points down when the stock rate decreases.

Which CSS style should you apply?

- A.

```
<style type="text/css">
div
{
width:20px;
height:20px;
transform:move(90deg);
}
</style>
```
- B.

```
<style type="text/css">
div
{
width:20px;
height:20px;
transform:rotate(-90deg);
}
</style>
```
- C.

```
<style type="text/css">
div
{
width:20px;
height:20px;
transform:move(-90deg);
}
</style>
```
- D.

```
<style type="text/css">
div
{
width:20px;
height:20px;
transform:rotate(90deg);
}
</style>
```

A. Option A

- B. Option B
- C. Option C
- D. Option D

Correct Answer: D
Section: Volume D
Explanation

Explanation/Reference:

Explanation: transform:rotate
rotate(angle)
Defines a 2D rotation, the angle is specified in the parameter

Syntax: object.style.transform="rotate(7deg)"

Reference: CSS3 transform Property

QUESTION 106

You are troubleshooting a web page that includes the following code segment.

```
var x = 0;
function fun() {
  var x = 1;
  if (x) {
    x = 2;
  }
}
fun();
alert(x);
```

You need to evaluate the value of the variable x.

What will be displayed in the user interface?

- A. 0
- B. 1
- C. 2
- D. An error

Correct Answer: A
Section: Volume D
Explanation

Explanation/Reference:

Explanation: * Alert(x) is within the scope of the outermost assignment, x=0.

* Local variables have local scope: They can only be accessed within the function.

Example

```
// code here can not use carName  
function myFunction() {
```

```
    var carName = "Volvo";  
    // code here can use carName  
}
```

* A variable declared outside a function, becomes GLOBAL. A global variable has global scope: All scripts and functions on a web page can access it.

Example

```
var carName = "Volvo";  
// code here can use carName  
function myFunction() {  
    // code here can use carName  
}
```

* The alert() method displays an alert box with a specified message and an OK button. An alert box is often used if you want to make sure information comes through to the user.

Reference: JavaScript Scope

QUESTION 107

You develop an HTML5 chat application.

You need to provide real-time updates to the messages that users post in the chat application.

What should you do?

- A. Use get o to obtain data updates.
- B. Use a RESTful web service.
- C. Use WebSockets.
- D. Use ajaxo to obtain data updates.

Correct Answer: C
Section: Volume D
Explanation

Explanation/Reference:

Explanation: Web Sockets is a next-generation bidirectional communication technology for web applications which operates over a single socket and is exposed via a JavaScript interface in HTML 5 compliant browsers.

Once you get a Web Socket connection with the web server, you can send data from browser to server by calling a send() method, and receive data from server to browser by an onmessage event handler.

Reference: HTML5 - WebSockets Tutorial

QUESTION 108

You are creating a rotating image of a company logo.

The logo must spin on a horizontal axis and on a vertical axis.

You need to use the least amount of development effort to meet the requirement.

What should you do?

- A. Create an Image Spinner object, load the image into the spinner, and set the horizontal and vertical rotation properties.
- B. Create a Canvas Globe transform and set the image as the globe object. Set the horizontal and vertical rotation properties.
- C. Create a single Canvas 3D transform and load the image into it. Set the rotation properties.
- D. Create a Canvas 2D transform and set the image to rotate horizontally and vertically.

Correct Answer: C
Section: Volume D
Explanation

Explanation/Reference:

Explanation: CSS3 allows you to format your elements using 3D transforms.
There are two 3D transform methods:

rotateX() - With the rotateX() method, the element rotates around its X-axis at a given degree. rotateY() - With the rotateY() method, the element rotates around its Y-axis at a given degree.

Reference: CSS3 3D Transforms

QUESTION 109

You are developing an HTML5 web application that provides a discussion forum for users. When a user registers to access the application, the user enters an email address.

Users can enter data that can result in cross-site scripting (XSS) attacks.

You need to ensure that email input is as secure as possible.

Which two techniques should you use? (Each correct answer presents a complete solution. Choose two.)

- A. Remove all nonalphanumeric characters before submitting data.
- B. Use the email tag in forms where the email address is entered.
- C. Display all email addresses inside of an HTML5 ADDRESS element.
- D. Use jQuery validation with a regular expression to ensure that email addresses are valid.
- E. Ensure that all form data is encrypted when it is submitted.

Correct Answer: BD

Section: Volume D

Explanation

Explanation/Reference:

Explanation: B: The <input type="email"> is used for input fields that should contain an e-mail address.

Depending on browser support, the e-mail address can be automatically validated when submitted.

Some smartphones recognize the email type, and adds ".com" to the keyboard to match email input.

D: JQuery can be used to validate email addresses.

Reference: HTML Input Types; Email Validation Using jQuery Codes

QUESTION 110

You are validating user input by using JavaScript and regular expressions.

A group of predefined regular expressions will validate two input fields:

- An email address in a function named validateEmail (for example, firstname@contoso.com)
- A nine-digit number that allows optional hyphens after the second and fifth character in a function named validateSSN(for example, 555555555 or 555-55-5555)

You need to use the correct expression to validate the input.

Which expression should you insert into each function? (To answer, drag the appropriate regular expression statement to the correct location. Each regular expression statement may be used

once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
/^\d{1,2}(\-|\/|\.)\d{1,2}\1\d{4}$/;
```

```
 /^[0-9]{3}\^[0-9]{2}\^[0-9]{4}$/;
```

```
 /^[0-9]{0}\^[0-9]{2}\^[0-9]{4}$/;
```

```
 /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}$/;
```

```
 /^[0-9]{3}+@[a-zA-Z0-9.-]+\.[0-9]{2,4}$/;
```

Answer Area

```
function validateSSN(userinput) {  
    var ssnPattern =  
  
    return ssnPattern.test(userinput);  
}
```

```
function validateEmail(userinput){  
    var emailPattern =  
  
    return emailPattern.test(userinput);  
}
```

Correct Answer:

```
/^\d{1,2}(\-|\/|\.)\d{1,2}\1\d{4}$/;
```

```
/^[0-9]{0}\^[0-9]{2}\^[0-9]{4}$/;
```

```
/^[0-9]{3}+@[a-zA-Z0-9.-]+\.[0-9]{2,4}$/;
```

Answer Area

```
function validateSSN(userinput) {
```

```
    var ssnPattern =
```

```
        /^[0-9]{3}\^[0-9]{2}\^[0-9]{4}$/;
```

```
    return ssnPattern.test(userinput);
```

```
}
```

```
function validateEmail(userinput){
```

```
    var emailPattern =
```

```
        /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}$/;
```

```
    return emailPattern.test(userinput);
```

```
}
```

Section: Volume A
Explanation

Explanation/Reference:

```
/^\d{1,2}(\-|\/|\.)\d{1,2}\1\d{4}$/;
```

```
/^[0-9]{0}\^[0-9]{2}\^[0-9]{4}$/;
```

```
/^[0-9]{3}+@[a-zA-Z0-9.-]+\.[0-9]{2,4}$/;
```

Answer Area

```
function validateSSN(userinput) {  
  var ssnPattern =  
    /^[0-9]{3}\^[0-9]{2}\^[0-9]{4}$/;  
  
  return ssnPattern.test(userinput);  
}
```

```
function validateEmail(userinput){  
  var emailPattern =  
    /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}$/;  
  
  return emailPattern.test(userinput);  
}
```

QUESTION 111

You are developing a form that captures a user's email address by using HTML5 and jQuery. The form must capture the email address and return it as a query string parameter. The query string parameter must display the @ symbol that is used in the email address.

You need to implement this functionality.

How should you develop the form? (To answer, drag the appropriate code segment to the correct target or targets in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
str = $("form").serialize();
```

```
str = decodeURIComponent(str);
```

```
str = $("form").contents.toString();
```

```
str = $("form").toLocaleString();
```

```
str = decodeURI(str);
```

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      
      return true;
    });
  </script>
</body>
</html>
```

Correct Answer:

```
str = $("form").contents.toString();
```

```
str = $("form").toLocaleString();
```

```
str = decodeURI(str);
```

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      return true;
    });
  </script>
</body>
</html>
```

Section: Volume A
Explanation

Explanation/Reference:

```
str = $("form").contents.toString();
str = $("form").toLocaleString();
str = decodeURI(str);

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      return true;
    });
  </script>
</body>
</html>
```

* The `serialize()` method creates a URL encoded text string by serializing form values. You can select one or more form elements (like input and/or text area), or the form element itself. The serialized values can be used in the URL query string when making an AJAX request.

Example: `$("form").serialize();`

* `decodeURIComponent`

The `decodeURIComponent()` function decodes a URI component.

Return Value: A String, representing the decoded URI

Incorrect:

Not `decodeURI`:

`decodeURI` is intended for use on the full URI.

`decodeURIComponent` is intended to be used on .. well .. URI components that is any part that lies between separators (`;/?:@&=+$,#`).

Reference: jQuery `serialize()` Method

http://www.w3schools.com/jquery/ajax_serialize.asp

http://www.w3schools.com/jsref/jsref_encodeuri.asp

QUESTION 112

You are developing a web application that retrieves data from a web service. The data being retrieved is a custom binary datatype named `bint`. The data can also be represented in XML.

Two existing methods named `parseXml()` and `parseBint()` are defined on the page.

The application must:

- Retrieve and parse data from the web service using binary format if possible

- Retrieve and parse the data from the web service using XML when binary format is not possible. You need to develop the application to meet the requirements. What should you do? (To answer, select the appropriate options from the drop-down lists in the answer area.)

```
var request = $.ajax({  
  uri: '/',
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
```

```
dataFilter: function (data, type) {
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
```

```
    return parseBint(data);  
  else  
    return parseXml(data);  
},  
success: function (data) {  
  start(data);  
}  
});
```

Hot Area:

```
var request = $.ajax({
  uri: '/',
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
dataFilter: function (data, type) {
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
    return parseBint(data);
  else
    return parseXml(data);
},
success: function (data) {
  start(data);
}
});
```

Correct Answer:

```
var request = $.ajax({
  uri: '/',
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
dataFilter: function (data, type) {
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
    return parseBint(data);
  else
    return parseXml(data);
},
success: function (data) {
  start(data);
}
});
```

Section: Volume A
Explanation

Explanation/Reference:

```
var request = $.ajax({
  uri: '/',
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
dataFilter: function (data, type) {
```

```
if (request.getResponseHeader("Content-Type") == "application/bint")
if (request.getResponseHeader("Content-Type") == "application/bint")
if (type == "application/bint")
if (request.mimeType == "application/bint")
accepts: 'application/bint, text/xml',
contentType: 'application/bint, text/xml',
dataType: 'application/bint, text/xml',
```

```
    return parseBint(data);
  else
    return parseXml(data);
},
success: function (data) {
  start(data);
}
});
```

```
* accepts : 'application/bint, text/xml'
accepts:'application/bin,text/xml' to accept only XML and binary content in HTML responses.
* Use the following condition to check if the html response content is
binary: If(request.getResponseHeader("Content-Type")==="application/bint"
* var request = $.ajax({
uri:'/',
accepts: 'application/bint, text/xml',
datafilter: function(data,type){
if(request.getResponseHeader("Content-Type")==="application/bint")
return parseBint(data);
else
return parseXml();
},
success: function (data) {
start(data);
}
});
```

QUESTION 113

You are developing a web page for runners who register for a race. The page includes a slider control that allows users to enter their age.

You have the following requirements:

- All runners must enter their age.
- Applications must not be accepted from runners less than 18 years of age or greater than 90 years.
- The slider control must be set to the average age (37) of all registered runners when the page is first displayed.

You need to ensure that the slider control meets the requirements.

What should you do? (To answer, drag the appropriate word or number to the correct location in the answer area. Each word or number may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

- range
- slider
- 0
- 18
- 90
- 100
- 37
- avgAge()
- default
- value
- required
- optional

```
<input type="range" min="0" max="100" step="5" value="37" />
```

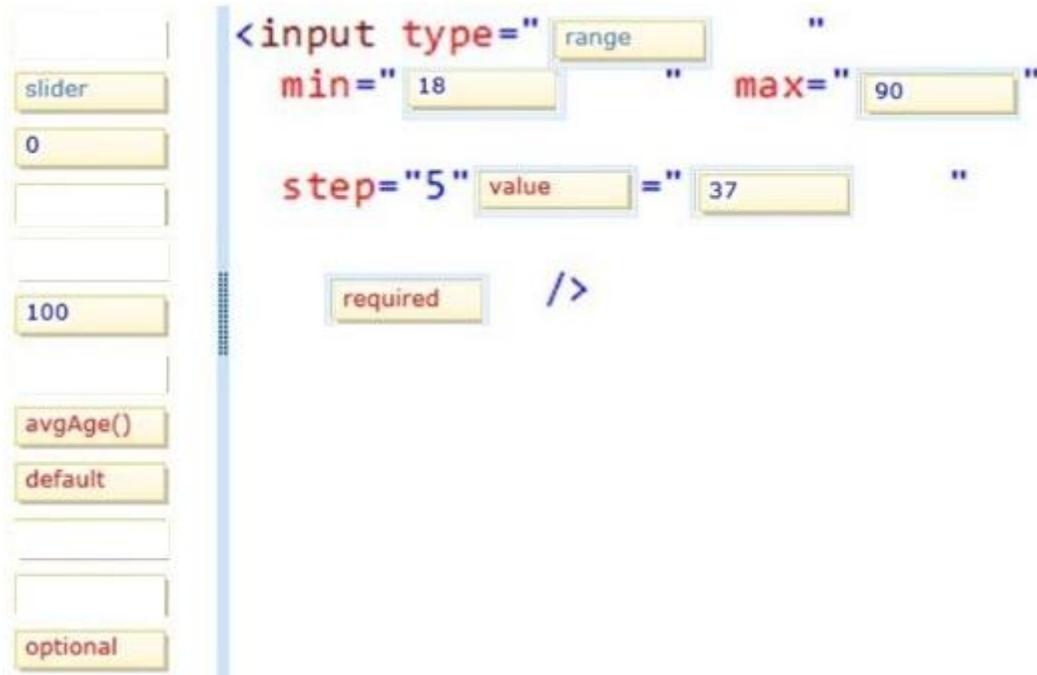
Correct Answer:

-
- slider
- 0
-
-
- 100
-
- avgAge()
- default
-
-
- optional

```
<input type="range"
  min="18" max="90"
  step="5" value="37"
  required />
```

Section: Volume A
Explanation

Explanation/Reference:



Box 1-3: The `<input type="range">` is used for input fields that should contain a value within a range.

Example

```
<input type="range" name="points" min="0" max="10">
```

Box 4-5: Use the value attribute to set the default value

Box 6: Definition and Usage

The required attribute is a boolean attribute.

When present, it specifies that an input field must be filled out before submitting the form.

Example

```
Username: <input type="text" name="username" required>
```

Reference: HTML Input Types

http://www.w3schools.com/html/html_form_input_types.asp

QUESTION 114

You are developing an airline reservation website by using HTML5 and JavaScript. A page on the site allows users to enter departure and destination airport information and search for tickets.

You have the following requirements:

- Users must be able to save information in the application about their favorite destination airport.
- The airport information must be displayed in the destination text box whenever the user returns

to the page.

You need to develop the site to meet the requirements.

Which lines of code should you use? (To answer, select the appropriate options from the dropdown lists in the answer area.)

```
<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {
      var dest = localStorage.destination;

      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;

      var dest = localStorage.destination;

    }
  </script>
</body>
```

Hot Area:

```

<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {

      var dest = localStorage.destination;
      var dest = localStorage.destination;
      localStorage.destination = dest;
      var dest = sessionStorage.destination;
      sessionStorage.destination = dest;

      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;

      var dest = localStorage.destination;
      var dest = localStorage.destination;
      localStorage.destination = dest;
      var dest = sessionStorage.destination;
      sessionStorage.destination = dest;

    }
  </script>
</body>

```

Correct Answer:

```

<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {

      var dest = localStorage.destination;
      var dest = localStorage.destination;
      localStorage.destination = dest;
      var dest = sessionStorage.destination;
      sessionStorage.destination = dest;

      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;

      var dest = localStorage.destination;
      var dest = localStorage.destination;
      localStorage.destination = dest;
      var dest = sessionStorage.destination;
      sessionStorage.destination = dest;

    }
  </script>
</body>

```

Section: Volume A
Explanation

Explanation/Reference:

```
<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {
```

```
var dest = localStorage.destination;
```

```
var dest = localStorage.destination;
```

```
localStorage.destination = dest;
```

```
var dest = sessionStorage.destination;
```

```
sessionStorage.destination = dest;
```

```
    if (dest != null)
```

```
        document.getElementById("txtDest").value = dest;
```

```
    }
```

```
function storeDestination(id) {
```

```
    var dest = document.getElementById(id).value;
```

```
var dest = localStorage.destination;
```

```
var dest = localStorage.destination;
```

```
localStorage.destination = dest;
```

```
var dest = sessionStorage.destination;
```

```
sessionStorage.destination = dest;
```

```
    }
```

```
</script>
```

```
</body>
```

- * retrieve localStorage.destination
- * store localStorage.destination

QUESTION 115

You are developing an HTML5 web application for displaying encyclopedia entries.

Each encyclopedia entry has an associated image that is referred to in the entry.

You need to display the image by using the correct semantic markup.

What should you do? (To answer, select the appropriate options from the drop-down list in the answer area.)

```

```

Image description

Hot Area:



```

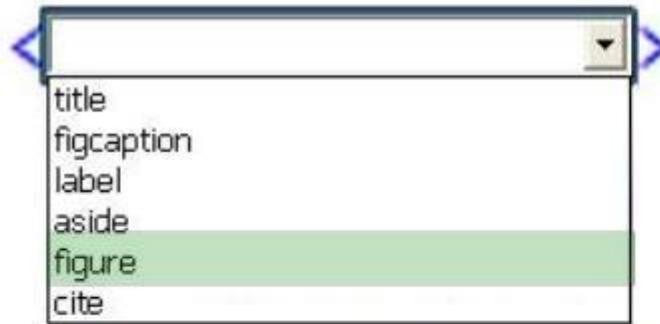
```



Image description



Correct Answer:



```

```

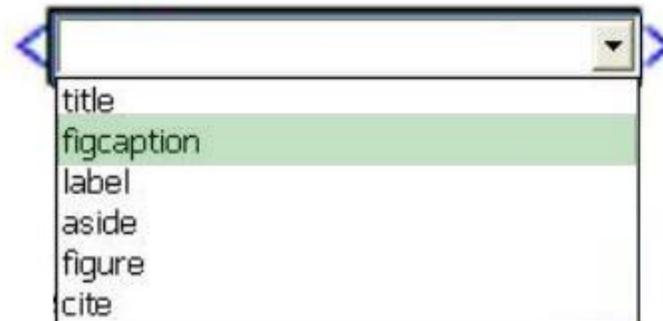
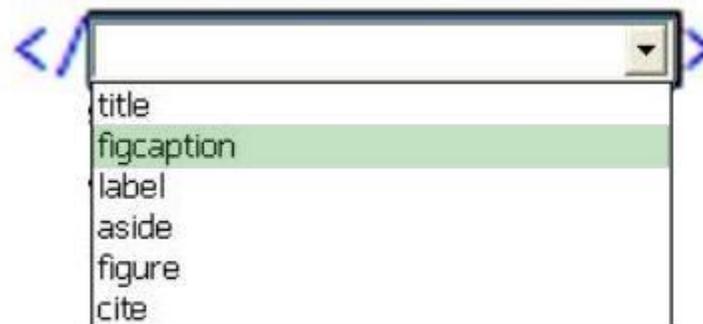
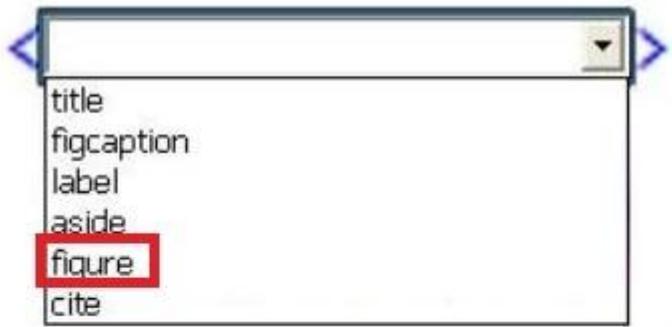


Image description



Section: Volume A
Explanation

Explanation/Reference:



```

```

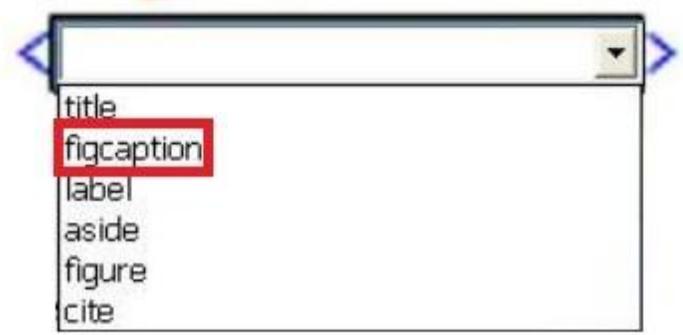
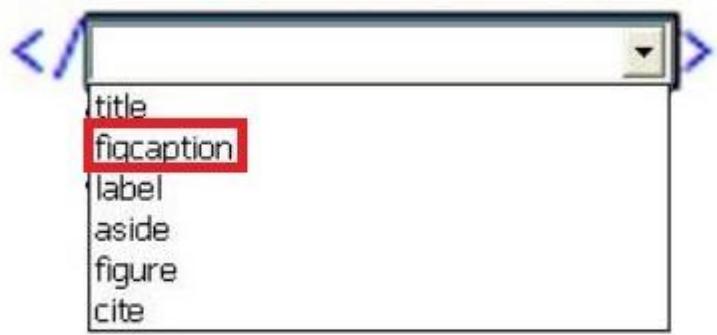


Image description



The <figure> element

The <figure> element is intended to be used in conjunction with the <figcaption> element to mark up diagrams, illustrations, photos, and code examples (among other things).

Example:

```
<figure>
```

```

```

```
<figcaption>A cheeky macaque, Lower Kintaganban River, Borneo. Original by <a  
href="http://www.flickr.com/photos/rclark/">Richard Clark</a></figcaption>
```

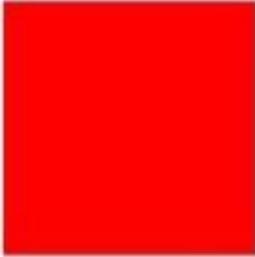
```
</figure>
```

Reference: The figure & figcaption elements

QUESTION 116

An HTML page has a canvas element.

You need to draw a red rectangle on the canvas element dynamically. The rectangle should resemble the following graphic.



How should you build the code segment? (To answer, select the appropriate options from the drop-down lists in the answer area.)

```
<!DOCTYPE html>
<html>
<body>
  <canvas id="mycanvas" width="300" height="300"></canvas>
  <script type="text/javascript">
    context.fillRect(50, 50, 100, 100);
    var context = canvas.getContext('2d');
    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
  </script>
</body>
</html>
```

Hot Area:

```
<!DOCTYPE html>
<html>
<body>
  <canvas id="mycanvas" width="300" height="300"></canvas>
  <script type="text/javascript">
    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    var context = canvas.getContext('2d');

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();
  </script>
</body>
</html>
```

Correct Answer:

```
<!DOCTYPE html>
<html>
<body>
  <canvas id="mycanvas" width="300" height="300"></canvas>
  <script type="text/javascript">
    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    var context = canvas.getContext('2d');

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();
  </script>
</body>
</html>
```

Section: Volume A
Explanation

Explanation/Reference:

```

<!DOCTYPE html>
<html>
<body>
  <canvas id="mycanvas" width="300" height="300"></canvas>
  <script type="text/javascript">
    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    var context = canvas.getContext('2d');

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();

    context.fillRect(50, 50, 100, 100);
    context.fillRect(50, 50, 100, 100);
    context.fillStyle = "rgb(255, 0, 0)";
    var canvas = document.getElementById('mycanvas');
    var canvas = document.BeginPath();
  </script>
</body>
</html>

```

* getElementById

The getElementById() method accesses the first element with the specified id. We use it to get a reference to the canvas.

* context.fillStyle.

Example:

Define a red fill-color for the rectangle:

JavaScript:

```
var c=document.getElementById("myCanvas");
```

```
var ctx=c.getContext("2d");
```

```
ctx.fillStyle="#FF0000";
```

```
ctx.fillRect(20,20,150,100);
```

Reference: [HTML canvas fillStyle Property](#)

QUESTION 117

You are creating a web worker for an HTML5 application.

The following tasks must be performed from within the web worker:

- Register an event listener for the web worker
- Start and stop the web worker

You need to define a function that performs the required tasks.

Which code segment should you use? (To answer, select the appropriate option from the dropdown list in the answer area.)

```
self.postMessage("Worker: " + data);  
var data = event.data;  
switch (data.cmd) {  
  case 'start':  
    self.postMessage("Worker: " + data);  
    break;  
  case 'stop':  
    self.postMessage("Worker: " + data);  
    break;  
  default:  
    self.postMessage('Try again: ' + data.msg);  
    default:  
      self.postMessage('Try again: ' + data.msg);  
};  
, false);
```

Hot Area:

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener('message', function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
var data = event.data;
```

```
switch (data.cmd) {
```

```
  case 'start':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener('message', function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
  break;
```

```
  case 'stop':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener('message', function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
  break;
```

```
  default:
```

```
    self.postMessage('Try again: ' + data.msg);
```

```
  default:
```

```
    self.postMessage('Try again: ' + data.msg);
```

Correct Answer:

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
var data = event.data;
```

```
switch (data.cmd) {
```

```
  case 'start':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
  break;
```

```
  case 'stop':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
  break;
```

```
  default:
```

```
    self.postMessage("Try again: " + data.msg);
```

```
  default:
```

```
    self.postMessage("Try again: " + data.msg);
```

Section: Volume A
Explanation

Explanation/Reference:

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
var data = event.data;
```

```
switch (data.cmd) {
```

```
case 'start':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
break;
```

```
case 'stop':
```

```
self.postMessage("Worker: " + data);
self.postMessage("Worker: " + data);
self.addEventListener("message", function(event));
self.attachEvent("Worker", data);
self.terminate();
self.close();
```

```
break;
```

```
default:
```

```
self.postMessage('Try again: ' + data.msg);
```

```
default:
```

```
self.postMessage('Try again: ' + data.msg);
```

* addEventListener

The addEventListener() method attaches an event handler to the specified element.

In context of a worker, both self and this refer to the global scope. The worker can either add an event listener for the message event, or it can define the onmessage handler to listen for any messages sent by the parent thread.

* postmessage

Pass a message to the worker.

* close()

Terminating Workers

Workers are resource-intensive; they are OS-level threads. Therefore, you do not want to create a large number of worker threads, and you should terminate the web worker after it completes its work. Workers can terminate themselves, like this:

```
self.close();
```

Reference: HTML DOM addEventListener() Method; The Basics of Web Workers

QUESTION 118

You are creating a function by using JavaScript. The function accepts an object as the parameter and returns a string that identifies the data type of the object.

You have the following requirements:

- The function must return "Number" if the object is a number.
- The function must return "String" if the object is a string.
- The function must return "Unknown" if the object is neither a number nor a string.

You need to implement the function to meet the requirements.

How should you build the code segment? (To answer, select the appropriate options from the drop-down lists in the answer area.)

```
function GetObjectType(obj) {  
  default ▾ (obj.constructor) {  
    default ▾ Number:  
      return "Number";  
    default ▾ ;  
    default ▾ String:  
      return "String";  
    default ▾ ;  
    default ▾ :  
      return "Unknown";  
  }  
}
```

Hot Area:

```
function GetObjectType(obj) {
```

```
    (obj.constructor) {
```

```
        default  
        switch  
        break  
        case
```

```
        Number:
```

```
            default  
            switch  
            break  
            case
```

```
            return "Number";
```

```
        };
```

```
        String:
```

```
            default  
            switch  
            break  
            case
```

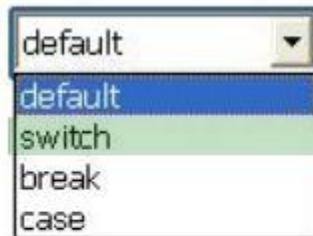
```
            return "String";
```

```
        };
```

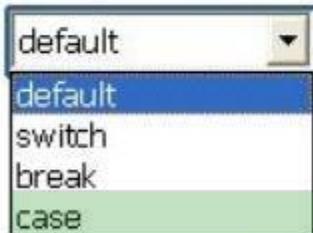
Correct Answer:

```
function GetObjectType(obj) {
```

```
  (obj.constructor) {
```

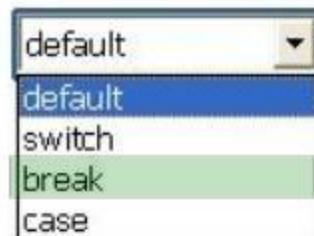


```
    Number:
```

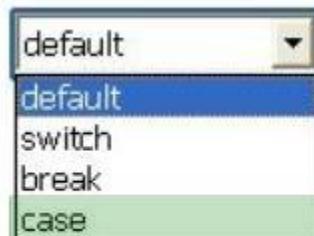


```
    return "Number";
```

```
  };
```

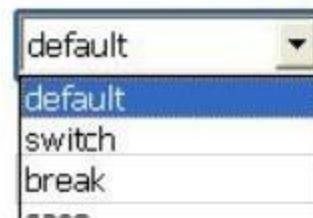


```
    String:
```



```
    return "String";
```

```
  };
```

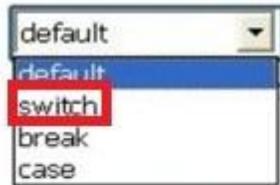


Section: Volume A
Explanation

Explanation/Reference:

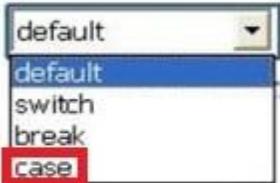
```
function GetObjectType(obj) {
```

```
(obj.constructor) {
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in blue), 'switch' (highlighted in red), 'break', and 'case'.

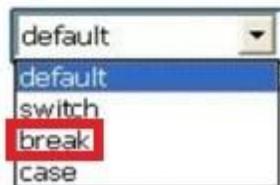
```
Number:
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in blue), 'switch', 'break', and 'case' (highlighted in red).

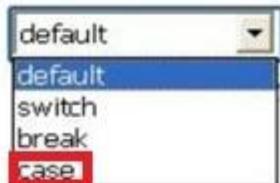
```
return "Number";
```

```
;
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in blue), 'switch', 'break' (highlighted in red), and 'case'.

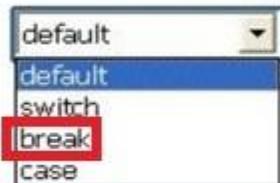
```
String:
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in blue), 'switch', 'break', and 'case' (highlighted in red).

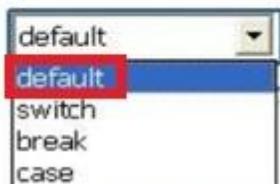
```
return "String";
```

```
;
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in blue), 'switch', 'break' (highlighted in red), and 'case'.

```
:
```



A dropdown menu with a downward arrow on the right. The text 'default' is visible in the top-left corner. The menu is open, showing a list of options: 'default' (highlighted in red), 'switch', 'break', and 'case'.

```
return "Unknown";
```

```
}
```

* Use the switch statement to select one of many blocks of code to be executed.

```
Syntax
switch(expression) {
case n:
code block
break;
case n:
code block
break;
default:
default code block
}
```

This is how it works:

The switch expression is evaluated once.

The value of the expression is compared with the values of each case.

If there is a match, the associated block of code is executed.

* Object.prototype.constructor

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string containing the function's name. The value is only read-only for primitive values such as 1, true and "test".

* Description

All objects inherit a constructor property from their prototype:

```
var o = {};
o.constructor === Object; // true
var a = [];
a.constructor === Array; // true
var n = new Number(3);
n.constructor === Number; // true
```

* The constructor property is created together with the function as a single property of func.prototype.

Reference: JavaScript Switch Statement;Object.prototype.constructor

QUESTION 119

You are developing an online shopping application that accepts credit cards for payment.

If the credit card number is invalid, the application must:

Generate an error

Assign "200" to the error number

Assign "Invalid" to the error description

You need to write the code that meets the requirements.

How should you write the code? (To answer, drag the appropriate code segment or segments to the correct location in the answer area. Each code segment may be used once, more than once,

or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

throw new (,);

"Invalid"

200

Error

break

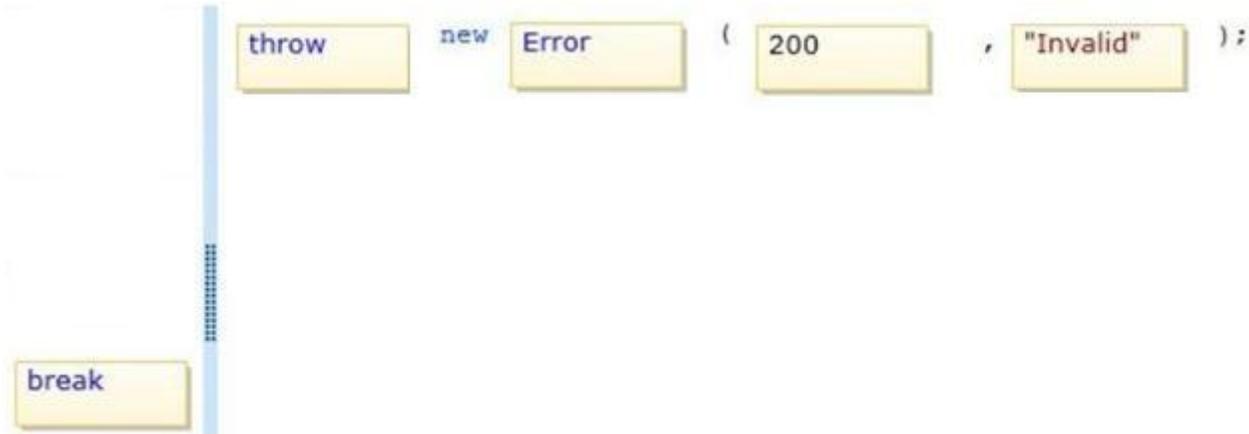
Correct Answer:

throw new Error (200 , "Invalid");

break

Section: Volume A
Explanation

Explanation/Reference:



Example: `throw new Error(200, "x equals zero");`
Reference: `throw Statement (JavaScript)`

QUESTION 120

You are creating an application by using HTML5 and CSS3. The styles for the pages are derived from five style sheets.

The styles are not being applied correctly to the pages in the application.

You need to apply the styles from highest priority to lowest priority.

In which order should you use the five style sheets? (To answer, move the style sheet types from the list of style sheet types to the answer area and arrange them in the correct order.)

Select and Place:

- user important style sheets
- user normal style sheets
- author normal style sheets
- user agent style sheets
- author important style sheets

Correct Answer:

- user important style sheets
- author important style sheets
- author normal style sheets
- user normal style sheets
- user agent style sheets

Section: Volume A
Explanation

Explanation/Reference:

user important style sheets

author important style sheets

author normal style sheets

user normal style sheets

user agent style sheets

* From highest priority to lowest priority.

User important style sheets

Author important style sheets

Author normal style sheets

User normal style sheets

User agent style sheets

* CSS declarations are applied in this order (from lowest to highest priority):

- User agent declarations (the default styles your browser applies to elements)
- User normal declarations (a user's own stylesheet if they're using one)
- Author normal declarations (this is your normal stylesheet)
- Author important declarations (anything your mark important)
- User important declarations (any important styles from the user's stylesheet)

Reference: Assigning property values, Cascading, and Inheritance; In what order do CSS definitions take priority

<http://www.w3.org/TR/CSS21/cascade.html>

<http://www.quora.com/In-what-order-do-CSS-definitions-take-priority>

QUESTION 121

You are developing a web page that will be accessed from various types of devices.

You have the following requirements:

- The appropriate display resolution must be selected dynamically based on the device connecting to the page.
- Mobile devices with a maximum width of 480 pixels must be able to use the page.

You need to ensure that the page displays correctly on any device.

How should you build the code? (To answer, select the appropriate options from the drop-down lists in the answer area.)

```
@media screen and (min-width:200px) and (max-width:480px)
{
    #navbar {
        float: none;
        width: 200px;
    }
}
@media screen and (min-width:200px) and (max-width:480px)
{
    #navbar {
        float: left;
        width: 500px;
    }
}
```

Hot Area:

```
@media screen and (min-width:200px) and (max-width:480px)
{
  screen and (min-width:200px) and (max-width:480px)
  size and (min-width:200px) and (max-width:480px)
  screen and (min-width:480px)
  size and (min-width:480px)
}
```

```
#navbar {
  float: none;
  width: 200px;
}
@media screen and (min-width:200px) and (max-width:480px)
{
  #navbar {
    float: left;
    width: 500px;
  }
}
```

Correct Answer:

```
@media screen and (min-width:200px) and (max-width:480px)
{
  screen and (min-width:200px) and (max-width:480px)
  size and (min-width:200px) and (max-width:480px)
  screen and (min-width:480px)
  size and (min-width:480px)
}
```

```
#navbar {
  float: none;
  width: 200px;
}
@media screen and (min-width:200px) and (max-width:480px)
{
  #navbar {
    float: left;
    width: 500px;
  }
}
```

Section: Volume A

Explanation

Explanation/Reference:

```
@media screen and (min-width:200px) and (max-width:480px)
{
  screen and (min-width:200px) and (max-width:480px)
  size and (min-width:200px) and (max-width:480px)
  screen and (min-width:480px)
  size and (min-width:480px)
}
```

```
#navbar {
  float: none;
  width: 200px;
}
```

```
@media screen and (min-width:200px) and (max-width:480px)
{
  screen and (min-width:200px) and (max-width:480px)
  size and (min-width:200px) and (max-width:480px)
  screen and (min-width:480px)
  size and (min-width:480px)
}
```

```
{
  #navbar {
    float: left;
    width: 500px;
  }
}
```

* The @media rule is used to define different style rules for different media types/devices.

CSS Syntax

@media not|only mediatype and (media feature) {

CSS-Code;

}

* Media type: Screen

Used for computer screens.

Incorrect:

Not size: there is no media type size.

Reference: CSS3 @media Rule; CSS Media Types

QUESTION 122

You are developing a website that has many web pages with hyperlinks to other sites.

You need to ensure that if a hyperlink contains an image, the linked web page opens in a new window.

Which jQuery code segment or segments should you use? (To answer, drag the appropriate line of code to the correct location. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
$( "a img" ).each( function () {
```

```
$( this ).parent().attr( 'target', '_blank'
```

```
$( "a" ).each( function () {
```

```
$( this ).attr( 'target', '_blank'
```

Answer Area

```
<!DOCTYPE html>
<html>
<head>
  <title></title>
  <script src="http://code.jquery.com/jquery-latest.js">
  </script>
</head>
<body>
  <a href="http://www.microsoft.com">
    
  </a>
</body>
<script>
  $(document).ready(function () {
    
    
  });
});
```

Correct Answer:

```
$("#a").each(function () {
```

```
$(this).attr('target', '_blank')
```

Answer Area

```
<!DOCTYPE html>
<html>
<head>
  <title></title>
  <script src="http://code.jquery.com/jquery-latest.js">
  </script>
</head>
<body>
  <a href="http://www.microsoft.com">
    
  </a>
</body>
<script>
  $(document).ready(function () {
    $("#a img").each(function () {
      $(this).parent().attr('target', '_blank')
    });
  });
});
```

Section: Volume A
Explanation

Explanation/Reference:

```
$("#a").each(function () {
```

```
$(this).attr('target', '_blank')
```

Answer Area

```
<!DOCTYPE html>
<html>
<head>
  <title></title>
  <script src="http://code.jquery.com/jquery-latest.js">
  </script>
</head>
<body>
  <a href="http://www.microsoft.com">
    
  </a>
</body>
<script>
  $(document).ready(function () {
    $("#a img").each(function () {
      $(this).parent().attr('target', '_blank')
    });
  });
</script>
</html>
```

* a img

All elements that are descendants of an element.

* (this).parent

This is the element and is the parent.

QUESTION 123

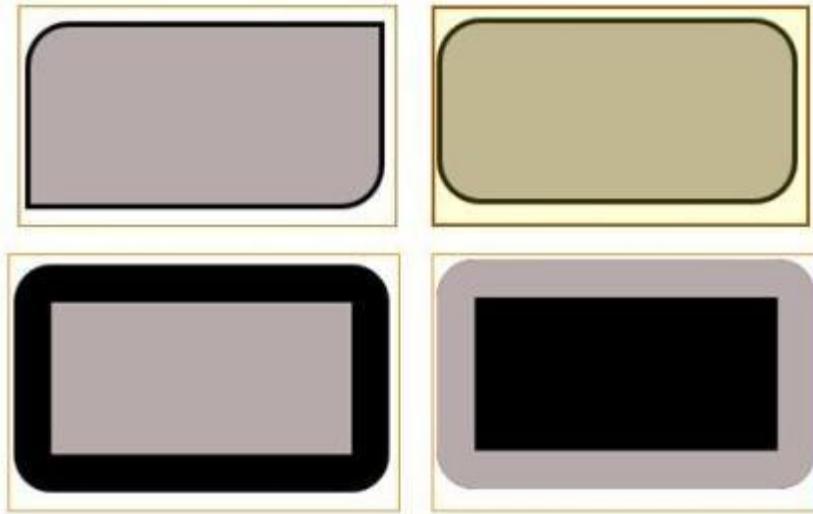
You are developing an HTML5 application for a company. You apply the following style to a DIV element on a page.

```
div
{
border:3px solid;
background:#b6aaaa;
width:200px;
height:100px;
top: 10%;
left:10%;
border-radius:25px 0px 25px 0px;
}
```

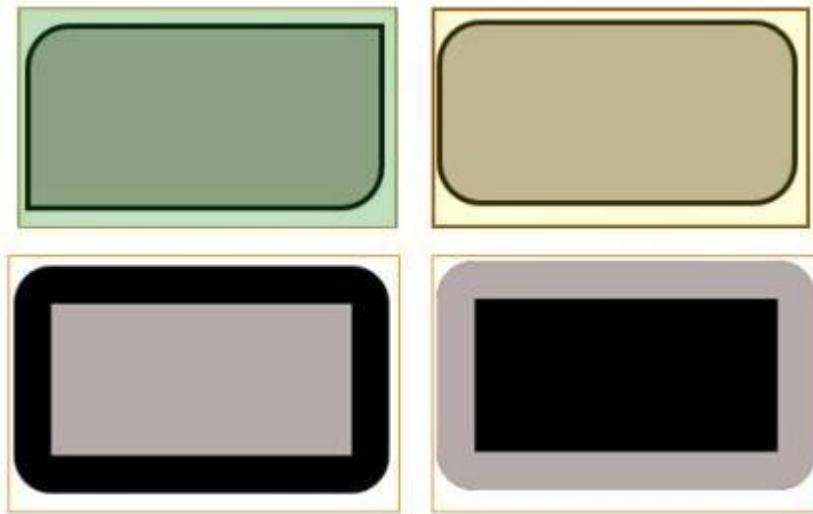
You need to submit a draft illustration of the results of this code.

Which illustration should you submit? (To answer, select the appropriate illustration in the answer area.)

Hot Area:

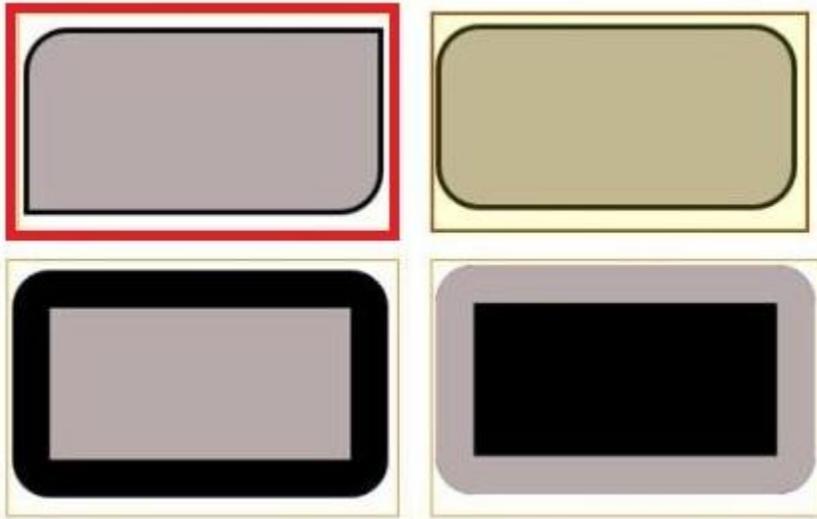


Correct Answer:



**Section: Volume A
Explanation**

Explanation/Reference:



Example:

```
div {  
border: 3px solid;  
background: #b6aaaa;  
width: 200px;  
height: 100px;  
top 10%;  
left 10%;  
border-radius: 25px 0px 25px 0px;  
}
```

Result:



Reference: CSS3 border-radius Property

QUESTION 124

You are developing a web page that will be accessed from various types of devices.

- You have the following requirements:
- The appropriate display resolution must be selected dynamically based on the device that is connecting to the page.
- Mobile devices with a maximum width of 480 pixels must be able to use the page.

You need to ensure that the page displays correctly on any device.

How should you build the code? (To answer, drag the appropriate media statement to the correct location. Each media statement may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

screen and (min-width:200px) and (max-width:480px)

size and (min-width:200px) and (max-width:480px)

screen and (min-width:480px)

size and (min-width:480px)

```
@media [redacted]  
{  
  
    #navbar {  
        float: none;  
        width: 200px;  
    }  
}  
@media [redacted]  
{  
  
    #navbar {  
        float: left;  
        width: 500px;  
    }  
}
```

Correct Answer:

size and (min-width:200px) and (max-width:480px)

size and (min-width:480px)



```
@media screen and (min-width:200px) and (max-width:480px)
{
    #navbar {
        float: none;
        width: 200px;
    }
}
@media screen and (min-width:480px)
{
    #navbar {
        float: left;
        width: 500px;
    }
}
```

Section: Volume A

Explanation

Explanation/Reference:

size and (min-width:200px) and (max-width:480px)

size and (min-width:480px)

```
@media screen and (min-width:200px) and (max-width:480px)
{
    #navbar {
        float: none;
        width: 200px;
    }
}
@media screen and (min-width:480px)
{
    #navbar {
        float: left;
        width: 500px;
    }
}
```

* The @media rule is used to define different style rules for different media types/devices.

CSS Syntax

```
@media not|only mediatype and (media feature) {
```

```
CSS-Code;
```

```
}
```

* Media type: Screen

Used for computer screens.

Incorrect:

Not size: there is no media type size.

Reference: CSS3 @media Rule; CSS Media Types

QUESTION 125

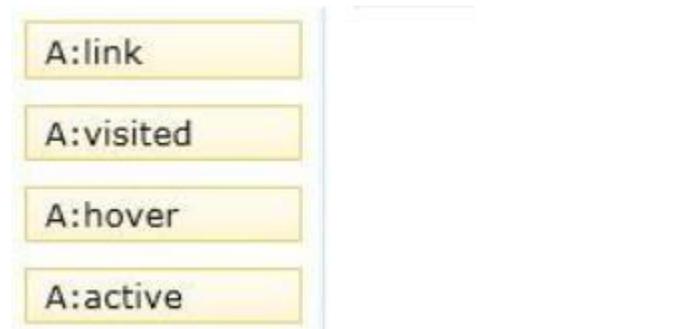
You are developing a web page by using HTML5 and CSS3.

Hyperlinks on the page must be rendered with a style that reflects the last user action performed.

You need to style the four anchor elements in the document.

In what order should you specify the four anchor selectors? (To answer, move the appropriate anchor selectors from the list of CSS codes to the answer area and arrange them in the correct order.)

Select and Place:



Correct Answer:



Section: Volume A
Explanation

Explanation/Reference:



Reference:

As it states:

* a: hover MUST come after a: link and a: visited in the CSS definition in order to be effective!

* active MUST come after a: hover in the CSS definition in order to be effective!!

Reference: Meet the Pseudo Class Selectors; CSS Pseudo-classes

<http://css-tricks.com/pseudo-class-selectors/>

http://www.w3schools.com/css/css_pseudo_classes.asp

QUESTION 126

You are developing a form that captures a user's email address by using HTML5 and jQuery. The form must capture the email address and return it as a query string parameter. The query string parameter must display the @ symbol used in the email address.

You need to implement this functionality.

How should you develop the form? (To answer, select the appropriate options from the drop-down lists in the answer area.)

Hot Area:

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      str = $("form").serialize();
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      return true;
    });
  </script>
</body>
</html>

```

Correct Answer:

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      str = $("form").serialize();
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      return true;
    });
  </script>
</body>
</html>

```

Section: Volume A
Explanation

Explanation/Reference:

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      str = $("form").serialize();
      str = $("form").serialize();
      str = decodeURIComponent(str);
      str = $("form").contents.toString();
      str = $("form").toLocaleString();
      str = decodeURI(str);

      return true;
    });
  </script>
</body>
</html>

```

* serialize()

Encode a set of form elements as a string ready for submission.

decodeURIComponent

* To decode the string, PHP offers the urldecode() function.

?

```
echo urldecode('name%40website.com'); //restores "name@website.com"
```

Reference: JavaScript decodeURIComponent() Function

QUESTION 127

You are developing a web application that retrieves data from a web service. The data being retrieved is a custom binary datatype named bint. The data can also be represented in XML.

Two existing methods named parseXml() and parseBint() are defined on the page.

The application must:

- Retrieve and parse data from the web service by using binary format if possible
- Retrieve and parse the data from the web service by using XML when binary format is not possible

You need to develop the application to meet the requirements.

What should you do? (To answer, drag the appropriate code segment to the correct location. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
if (request.getResponseHeader("Content-Type") == "application/bint")
```

```
if (type == "application/bint")
```

```
if (request.mimeType == "application/bint")
```

```
accepts: 'application/bint, text/xml',
```

```
contentType: 'application/bint, text/xml',
```

```
dataType: 'application/bint, text/xml',
```

```
var request = $.ajax({  
  uri: '/',  
  
  dataFilter: function (data, type) {  
  
    return parseBint(data);  
    else  
    return parseXml(data);  
  },  
  success: function (data) {
```

Correct Answer:

```
if (type == "application/bint")
```

```
if (request.mimeType == "application/bint")
```

```
contentType: 'application/bint, text/xml',
```

```
dataType: 'application/bint, text/xml',
```

```
var request = $.ajax({  
  uri: '/',  
  accepts: 'application/bint, text/xml',  
  dataFilter: function (data, type) {  
    if (request.getResponseHeader("Content-  
    Type") == "application/bint")  
      return parseBint(data);  
    else  
      return parseXml(data);  
  },  
  success: function (data) {
```

Section: Volume B
Explanation

Explanation/Reference:

```
if (type == "application/bint")
```

```
if (request.mimeType == "application/bint")
```

```
contentType: 'application/bint, text/xml',
```

```
dataType: 'application/bint, text/xml',
```

```
var request = $.ajax({  
  uri: '/',  
  accepts: 'application/bint, text/xml',  
  dataFilter: function (data, type) {  
    if (request.getResponseHeader("Content-  
Type") == "application/bint")  
      return parseBint(data);  
    else  
      return parseXml(data);  
  },  
  success: function (data) {  
    start(data);  
  }  
});
```

```
* accepts : 'application/bint, text/xml'
accepts:'application/bin,text/xml' to accept only XML and binary content in HTML responses.
* Use the following condition to check if the html response content is
binary: If(request.getResponseHeader("Content-Type")==="application/bint"
* var request = $.ajax({
uri:'/',
accepts: 'application/bint, text/xml',
datafilter: function(data,type){
if(request.getResponseHeader("Content-Type")==="application/bint")
return parseBint(data);
else
return parseXml();
},
success: function (data) {
start(data);
}
});
```

QUESTION 128

You are developing an application that reads information from a file.

The application must:

- Execute a block of code if there is an error accessing the file
- Execute a second block of code whether or not there is an error accessing the file

You need to ensure that the error handling requirements are met.

Which three statements should you implement in sequence? (To answer, move the appropriate statements from the list of actions to the answer area and arrange them in the correct order.)

Select and Place:

catch(e)

debug

throw

try

finally

Correct Answer:

	try
debug	catch(e)
throw	finally

Section: Volume B

Explanation

Explanation/Reference:

catch(e)	try
debug	catch(e)
throw	finally
try	
finally	

Explanation

The fopen statement is put within the try clause.

The catch(e) will catch a fopen error.

The finally clause will be executed regardless of whether an error occurs in the try clause proceeding it

QUESTION 129

You are developing an online shopping application that accepts credit cards for payment.

If the credit card number is invalid, the application must:

Generate an error

Assign "200" to the error number

Assign "Invalid" to the error description

You need to write the code that meets the requirements.

How should you write the code? (To answer, select the appropriate option from the drop-down list in the answer area.)

Work Area

```
throw new throw ( throw , throw );
```

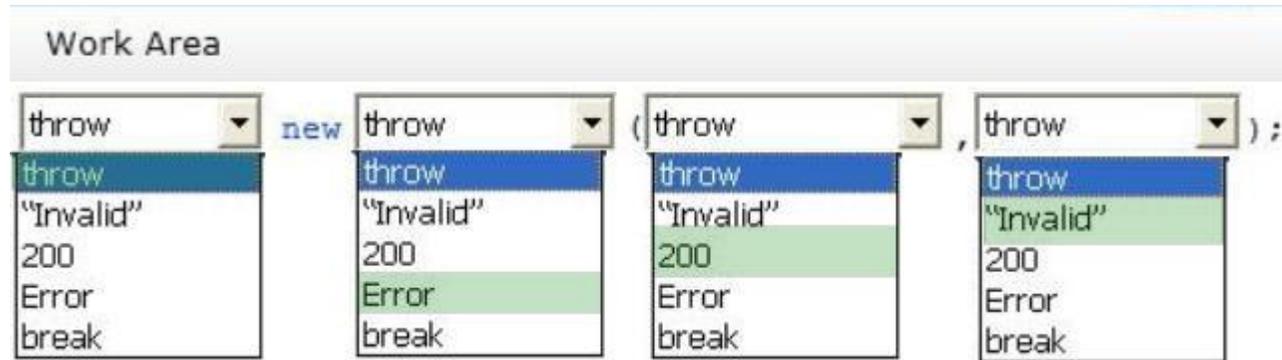
Hot Area:

Work Area

```
throw new throw ( throw , throw );
```

throw	new	throw	(throw	,	throw)	:
throw		throw		throw		throw		
"Invalid"		"Invalid"		"Invalid"		"Invalid"		
200		200		200		200		
Error		Error		Error		Error		
break		break		break		break		

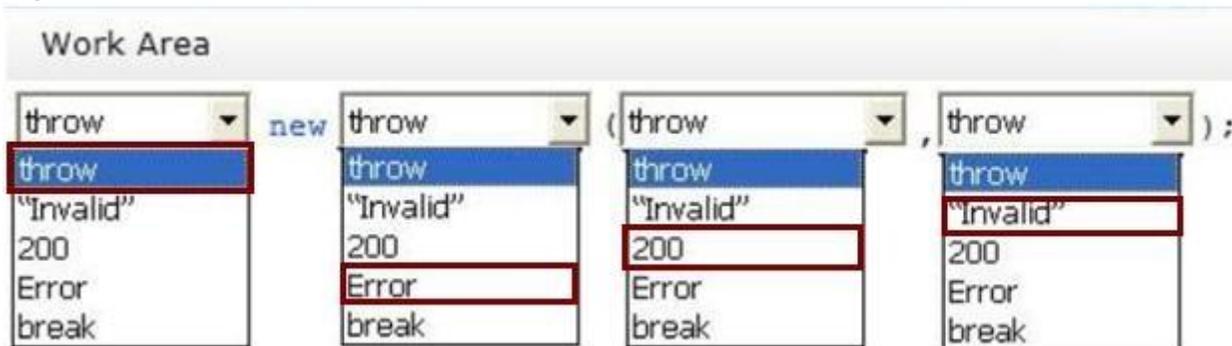
Correct Answer:



Section: Volume B

Explanation

Explanation/Reference:



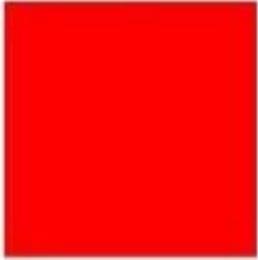
Example: `throw new Error(200, "x equals zero");`

Reference: `throw Statement (JavaScript)`

QUESTION 130

An HTML page has a CANVAS element.

You need to draw a red rectangle on the CANVAS element dynamically. The rectangle should resemble the following graphic.



How should you build the code segment? (To answer, drag the appropriate line of code to the correct location. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
context.fillRect(50, 50, 100, 100);
```

```
context.fillStyle = "rgb(255, 0, 0)";
```

```
var canvas = document.getElementById('mycanvas');
```

```
var canvas = document.BeginPath();
```

```
context.fillSquare(50, 50, 100, 100);
```

.....

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
  <canvas id="mycanvas" width="300" height="300"></canvas>
```

```
  <script type="text/javascript">
```

```
    var context = canvas.getContext('2d');
```

```
  </script>
```

```
</body>
```

```
</html>
```

Correct Answer:

```
var canvas = document.BeginPath();
```

```
context.fillRect(50, 50, 100, 100);
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
  <canvas id="mycanvas" width="300" height="300"></canvas>
```

```
  <script type="text/javascript">
```

```
    var canvas = document.getElementById('mycanvas');
```

```
    var context = canvas.getContext('2d');
```

```
    context.fillStyle = "rgb(255, 0, 0)";
```

```
    context.fillRect(50, 50, 100, 100);
```

```
  </script>
```

```
</body>
```

```
</html>
```

Section: Volume B
Explanation

Explanation/Reference:

```
var canvas = document.BeginPath();
```

```
context.fillSquare(50, 50, 100, 100);
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
  <canvas id="mycanvas" width="300" height="300"></canvas>
```

```
  <script type="text/javascript">
```

```
    var canvas = document.getElementById('mycanvas');
```

```
    var context = canvas.getContext('2d');
```

```
    context.fillStyle = "rgb(255, 0, 0)";
```

```
    context.fillRect(50, 50, 100, 100);
```

```
  </script>
```

```
</body>
```

```
</html>
```

Drawing with JavaScript

```
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
ctx.fillStyle = "#FF0000";
ctx.fillRect(0,0,150,75);
</script>
```

Reference: HTML5 Canvas

http://www.w3schools.com/html/html5_canvas.asp

QUESTION 131

You are developing a web page for runners who register for a race.

The page includes a slider control that allows users to enter their age.

You have the following requirements:

- All runners must enter their age.
- Applications must not be accepted from runners less than 18 years of age or greater than 90 years.
- The slider control must be set to the average age (37) of all registered runners when the page is first displayed.

You need to ensure that the slider control meets the requirements.

What should you do? (To answer, drag the appropriate word or number to the correct location in the answer area. Each word or number may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
<input type="" min="" max="" step="" value="" />
```

Correct Answer:

The image shows a web form builder interface. On the left, there is a vertical toolbar with several buttons: 'slider', '0', 'avgAge()', 'default', 'value', and 'optional'. The 'slider' button is currently selected. On the right, the HTML code for the slider is displayed in a code editor. The code is as follows:

```
<input  
  type=" range "  
  min=" 18 "  
  max=" 90 "  
  step=" 5 "  
  value=" 37 "  
  required  
>
```

Section: Volume B
Explanation

Explanation/Reference:

```

<input
  type=" range "
  min=" 18 "
  max=" 90 "
  step=" 5 "
  value=" 37 "
  required
/>

```

Box 1-3: The `<input type="range">` is used for input fields that should contain a value within a range.

Example

```
<input type="range" name="points" min="0" max="10">
```

Box 4:

The `step` attribute specifies the legal number intervals for an `<input>` element.

Example: if `step="3"`, legal numbers could be -3, 0, 3, 6, etc.

Syntax

```
<input step="number">
```

number

Specifies the legal number intervals for the input field. Default is 1

Box 5: Use the `value` attribute to set the default value. Here: 37

Box 6: Definition and Usage

The `required` attribute is a boolean attribute.

When present, it specifies that an input field must be filled out before submitting the form.

Example

```
Username: <input type="text" name="username" required>
```

Reference: HTML Input Types

http://www.w3schools.com/html/html_form_input_types.asp

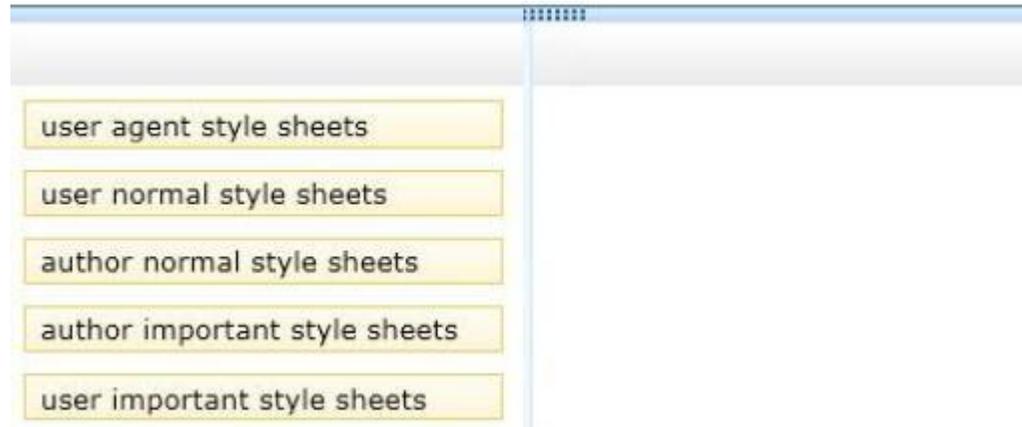
QUESTION 132

You are creating an application by using HTML5 and CSS3. The styles for the pages are derived from five style sheets.

The styles are not being applied correctly to the pages in the application.

You need to determine the order in which the style sheets will be applied by the browser.
In which order will the five style sheets be applied? (To answer, move the style sheet types from the list of style sheet types to the answer area and arrange them in the order that they will be applied.)

Select and Place:



Correct Answer:



Section: Volume B
Explanation

Explanation/Reference:

Box 1: user agent style sheets
Box 2: user normal style sheets
Box 3 author normal style sheets:
Box 4: author important style sheets
Box 5: user important style sheets
Note:

The order of declarations from least important to most important:

QUESTION 133

You are reviewing the CSS markup for an HTML5 page that displays a news article. The CSS markup for the page is as follows:

```
h4 {  
  color: powderblue;  
}  
.headline {  
  color: red;  
}  
article {  
  color: black;  
  font-style: normal;  
}  
aside h4 {  
  font-style: italic !important;  
  color: yellow;  
}  
article h4 {  
  font-style: normal;  
  color: sienna;  
}
```

The HTML markup for the page is as follows:

```
<div>  
  <h4>International News</h4>  
  <article>  
    <h4 class="headline">New Developments!</h4>  
    <aside>  
      <h4>Impact On Markets</h4>  
    </aside>  
  </article>  
</div>
```

For each statement in the table, select Yes if the code segments above causes the page to behave as described. Select No if it does not. Make only one selection in each column.

Hot Area:

Yes	No	Description of Behavior
<input type="radio"/>	<input type="radio"/>	The color of the International News header is red.
<input type="radio"/>	<input type="radio"/>	The color of the New Developments! header is black.
<input type="radio"/>	<input type="radio"/>	The color of the Impact On Markets header is yellow.
<input type="radio"/>	<input type="radio"/>	The text of the Impact On Markets header is italicized.

Correct Answer:

Yes	No	Description of Behavior
<input type="radio"/>	<input checked="" type="radio"/>	The color of the International News header is red.
<input type="radio"/>	<input checked="" type="radio"/>	The color of the New Developments! header is black.
<input type="radio"/>	<input checked="" type="radio"/>	The color of the Impact On Markets header is yellow.
<input checked="" type="radio"/>	<input type="radio"/>	The text of the Impact On Markets header is italicized.

Section: Volume B
Explanation

Explanation/Reference:

Yes	No	Description of Behavior
<input type="radio"/>	<input checked="" type="radio"/>	The color of the International News header is red.
<input type="radio"/>	<input checked="" type="radio"/>	The color of the New Developments! header is black.
<input type="radio"/>	<input checked="" type="radio"/>	The color of the Impact On Markets header is yellow.
<input checked="" type="radio"/>	<input type="radio"/>	The text of the Impact On Markets header is italicized.

QUESTION 134

You review code that uses WebSockets for a browser-based multiplayer game. Each player sends a move to the server, which then sends the move to all connected game instances. The following code runs in the browser and handles the sending and receiving of moves:

```

var moveList = new Array();
var myMoves = {};

var server = new WebSocket('ws://gameserver.proseware.com/');
server.onmessage = function(message) {
    if (myMoves[message.data.id] == undefined)
        moveList.push(message.data);
};

server.onopen = function() {
    server.send(getUserName());
};

function sendMove() {
    var nextMove = getMove();
    myMoves[nextMove.id] = nextMove;
    server.send(nextMove);
}

```

For each statement in the table, select Yes if the code segment above causes the page to behave as described. Select No if it does not. Make only one selection in each column.

Hot Area:

Yes	No	Description of Behavior
<input type="radio"/>		The moves are added to the moveList array in the order in which they were played.
<input type="radio"/>		The username is sent to the server before any moves are sent or received.
<input type="radio"/>	<input type="radio"/>	The player's own moves will be added to the moveList array.

Correct Answer:

Yes	No	Description of Behavior
<input checked="" type="radio"/>		The moves are added to the moveList array in the order in which they were played.
<input checked="" type="radio"/>		The username is sent to the server before any moves are sent or received.
<input type="radio"/>	<input checked="" type="radio"/>	The player's own moves will be added to the moveList array.

Section: Volume B
Explanation

Explanation/Reference:

Yes	No	Description of Behavior
<input type="radio"/>		The moves are added to the moveList array in the order in which they were played.
<input type="radio"/>		The username is sent to the server before any moves are sent or received.
<input type="radio"/>	<input type="radio"/>	The player's own moves will be added to the moveList array.

QUESTION 135

You develop an HTML5 webpage. You have the following HTML markup:

```
<ul id="languages">
  <li>HTML</li>
  <li>JavaScript</li>
  <li>Classic ASP</li>
  <li>ASP.Net</li>
</ul>
```

You also have the following JavaScript variable defined:
var languages = [];

You need to add statements to an existing JavaScript function to sort the list items.
Which four actions should you perform in sequence? (Develop the solution by selecting the required code segments and arranging them in the correct order.)

Select and Place:

	Answer Area
<pre>languages = \$.makeArray(items);</pre>	
<pre>languages.sort (function (s) { return s.innerHTML; });</pre>	
<pre>for (var i = 0, l = items.length; i < l; i+ +) items[i].innerHTML = languages[i];</pre>	
<pre>for (var i = 0, l = items.length; i < l; i+ +) languages.push(items[i].innerHTML);</pre>	
<pre>var items = document.getElementsByTagName ("li");</pre>	
<pre>items = \$.makeArray(languages);</pre>	
<pre>languages.sort();</pre>	
<pre>\$(languages).appendTo("#languages");</pre>	

Correct Answer:

	Answer Area
<pre>languages = \$.makeArray(items);</pre>	<pre>var items = document.getElementsByTagName("li");</pre>
<pre>languages.sort (function (s) { return s.innerHTML; });</pre>	<pre>for (var i = 0, l = items.length; i < l; i++) languages.push(items[i].innerHTML);</pre>
	<pre>languages.sort();</pre>
	<pre>for (var i = 0, l = items.length; i < l; i++) items[i].innerHTML = languages[i];</pre>
<pre>items = \$.makeArray(languages);</pre>	
<pre>\$(languages).appendTo("#languages");</pre>	

Section: Volume B

Explanation

Explanation/Reference:

Note:

* `getElementsByName`

The `getElementsByName()` method accesses all elements with the specified tagname.

* Example:

```
// Get the list items and setup an array for sorting
var lis = ul.getElementsByName("LI");
var vals = [];
// Populate the array
for(var i = 0, l = lis.length; i < l; i++)
    vals.push(lis[i].innerHTML);
// Sort it
vals.sort();
// Sometimes you gotta DESC
if(sortDescending)
    vals.reverse();
// Change the list on the page
for(var i = 0, l = lis.length; i < l; i++)
    lis[i].innerHTML = vals[i];
}
```

QUESTION 136

You create an HTML5 webpage. You have the following HTML markup:

```
<table id="fruitTable">
  <tr>
    <th>Fruit</th>
    <th>Inventory</th>
  </tr>
</table>
```

You also have the following JavaScript code segment:

```
var jsonFruit = { "apples" : "12", "bananas" : "8", "watermelon" : "3" }
```

You need to add additional rows to the `fruitTable` element by processing the `jsonFruit` values in the order listed.

Which three actions should you perform in sequence? (Develop the solution by selecting the required code segments and arranging them in the correct order.)

Select and Place:

Answer Area

```
$("#<tr><td>" + key + "</td><td>" + val + "</td></tr>")  
  .appendTo('#fruitTable');
```

```
$("#fruitTable tr:last").after(data);
```

```
jsonFruit.push(key, val);
```

```
$("#fruitTable").after(  
  "<tr><td>" + key + "</td><td>" + val + "</td></tr>");
```

```
var data = $.parseJSON(jsonFruit);
```

```
$.each(jsonFruit, function (key, val) {
```

```
  data.push(key, val);
```

```
});
```

```
$.getJSON(jsonFruit, function (data) {
```

Correct Answer:

	Answer Area
	<code>\$.each(jsonFruit, function (key, val) {</code>
<code>\$("#fruitTable tr:last").after(data);</code>	<code>\$("#tr><td>" + key + "</td><td>" + val + "</td></tr>")</code>
<code>jsonFruit.push(key, val);</code>	<code>.appendTo('#fruitTable');</code>
<code>\$("#fruitTable").after(</code> <code>"<tr><td>" + key + "</td><td>" + val + "</td></tr>");</code>	<code>});</code>
<code>var data = \$.parseJSON(jsonFruit);</code>	
<code>data.push(key, val);</code>	
<code>\$.getJSON(jsonFruit, function (data) {</code>	

Section: Volume B
Explanation

Explanation/Reference:

* The appendTo() method inserts HTML elements at the end of the selected elements.

* example to loop over a JavaScript array object.

```
var json = [  
  {"id": "1", "tagName": "apple"},  
  {"id": "2", "tagName": "orange"},  
  {"id": "3", "tagName": "banana"},  
  {"id": "4", "tagName": "watermelon"},  
  {"id": "5", "tagName": "pineapple"}  
];  
$.each(json, function(idx, obj) {  
  alert(obj.tagName);  
});
```

Reference: jQuery appendTo() Method; jQuery Loop Over JSON String – \$.Each Example

QUESTION 137

You have the following code:

```
01 $(document).ready(function () {  
02     $('#submit').click(function () {  
03         $.getJSON({  
04             url: "url/GetImage",  
05             success: function (result) {  
06                 var personImage = new PersonImage(result);  
07                 $('#happy').html(personImage.img);  
08             }  
09         });  
10     });  
11 });  
12 function PersonImage(image) {  
13  
14 }
```

The web service returns a JSON object that contains two properties named Description and FileName.

The PersonImage object must meet the following requirements:

- Create an object that represents an image that will be displayed.
- Set the image properties from the values that are returned by the web service.
- Expose the image as a property of the PersonImage object.

You need to insert code at line 13 to complete the implementation of the PersonImage object.

Which three actions should you perform in sequence to complete the implementation? (Develop the solution by selecting the required code segments and arranging them in the correct order.)

Select and Place:

	Answer Area
<pre>img.alt = image.Description; img.src = image.FileName;</pre>	
<pre>return this.toHTMLImage();</pre>	
<pre>return this.img;</pre>	
<pre>this.img = img;</pre>	
<pre>this.img = new document.images();</pre>	
<pre>this.img = document.createElement('img');</pre>	
<pre>var img = document.createElement('img');</pre>	
<pre>this.img.Description = image.Description; this.img.FileName = image.FileName;</pre>	

Correct Answer:

	Answer Area
	<pre>var img = document.createElement('img');</pre>
<pre>return this.toHTMLImage();</pre>	<pre>img.alt = image.Description; img.src = image.FileName;</pre>
<pre>this.img = img;</pre>	
<pre>this.img = new document.images();</pre>	
<pre>this.img = document.createElement('img');</pre>	
	<pre>return this.img;</pre>
<pre>this.img.Description = image.Description; this.img.FileName = image.FileName;</pre>	

Section: Volume B

Explanation

Explanation/Reference:

Explanation:

Box 1: `var img = document.createElement('img');`

Box 2: `img.alt = image.Description;`

`img src = image.FileName;`

Box 3: `return this.img;`

Note:

* Image Object

The Image object represents an embedded image.

For each tag in an HTML document, an Image object is created.

Notice that images are not technically inserted into an HTML page, images are linked to HTML pages. The tag creates a holding space for the referenced image.

* Image Object Properties include

alt, Sets or returns the value of the alt attribute of an image

src, Sets or returns the value of the src attribute of an image

QUESTION 138

You develop an HTML messaging application that allows users to send messages. The messages can have an optional file attachment that is identified by a filename.

You use the following function to send a message:

```
function send(to, args) {  
    if (args.fileName !== undefined) {  
        sendFile(to, args.message, args.fileName);  
    } else {  
        sendMessage(to, args.message);  
    }  
}
```

You need to send a message with a file attachment.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
var recipient = $('to').val();  
var body = $('body').val();  
var fileName = $('fileName').val();
```

```
send(recipient, {   });
```

Hot Area:

```

var recipient = $('to').val();
var body = $('body').val();
var fileName = $('fileName').val();

send(recipient, {
  message: body,
  message = body,
  [message] = body,
  args.message(body),
  fileName: fileName
  fileName = filename
  args[fileName] = fileName
  new args.fileName(fileName)
});

```

Correct Answer:

```

var recipient = $('to').val();
var body = $('body').val();
var fileName = $('fileName').val();

send(recipient, {
  message: body,
  message = body,
  [message] = body,
  args.message(body),
  fileName: fileName
  fileName = filename
  args[fileName] = fileName
  new args.fileName(fileName)
});

```

Section: Volume C
Explanation

Explanation/Reference:

```

var recipient = $('to').val();
var body = $('body').val();
var fileName = $('fileName').val();

send(recipient, {
  message: body,
  message = body,
  [message] = body,
  args.message(body),
  fileName: fileName
  fileName = filename
  args[fileName] = fileName
  new args.fileName(fileName)
});

```

Object Properties

The name:values pairs (in JavaScript objects) are called properties.

```
var person = {firstName:"John", lastName:"Doe", age:50, eyeColor:"blue"};
```

Reference: JavaScript Objects

QUESTION 139

You develop an HTML application that calls a web service to retrieve JSON data. The web service contains one method named GetFullName that returns an Object named data. The data object contains two properties named GivenName and Surname.

You need to load data from the web service to the webpage.

How should you complete the relevant code? (To answer, drag the appropriate code segment or code segments to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

	Answer Area
<code>res.data;</code>	<pre>\$(document).ready(function () { \$('#submit').click(function () { \$.ajax({ type: "POST", url: "Default.aspx/GetFullName", data: "{}", contentType: "application/json", dataType: "json", success: function (res) { var fullname = <input type="text"/> ; \$("#GivenName").text(<input type="text"/>); \$("#Surname").text(<input type="text"/>); } }); }); });</pre>
<code>res;</code>	
<code>res.toString()</code>	
<code>fullname.GivenName</code>	
<code>fullname.toString()</code>	
<code>fullname.GivenName.value</code>	
<code>fullname.Surname</code>	
<code>fullname.toLocaleString()</code>	
<code>fullname.GivenName.value</code>	

Correct Answer:

	Answer Area
res;	<code>\$(document).ready(function () {</code>
res.toString()	<code> \$('#submit').click(function () {</code>
	<code> \$.ajax({</code>
fullname.toString()	<code> type: "POST",</code>
fullname.GivenName.value	<code> url: "Default.aspx/GetFullName",</code>
	<code> data: "{}",</code>
	<code> contentType: "application/json",</code>
	<code> dataType: "json",</code>
	<code> success: function (res) {</code>
	<code> var fullname = res.data;</code>
	<code> \$('#GivenName').text(fullname.GivenName);</code>
	<code> \$('#Surname').text(fullname.Surname);</code>
	<code> }</code>
	<code> });</code>
	<code> });</code>
	<code>});</code>

Section: Volume C
Explanation

Explanation/Reference:

```
$(document).ready(function () {
  $('#submit').click(function () {
    $.ajax({
      type: "POST",
      url: "Default.aspx/GetFullName",
      data: "{}",
      contentType: "application/json",
      dataType: "json",
      success: function (res) {

        var fullname = res.data;

        $("#GivenName").text( fullname.GivenName );

        $("#Surname").text( fullname.Surname );

      }
    });
  });
});
```

You can access object properties in two ways:

objectName.propertyName

or

objectName[propertyName]

Reference: JavaScript Objects

QUESTION 140

A company asks you to create a function that displays loan amounts to their customers.

You must create the function by using JavaScript to meet the following requirements:

- Display three different loan amounts to each customer.
- Display loan amounts in order starting with the greatest amount and ending with the least amount.

You need to implement the function.

How should you complete the relevant code? (To answer, drag the appropriate command or commands to the correct location or locations in the answer area. Use only commands that apply.)

Select and Place:

	Answer Area
<code>showSomeLoanAmount();</code>	<code>function showLoanAmounts() {</code>
<code>showAnotherLoanAmount();</code>	<code> []</code>
<code>var loanAmount = 400;</code>	<code> function showSomeLoanAmount() {</code>
<code>var loanAmount = 800;</code>	<code> []</code>
<code>var loanAmount = 1000;</code>	<code> function showAnotherLoanAmount() {</code>
	<code> []</code>
	<code> alert(loanAmount);</code>
	<code> }</code>
	<code> []</code>
	<code> alert(loanAmount);</code>
	<code> }</code>
	<code> showSomeLoanAmount();</code>
	<code> alert(loanAmount);</code>
	<code>}</code>

Correct Answer:

```
showSomeLoanAmount();

function showLoanAmounts() {
    var loanAmount = 400;
    function showSomeLoanAmount() {
        var loanAmount = 800;
        function showAnotherLoanAmount() {
            var loanAmount = 1000;
            alert(loanAmount);
        }
        showAnotherLoanAmount();
        alert(loanAmount);
    }
    showSomeLoanAmount();
    alert(loanAmount);
}
```

Section: Volume C
Explanation

Explanation/Reference:

```

function showLoanAmounts() {
    var loanAmount = 400;
    function showSomeLoanAmount() {
        var loanAmount = 800;
        function showAnotherLoanAmount() {
            var loanAmount = 1000;
            alert(loanAmount);
        }
        showAnotherLoanAmount();
        alert(loanAmount);
    }
    showSomeLoanAmount();
    alert(loanAmount);
}

```

- * The innermost assignment to the loanAmount variable should be the highest.
- * Local variables have local scope: They can only be accessed within the function.

Example

```

// code here can not use carName
function myFunction() {
    var carName = "Volvo";
    // code here can use carName
}

```

* A variable declared outside a function, becomes GLOBAL.

A global variable has global scope: All scripts and functions on a web page can access it.

Example

```

var carName = "Volvo";
// code here can use carName
function myFunction() {
    // code here can use carName
}

```

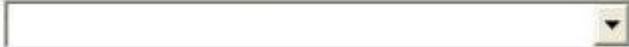
* The alert() method displays an alert box with a specified message and an OK button.
An alert box is often used if you want to make sure information comes through to the user.
Reference: JavaScript Scope

QUESTION 141

You develop an HTML5 application that allows images to be dragged and dropped within a webpage. The webpage contains a DIV element and four IMG elements as defined in the code segment below:

```
<div ondrop="myApp.drop(this, event)" ondragenter="return false" ondragover="return false">
  <p>Fruit</p>
</div>
<p>
  
  
  
  
</p>
```

You need to enable drag and drop for the application.
How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
var myApp = {};  
  (function () {  
    this.drag = function (target, e) {  
        
    };  
  
    this.drop = function (target, e) {  
        
      target.appendChild(document.getElementById(id));  
      e.preventDefault();  
    }  
  }).apply(myApp);
```

Hot Area:

```

var myApp = {};
(function () {
  this.drag = function (target, e) {
    e.dataTransfer.getData('text');
    e.dataTransfer.dropEffect = 'copy';
    e.dataTransfer.effectAllowed = 'all';
    e.dataTransfer.setData('text', target.id);
  };

  this.drop = function (target, e) {
    e.dataTransfer.clearData();
    e.dataTransfer.types.contains('img');
    var id = e.dataTransfer.getData('text');
    var id = e.dataTransfer.setData('text', target.id);

    target.appendChild(document.getElementById(id));
    e.preventDefault();
  }
}).apply(myApp);

```

Correct Answer:

```

var myApp = {};
(function () {
  this.drag = function (target, e) {
    e.dataTransfer.getData('text');
    e.dataTransfer.dropEffect = 'copy';
    e.dataTransfer.effectAllowed = 'all';
    e.dataTransfer.setData('text', target.id);
  };

  this.drop = function (target, e) {
    e.dataTransfer.clearData();
    e.dataTransfer.types.contains('img');
    var id = e.dataTransfer.getData('text');
    var id = e.dataTransfer.setData('text', target.id);

    target.appendChild(document.getElementById(id));
    e.preventDefault();
  }
}) .apply(myApp);

```

Section: Volume C
Explanation

Explanation/Reference:

```

var myApp = {};
(function () {
    this.drag = function (target, e) {
        e.dataTransfer.getData('text');
        e.dataTransfer.dropEffect = 'copy';
        e.dataTransfer.effectAllowed = 'all';
        e.dataTransfer.setData('text', target.id);
    };

    this.drop = function (target, e) {
        e.dataTransfer.clearData();
        e.dataTransfer.types.contains('img');
        var id = e.dataTransfer.getData('text');
        var id = e.dataTransfer.setData('text', target.id);

        target.appendChild(document.getElementById(id));
        e.preventDefault();
    }
}).apply(myApp);

```

* setData method (dataTransfer)

Specifies the data and its format for the current drag-and-drop operation.

* getData method (dataTransfer)

Retrieves the specified formatted data from the current drag-and-drop operation.

QUESTION 142

You are creating a function named getText().

The function must retrieve information from text files that are stored on a web server.

You need to develop the function to meet the requirement.

Which code segment or segments should you use? (To answer, drag the appropriate command from the list of commands to the correct location or locations in the work area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
req.onreadystatechange = function () {
```

```
req.open("GET", "TextFile.txt", true);  
req.send();
```

```
window.onload = function () {
```

```
req.getResponseHeader("TextFile.txt");
```

```
<body>  
  <form>  
    <input type="button" value="Submit"  
      onclick="getText()" />  
    <div id="results" />  
  </form>  
  <script>  
    function getText() {  
      var req = new XMLHttpRequest();  
  
      if (req.readyState == 4 && req.status == 200) {  
        document.getElementById("results").innerHTML  
          = req.responseText;  
      }  
    }  
  </script>  
</body>
```

Correct Answer:

```
window.onload = function () {
```

```
req.getResponseHeader("TextFile.txt");
```

```
<body>
  <form>
    <input type="button" value="Submit"
      onclick="getText()" />
    <div id="results" />
  </form>
  <script>
    function getText() {
      var req = new XMLHttpRequest();
      req.onreadystatechange = function () {
        if (req.readyState == 4 && req.status == 200) {
          document.getElementById("results").innerHTML
            = req.responseText;
        }
      }
      req.open("GET", "TextFile.txt", true);
      req.send();
    }
  </script>
</body>
```

Section: Volume C
Explanation

Explanation/Reference:

```

<body>
  <form>
    <input type="button" value="Submit"
      onclick="getText()" />
    <div id="results" />
  </form>
  <script>
    function getText() {
      var req = new XMLHttpRequest();
      req.onreadystatechange = function () {
        if (req.readyState == 4 && req.status == 200) {
          document.getElementById("results").innerHTML
            = req.responseText;
        }
      }
      req.open("GET", "TextFile.txt", true);
      req.send();
    }
  </script>
</body>

```

* onreadystatechange

When a request to a server is sent, we want to perform some actions based on the response.

The onreadystatechange event is triggered every time the readyState changes.

The readyState property holds the status of the XMLHttpRequest.

Example

```

xmlhttp.onreadystatechange=function()
{
  if (xmlhttp.readyState==4 && xmlhttp.status==200)
  {
    document.getElementById("myDiv").innerHTML=xmlhttp.responseText;
  }
}

```

* Send a Request To a Server

To send a request to a server, we use the open() and send() methods of the XMLHttpRequest object:

```

xmlhttp.open("GET","xmlhttp_info.txt",true);
xmlhttp.send();

```

Reference: AJAX - The onreadystatechange Event; The XMLHttpRequest Object

QUESTION 143

You are developing an application for a retail store. The application will be used on mobile devices to provide real-time directions to the store.

You have the following requirements:

- The application must find out a user's location.
- As the user moves, the application must update the screen with the new location.
- As the user moves, the application must display the user's speed.

You need to develop the application to meet the requirements.

Which code segment or segments should you use? (To answer, drag the appropriate code segment or segments to the correct location in the work area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
navigator.geolocation.watchPosition (locSuccess,  
locFail);
```

```
var spd = position.coords.speed;
```

```
navigator.geolocation.getCurrentPosition (locSuccess,  
locFail);
```

```
var spd = position.coords.accuracy;
```

```
<!DOCTYPE html>  
<html xmlns="http://www.w3.org/1999/xhtml">  
<body>  
  <script>  
      
    function locSuccess(position) {  
      
    }  
      
    function locFail() {  
      
    }  
  </script>  
</body>  
</html>
```

Correct Answer:

```
navigator.geolocation.getCurrentPosition (locSuccess,  
locFail);
```

```
var spd = position.coords.accuracy;
```

```
<!DOCTYPE html>  
<html xmlns="http://www.w3.org/1999/xhtml">  
<body>  
  <script>  
    navigator.geolocation.watchPosition (locSuccess,  
    locFail);  
  
    function locSuccess(position) {  
  
      var spd = position.coords.speed;  
  
    }  
  
    function locFail() {  
  
    }  
  </script>  
</body>  
</html>
```

Section: Volume C
Explanation

Explanation/Reference:

```

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<body>
<script>
navigator.geolocation.watchPosition (locSuccess,
locFail);

function locSuccess(position) {

var spd = position.coords.speed;

}

function locFail() {

}

</script>
</body>
</html>

```

- * geolocation.watchPosition
- watchPosition() - Returns the current position of the user and continues to return updated position as the user moves (like the GPS in a car).
- * position data include:
 - / coords.speed
The speed in meters per second
 - / coords.accuracy (incorrect answer)
The accuracy of position
 - Etc.
- * The getCurrentPosition() (incorrect)
- The getCurrentPosition() method returns an object if it is successful. The latitude, longitude and accuracy properties are always returned. The other properties below are returned if available.
- Reference: HTML5 Geolocation

QUESTION 144

You develop a webpage. You create the following HTML markup:

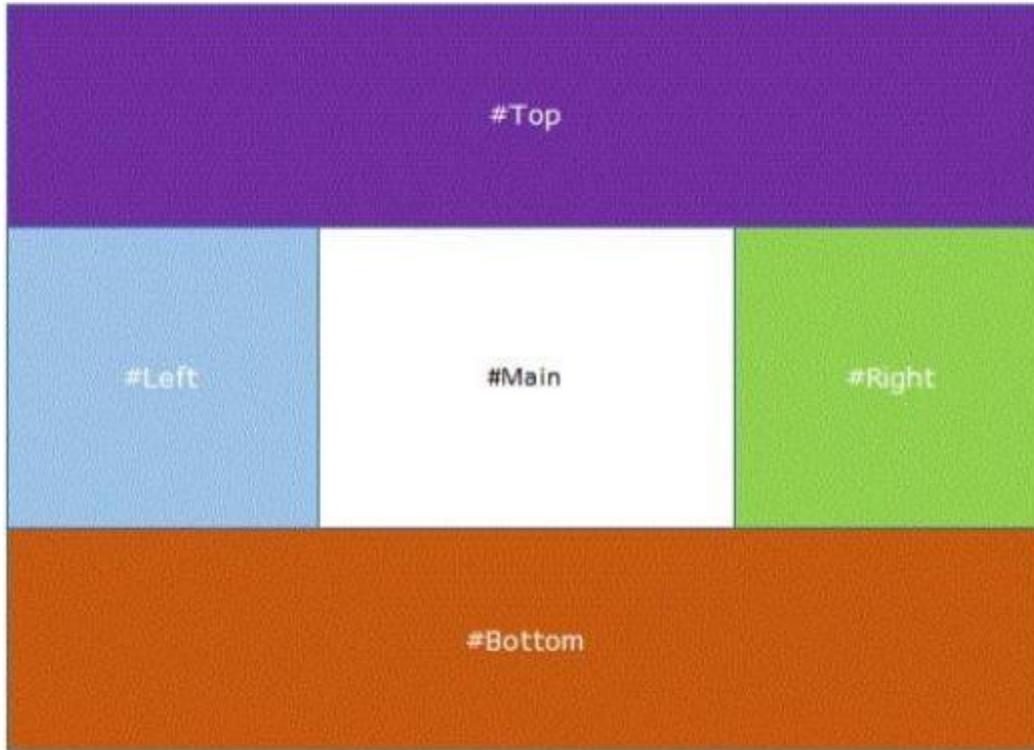
```
<!DOCTYPE html>
<html>
  <head>
    <style></style>
  </head>
  <body>
    <div id="top"></div>
    <div id="content">
      <div id="left"></div>
      <div id="main"></div>
      <div id="right"></div>
    </div>
    <div id="bottom"></div>
  </body>
</html>
```

<!DOCTYPE html>

```
<html>
<head>
<style></style>
</head>
<body>
<div id="top">
```

The layout of the webpage must contain three rows. The first row spans the entire width of the page and is labeled #Top. The second row contains three columns. The first column is labeled #Left; the second column is labeled #Main; and the right column is labeled #Right. The #Left and #Right columns are a fixed width. The #Main column occupies the remaining available space. The third and final row spans the entire width of the page and is labeled #Bottom.

The layout of the webpage must resemble the following image:



You need to create the CSS styles to implement the layout.
How should you complete the relevant styles? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
#top {width: 100%; height: 200px;}
```

```
#content {display: 
```

```
width: 100%;
```

```
}
```

```
#content #left {width: 200px; height: 300px;}
```

```
#content #right {width: 200px; height: 300px;}
```

```
#content #main {
```

```
#bottom {width: 100%; height: 200px;}
```

Hot Area:

```
#top {width: 100%; height: 200px;}
```

```
#content {display:
```

-ms-flex;
-ms-flexbox;
box-flex-group;

-ms-flex-flow: row;
-ms-flex-flow: wrap;
-ms-flex-direction: row;
-ms-flex-direction: wrap;

```
width: 100%;
```

```
}
```

```
#content #left {width: 200px; height: 300px;}
```

```
#content #right {width: 200px; height: 300px;}
```

```
#content #main {
```

-ms-flex: 0;
-ms-flex: 1;

```
#bottom {width: 100%; height: 200px;}
```

Correct Answer:

```
#top {width: 100%; height: 200px;}
```

```
#content {display:
```

-ms-flex;
-ms-flexbox;
box-flex-group;

-ms-flex-flow: row;
-ms-flex-flow: wrap;
-ms-flex-direction: row;
-ms-flex-direction: wrap;

```
width: 100%;
```

```
}
```

```
#content #left {width: 200px; height: 300px;}
```

```
#content #right {width: 200px; height: 300px;}
```

```
#content #main {
```

-ms-flex: 0;
-ms-flex: 1;

```
#bottom {width: 100%; height: 200px;}
```

Section: Volume C
Explanation

Explanation/Reference:

```
#top {width: 100%; height: 200px;}
```

```
#content {display:   
-ms-flex;  
-ms-flexbox;  
box-flex-group;
```

```
  
-ms-flex-flow: row;  
-ms-flex-flow: wrap;  
-ms-flex-direction: row;  
-ms-flex-direction: wrap;
```

```
width: 100%;
```

```
}
```

```
#content #left {width: 200px; height: 300px;}  
#content #right {width: 200px; height: 300px;}
```

```
#content #main {  
-ms-flex: 0;  
-ms-flex: 1;
```

```
#bottom {width: 100%; height: 200px;}
```

* -ms-flexbox

To enable flexbox layout, you must first create a flexbox container. Do this by setting the display property of an element to either "-ms-flexbox" (for a block-level flexbox container) or "-ms-inlineflexbox" (for an inline flexbox container).

* -ms-flex-direction: row;

When creating a flexbox container, you can also set its orientation—that is, specify whether its children are displayed from right-to-left, left-to-right, top-to-bottom, or bottom-to-top.

* -ms-flex

Specifies whether the width or height of a child element is flexible based on the space available in the object. This value also indicates the proportion of space available that is allocated to the child element.

Reference: Flexible box ("Flexbox") layout in Internet Explorer 10

QUESTION 145

You develop an HTML application that calls a Simple Object Access Protocol (SOAP) web service to retrieve data.

You need to load data from the web service.

What should you do? (To answer, drag the appropriate code segment or code segments to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

'application/soap+xml',

'application/x-www-form-urlencoded',

'application/json',

'GET',

'HEAD',

'POST',

'xml',

'json',

'script',

Answer Area

```
var message = '<soap:Envelope> ... </soap:Envelope>';  
$.ajax(webServiceUri, {  
  contentType:   
  
  type:   
  
  dataType:   
  
  data: message,  
});
```

Correct Answer:

Answer Area

```
var message = '<soap:Envelope> ... </soap:Envelope>';  
$.ajax(webServiceUri, {  
  contentType: 'application/soap+xml',  
  
  type: 'POST',  
  
  dataType: 'xml',  
  
  data: message,  
});
```

'application/x-www-form-urlencoded',

'application/json',

'GET',

'HEAD',

'json',

'script',

Section: Volume C

Explanation

Explanation/Reference:

```
var message = '<soap:Envelope> ... </soap:Envelope>';  
  
$.ajax(webServiceUri, {  
  contentType: 'application/soap+xml',  
  type: 'POST',  
  dataType: 'xml',  
  data: message,  
});
```

*** contentType**

contentType is the type of data you're sending.

We have to send the content-type of application/soap+xml as this is the only type that the web service allow.

*** type**

We post a SOAP request.

*** dataType:**

dataType is what you're expecting back from the server: json, html, text, xml, etc. jQuery will use this to figure out how to populate the success function's parameter.

QUESTION 146

You are creating a custom style by using CSS3.

You have the following requirements to complete the style:

- If the text in a line must wrap to another line, the last word must be able to break across lines.
- All text must be black and have a blue shadow, such that the text appears to glow blue.

The text must look like the following:



You need to complete the CSS3 style.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<style>
```

```
  p {
```

```
}
```

```
</style>
```

Hot Area:

```
<style>
```

```
  p {
```

```
    text-decoration: wavy;  
    text-decoration-style: wavy;  
    text-shadow: blue 1px 1px 1px;  
    text-shadow: blue 1px 1px 1px 2px;
```

```
    hyphens: auto;  
    break-after: auto;  
    break-inside: auto;  
    text-decoration: solid;
```

```
  }
```

```
</style>
```

Correct Answer:

```
<style>
  p {
    text-decoration: wavy;
    text-decoration-style: wavy;
    text-shadow: blue 1px 1px 1px;
    text-shadow: blue 1px 1px 1px 2px;
    hyphens: auto;
    break-after: auto;
    break-inside: auto;
    text-decoration: solid;
  }
</style>
```

Section: Volume C
Explanation

Explanation/Reference:

```
<style>
```

```
p {
```

```
text-decoration: wavy;  
text-decoration-style: wavy;  
text-shadow: blue 1px 1px 1px;  
text-shadow: blue 1px 1px 1px 2px;  
  
hyphens: auto;  
break-after: auto;  
break-inside: auto;  
text-decoration: solid;  
}
```

```
</style>
```

* text-shadow

* hyphens: auto

Words can be broken at appropriate hyphenation points either as determined by hyphenation characters) inside the word or as determined automatically by a language-appropriate hyphenation resource (if supported by the browser or provided via @hyphenation-resource).

Conditional hyphenation characters inside a word, if present, take priority over automatic resources when determining hyphenation points within the word.

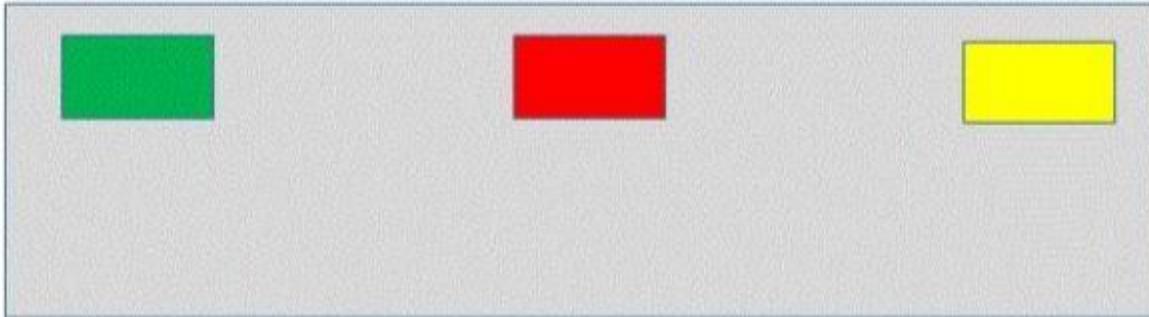
Reference: CSS3 text-shadow Property; hyphens | CSS-Tricks

QUESTION 147

You are developing a web page.

The webpage must display a container. The container must display three colored rectangles near the top of the container. The colored rectangles are, in order, green, red, and yellow. The rectangles are aligned horizontally and evenly spaced across the width of the container.

The layout of the page must resemble the following image:



You need to ensure that the page renders properly.
How should you complete the relevant styles? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<style>
  .box {
    display: -ms-flexbox;
    -ms-flex-direction: row;

    -ms-flex-align: ;

    -ms-flex-pack: ;

    width: 550px;
    height: 400px;
  }
</style>
```

Hot Area:

```
<style>
  .box {
    display: -ms-flexbox;
    -ms-flex-direction: row;

    -ms-flex-align: ;

    -ms-flex-pack: ;

    width: 550px;
    height: 400px;
  }
</style>
```



Correct Answer:

```
<style>
  .box {
    display: -ms-flexbox;
    -ms-flex-direction: row;

    -ms-flex-align: ;

    -ms-flex-pack: ;

    width: 550px;
    height: 400px;
  }
</style>
```

Section: Volume C
Explanation

Explanation/Reference:

```

<style>
  .box {
    display: -ms-flexbox;
    -ms-flex-direction: row;

    -ms-flex-align:  ;

    -ms-flex-pack:  ;

    width: 550px;
    height: 400px;
  }
</style>

```

* -ms-flex-align

center: The flexbox item's margin box is centered in the cross axis within the line.

* -ms-flex-pack

The 'flex-pack' property defines the flexibility of these packing spaces.

Reference: CSS property '-ms-flex-align'; CSS property '-ms-flex-pack'

QUESTION 148

You create the following JavaScript code:

```

var myApplication = myApplication || {};
myApplication.LoanCalculator = function (displayControl, principle, term, rate) {
  this.Principle = principle;
  this.Term = term;
  this.Rate = rate / 1200;
  this.PaymentAmount = 0;
  this.showPayment = document.getElementById(displayControl);
};
myApplication.LoanCalculator.prototype = {
  CalculatePayment: function () {
    this.PaymentAmount = (this.Principle * this.Rate / (1 - (Math.pow(1/(1 + this.Rate), this.Term)))).toFixed(2);
    this.showPayment.innerHTML = '$' + this.PaymentAmount;
  },
  ShowCanWeAfford: function () {
  }
};

```

You must complete the ShowCanWeAfford() function:

- Display the message Denied! If the PaymentAmount variable is greater than 500.
- Display the message Approved! If the PaymentAmount variable is less than 300.
- Display the message Approved with caution! If the PaymentAmount variable is less than 500 and greater than 300.

You need to add statements to the ShowCanWeAfford() JavaScript function to meet the requirements.

Which three actions should you perform in sequence? (Develop the solution by selecting the required code segments and arranging them in the correct order.)

Select and Place:

Answer Area

```
else if (this.PaymentAmount == 300) {  
    alert('Approved!');  
}
```

```
else if (this.PaymentAmount > 500 &&  
this.PaymentAmount < 300) {  
    alert('Approved with caution!');  
}
```

```
else if (this.PaymentAmount < 300) {  
    alert('Approved!');  
}
```

```
if (this.PaymentAmount > 500) {  
    alert('Denied!');  
}
```

```
if (this.PaymentAmount >= 500) {  
    alert('Denied!');  
}
```

```
else {  
    alert('Approved with caution!');  
}
```

```
if (this.PaymentAmount >> 500) {  
    alert('Denied!');  
}
```

```
else if (this.PaymentAmount << 300) {  
    alert('Approved!');  
}
```

Correct Answer:

Answer Area

```
else if (this.PaymentAmount == 300) {  
    alert('Approved!');  
}
```

```
else if (this.PaymentAmount > 500 &&  
this.PaymentAmount < 300) {  
    alert('Approved with caution!');  
}
```

```
if (this.PaymentAmount >= 500) {  
    alert('Denied!');  
}
```

```
if (this.PaymentAmount >> 500) {  
    alert('Denied!');  
}
```

```
else if (this.PaymentAmount << 300) {  
    alert('Approved!');  
}
```

```
if (this.PaymentAmount > 500) {  
    alert('Denied!');  
}
```

```
else if (this.PaymentAmount < 300) {  
    alert('Approved!');  
}
```

```
else {  
    alert('Approved with caution!');  
}
```

Section: Volume C

Explanation

Explanation/Reference:

Box 1:

```
if (this.PaymentAmount > 500) {  
    alert('Denied!');  
}
```

Box 2:

```
else if (this.PaymentAmount < 300) {  
    alert('Approved!');  
}
```

Box 3:

```
else {  
    alert('Approved with caution!');  
}
```

Note:

Use > for greater than comparison.

Use < for less than comparison.

QUESTION 149

You have a webpage that includes the following markup:

```
<!DOCTYPE html>
<html>
  <head>
    <script>
    </script>
  </head>
  <body onload="readXMLFile()" >
    <div id="to"></div>
    <div id="from"></div>
    <div id="message"></div>
  </body>
</html>
```

An XML file named message.xml resides on a web server. The structure of the file is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<messages>
  <to>JHartono@contoso.com</to>
  <from>JDow@contoso.com</from>
  <message>Meeting is cancelled</message>
</messages>
```

You are developing a code-based solution to parse the contents of the XML file and display the information on the page.

The solution must work on both modern and older browsers.

You need to display the information from the XML file onto the page.

How should you create the JavaScript code? (Develop the solution by selecting the required code segments and arranging them in the correct order. You may not need all of the code segments.)

Select and Place:

Answer Area

```
document.getElementById("to").innerHTML =  
  xmlDoc.getElementsByTagName("to")  
[0].childNodes[0].nodeValue;  
document.getElementById("from").innerHTML =  
  xmlDoc.getElementsByTagName("from")  
[0].childNodes[0].nodeValue;  
document.getElementById("message").innerHTML  
=  
  xmlDoc.getElementsByTagName("body")  
[0].childNodes[0].nodeValue;
```

```
xmlhttp = new ActiveXObject  
("Microsoft.XMLHTTP");
```

```
else {
```

```
xmlhttp = new XMLHttpRequest();
```

```
xmlhttp.open("GET", "message.xml", false);
```

```
if (window.XMLHttpRequest) {
```

```
xmlDoc = xmlhttp.responseXML;
```

```
function readXMLFile() {
```

```
xmlhttp.send();
```

Correct Answer:

Answer Area	
<pre>document.getElementById("to").innerHTML = xmlDoc.getElementsByTagName("to") [0].childNodes[0].nodeValue; document.getElementById("from").innerHTML = xmlDoc.getElementsByTagName("from") [0].childNodes[0].nodeValue; document.getElementById("message").innerHTML = xmlDoc.getElementsByTagName("body") [0].childNodes[0].nodeValue;</pre>	<pre>if (window.XMLHttpRequest) {</pre>
	<pre>xmlhttp = new XMLHttpRequest();</pre>
	<pre>else {</pre>
	<pre>xmlhttp = new ActiveXObject ("Microsoft.XMLHTTP");}</pre>
	<pre>xmlhttp.open("GET", "message.xml", false);</pre>
	<pre>xmlhttp.send();</pre>
	<pre>xmlDoc = xmlhttp.responseXML;</pre>
<pre>function readXMLFile() {</pre>	

Section: Volume C

Explanation

Explanation/Reference:

Note:

Parse an XML Document

Example. The following code fragment parses an XML document into an XML DOM object:

```
if (window.XMLHttpRequest) { // code for IE7+, Firefox, Chrome, Opera, Safari xmlhttp=new XMLHttpRequest(); }else { // code for IE6, IE5 xmlhttp=new ActiveXObject("Microsoft.XMLHTTP"); }xmlhttp.open("GET","books.xml",false);xmlhttp.send();xmlDoc=xmlhttp.responseXML;
```

QUESTION 150

You review a web form that contains the following markup and code:

```
<!DOCTYPE html>
<html>
  <head>
    <script type="text/javascript">
      function check1(currentTextBox) {
        if (currentTextBox.value === null || currentTextBox.value === '')
          currentTextBox.style.background = '#fffacd';
        else
          currentTextBox.style.background = '#ffffff';
      }
      function check2() {
        var obj = document.getElementsByTagName('input');
        for (var i = 0; i < (obj.length - 1); i++) {
          obj[i].style.background = '#fffacd';
        }
      }
    </script>
  </head>
  <body>
    <input type="text" id="text1" onfocus="check1(this)" onblur="check1(this)">
    <input type="text" id="text2" onfocus="check1(this)" onblur="check1(this)">
    <input type="button" value="next" onclick="check2()">
  </body>
</html>
```

You need to ascertain how the webpage responds when it loads and how it reacts to user actions. For each statement in the table, select Yes if the code segment above causes the page to behave as described. Select No if it does not. Make only one selection in each column.

Hot Area:

Yes	No	Description of behavior
<input type="radio"/>	<input type="radio"/>	Both text boxes are displayed with a yellow background when the page loads.
<input type="radio"/>	<input type="radio"/>	The background color of both text boxes changes to yellow each time the text boxes receive the focus.
<input type="radio"/>	<input type="radio"/>	If a text box contains a value, the background color of the text box changes to white each time the text box loses the focus.

Correct Answer:

Yes	No	Description of behavior
<input type="radio"/>	<input checked="" type="radio"/>	Both text boxes are displayed with a yellow background when the page loads.
<input type="radio"/>	<input checked="" type="radio"/>	The background color of both text boxes changes to yellow each time the text boxes receive the focus.
<input checked="" type="radio"/>	<input type="radio"/>	If a text box contains a value, the background color of the text box changes to white each time the text box loses the focus.

**Section: Volume C
Explanation**

Explanation/Reference:

Yes	No	Description of behavior
<input type="radio"/>	<input checked="" type="radio"/>	Both text boxes are displayed with a yellow background when the page loads.
<input type="radio"/>	<input checked="" type="radio"/>	The background color of both text boxes changes to yellow each time the text boxes receive the focus.
<input checked="" type="radio"/>	<input type="radio"/>	If a text box contains a value, the background color of the text box changes to white each time the text box loses the focus.

QUESTION 151

You test a webpage that contains the following JavaScript code:

```
<script type="text/javascript">
  onerror = unhandled;
  function unhandled(msg, url, line) {
    alert('There has been an unhandled exception.');
```

```
  }
```

```
  function add() {
```

```
    alert($("#int1").val() + $("#int2").val());
```

```
  }
```

```
  function divide() {
```

```
    if (isNaN($("#int1").val()) || isNaN($("#int2").val())) {
```

```
      throw('One or more values are non-numeric');
```

```
    }
```

```
    alert($("#int1").val() / $("#int2").val());
```

```
  }
```

```
</script>
```

The webpage also contains the following markup:

```

Integer 1: <input type="text" id="int1" /><br />
Integer 2: <input type="text" id="int2" /><br /><br />
<input type="button" name="add" value="Add" onclick="add();" />
<input type="button" name="divide" value="Divide" onclick="divide();" />

```

You need to ascertain how the webpage responds when the user enters characters and then clicks the add and divide buttons.

For each statement in the table, select Yes if the action causes the webpage to behave as described. Select No if it does not. Make only one selection in each column.

Hot Area:

Yes	No	Description of Behavior
<input type="radio"/>	<input type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 3 in the int2 textbox, and then clicks the add button, the webpage displays an alert message with a value of 5.
<input type="radio"/>	<input type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 0 in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.
<input type="radio"/>	<input type="radio"/>	If the user enters the number 2 in the int1 textbox, the letter a in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.

Correct Answer:

Yes	No	Description of Behavior
<input type="radio"/>	<input checked="" type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 3 in the int2 textbox, and then clicks the add button, the webpage displays an alert message with a value of 5.
<input type="radio"/>	<input checked="" type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 0 in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.
<input checked="" type="radio"/>	<input type="radio"/>	If the user enters the number 2 in the int1 textbox, the letter a in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.

Section: Volume C
Explanation

Explanation/Reference:

Yes	No	Description of Behavior
<input type="radio"/>	<input checked="" type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 3 in the int2 textbox, and then clicks the add button, the webpage displays an alert message with a value of 5.
<input type="radio"/>	<input checked="" type="radio"/>	If the user enters the number 2 in the int1 textbox, the number 0 in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.
<input checked="" type="radio"/>	<input type="radio"/>	If the user enters the number 2 in the int1 textbox, the letter a in the int2 textbox, and then clicks the divide button, the unhandled JavaScript function runs.

QUESTION 152

You troubleshoot a webpage that includes the following code segment:

```
var customer = function () {  
    var name = "Contoso";  
    return {  
        getName: function () {  
            return name;  
        },  
        setName: function (newName) {  
            name = newName;  
        }  
    };  
}();  
alert(customer.name);
```

You need to evaluate the value of the variable named customer.name. For each statement in the table, select Yes if the code segment above causes the variable to evaluate as described. Select No if it does not. Make only one selection in each column.

Hot Area:

Yes	No	Description of customer.name variable
<input type="radio"/>	<input type="radio"/>	An error will be thrown
<input type="radio"/>	<input type="radio"/>	Contoso
<input type="radio"/>	<input type="radio"/>	undefined
<input type="radio"/>	<input type="radio"/>	null
<input type="radio"/>	<input type="radio"/>	false

Correct Answer:

Yes	No	Description of customer.name variable
<input type="radio"/>	<input checked="" type="radio"/>	An error will be thrown
<input type="radio"/>	<input checked="" type="radio"/>	Contoso
<input checked="" type="radio"/>	<input type="radio"/>	undefined
<input type="radio"/>	<input checked="" type="radio"/>	null
<input type="radio"/>	<input checked="" type="radio"/>	false

Section: Volume C
Explanation

Explanation/Reference:

Yes	No	Description of customer.name variable
<input type="radio"/>	<input checked="" type="radio"/>	An error will be thrown
<input type="radio"/>	<input checked="" type="radio"/>	Contoso
<input checked="" type="radio"/>	<input type="radio"/>	undefined
<input type="radio"/>	<input checked="" type="radio"/>	null
<input type="radio"/>	<input checked="" type="radio"/>	false

The variable customer is undefined, as it outside the scope of the function, at line alert(customer.name);

QUESTION 153

You develop an HTML5 webpage that contains the following markup and code:

```
<form>
  <label for='city'>City:</label>
  <select id='city'>
    <option>Please Choose</option>
    <option>Moscow</option>
    <option>London</option>
    <option>Paris</option>
  </select>
  <input type='button' id='submit' value='Submit'
    onclick="madeSelection(document.getElementById('city'), 'Please Select A City')" />
</form>
```

You have the following requirements:

- Display a message if users select the first OPTION element, and then submit the form.
- Do not display an alert message if users select any other OPTION element, and then submit the form.

You need to implement the madeSelection() function.

How should you complete the relevant code? (To answer, select the appropriate code segment

from each drop-down list in the answer area.)

```
function madeSelection(element, message) {
```



```
    alert (message);
```



```
    } else {
```



```
    }  
}
```

Hot Area:

```
function madeSelection(element, message) {
```

```
    if (element.id === 0) {  
        if (element.value === "-1") {  
            if (element.text === "Please Choose") {  
                if (element.value === "Please Choose") {
```

```
                    alert (message);
```

```
                }  
                element.clear();  
                element.focus();
```

```
            }  
            return true;  
            return false;
```

```
        } else {
```

```
            return true;  
            return false;  
        }  
    }
```

Correct Answer:

```
function madeSelection(element, message) {
```

```
    
    if (element.id === 0) {
    if (element.value == "-1") {
    if (element.text === "Please Choose") {
    if (element.value === "Please Choose") {
```

```
        alert (message);
```

```
        
        element.clear();
        element.focus();
```

```
        
        return true;
        return false;
```

```
    } else {
```

```
        
        return true;
        return false;
    }
}
```

Section: Volume C
Explanation

Explanation/Reference:

```
function madeSelection(element, message) {
```

```
    if (element.id === 0) {  
        if (element.value == "-1") {  
            if (element.text === "Please Choose") {  
                if (element.value === "Please Choose") {
```

```
                alert(message);
```

```
                element.clear();  
                element.focus();
```

```
            }  
            return true;  
            return false;
```

```
        } else {
```

```
            return true;  
            return false;
```

```
    }
```

* The <select> element is used to create a drop-down list.

The <option> tags inside the <select> element define the available options in the list.

* option.value

text

Specifies the value to be sent to a server

Reference: HTML <option> Tag

QUESTION 154

You develop a webpage that consumes a web service. The web service provides currency exchange rates. Visitors enter the currency type on the webpage and press the Submit button. The web service returns the current exchange rate.

You need to ensure that the webpage always displays the most current information.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<script type="text/javascript">
  var currencyRate;
  function getExchangeRate(){
    $.({

      cache:,

      type: 'GET',
      url: "CurrencyConverter.asmx/GetExchangeRate",
      data: { 'currencyType': getCurrencyType() },
      dataType: 'json',
      success: function (result) {
        currencyRate = result;
      }
    });
  }

  function getCurrencyType() {
    return "USD";
  }
</script>
```

Hot Area:

```
<script type="text/javascript">
var currencyRate;
function getExchangeRate(){
$.({
cache:,

type: 'GET',
url: "CurrencyConverter.asmx/GetExchangeRate",
data: { 'currencyType': getCurrencyType() },
dataType: 'json',
success: function (result) {
currencyRate = result;
}
});
}

function getCurrencyType() {
return "USD";
}
</script>
```

Correct Answer:

```
<script type="text/javascript">
var currencyRate;
function getExchangeRate(){
$.ajax({
cache: false,
type: 'GET',
url: "CurrencyConverter.asmx/GetExchangeRate",
data: { 'currencyType': getCurrencyType() },
dataType: 'json',
success: function (result) {
currencyRate = result;
}
});
}

function getCurrencyType() {
return "USD";
}
</script>
```

Section: Volume C

Explanation

Explanation/Reference:

```

<script type="text/javascript">
var currencyRate;
function getExchangeRate(){
$.ajax({
cache: false,
type: 'GET',
url: "CurrencyConverter.asmx/GetExchangeRate",
data: { 'currencyType': getCurrencyType() },
dataType: 'json',
success: function (result) {
currencyRate = result;
}
});
}

function getCurrencyType() {
return "USD";
}
</script>

```

Use ajax technology (json is for the datatype).
 Disable the cache as the most recent data must be displayed.

QUESTION 155

You develop a webpage.
 The layout of the webpage must resemble the following image:

Start of main contents. Start of span1 contents. End of span1 contents. End of main body contents.

Span2 contents

You need to ensure that the page renders properly.
How should you complete the relevant CSS styles? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<!DOCTYPE html>
<head>
  <style>

    #span1 {  ; color: red;}

    #span2 {  ; top: 200px;

      left: -100px; height: 130px; width: 130px;
      color: green;}
  </style>
</head>
<body>
  <p>Start of main contents.
    <span id=span1> Start of span1 contents.
    <span id=span2> Span2 contents.</span>
    End of span1 contents.</span>
    End of main contents.
  </p>
</body>
</html>
```

Hot Area:

```

<!DOCTYPE html>
<head>
  <style>
    #span1 {
      <input type="text" value="position: absolute; color: red;"/> ; color: red;}
      z-index: 1
      float: left
      position: relative
      position: absolute

    #span2 {
      <input type="text" value="position: absolute; top: 200px;"/> ; top: 200px;
      z-index: 2
      float: right
      position: relative
      position: absolute

      left: -100px; height: 130px; width: 130px;
      color: green;}
  </style>
</head>
<body>
  <p>Start of main contents.
    <span id=span1> Start of span1 contents.
    <span id=span2> Span2 contents.</span>
    End of span1 contents.</span>
    End of main contents.
  </p>
</body>
</html>

```

Correct Answer:

```

<!DOCTYPE html>
<head>
  <style>
    #span1 {
      <input type="text" value="position: relative" />; color: red;}
      z-index: 1
      float: left
      position: relative
      position: absolute

    #span2 {
      <input type="text" value="position: absolute" />; top: 200px;
      z-index: 2
      float: right
      position: relative
      position: absolute

      left: -100px; height: 130px; width: 130px;
      color: green;}
  </style>
</head>
<body>
  <p>Start of main contents.
    <span id=span1> Start of span1 contents.
      <span id=span2> Span2 contents.</span>
    End of span1 contents.</span>
  End of main contents.
</p>
</body>
</html>

```

Section: Volume C
Explanation

Explanation/Reference:

```
<!DOCTYPE html>
<head>
  <style>

    #span1 {  ; color: red;}
      z-index: 1
      float: left
      position: relative
      position: absolute

    #span2 {  ; top: 200px;
      z-index: 2
      float: right
      position: relative
      position: absolute

      left: -100px; height: 130px; width: 130px;
      color: green;}
  </style>
</head>
<body>
  <p>Start of main contents.
    <span id=span1> Start of span1 contents.
    <span id=span2> Span2 contents.</span>
    End of span1 contents.</span>
    End of main contents.
  </p>
</body>
</html>
```

* position: relative

The element is positioned relative to its normal position, so "left:20" adds 20 pixels to the element's LEFT position

* position: absolute

The element is positioned relative to its first positioned (not static) ancestor element

Reference: CSS position Property

QUESTION 156

A company has an XML file named products.xml on a web server. The file contains a list of the products that the company sells.

You need to display the contents of the products.xml file in a DIV element named Output.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```

<html>
  <head>
    <script lang="JavaScript">
      function DataHandler()
        var webReq = new XMLHttpRequest; {

        if (webReq.[ ] == [ ] ) {

          if (webReq.status == [ ] ) {

            document.getElementById("Output").innerHTML =
              (webReq.responseText);}}}}
      var webReq = getXMLHttpRequest();
      if (webReq != null) {
        webReq.open
          ("GET", "http://localhost/products.xml", true);
        webReq.onreadystatechange = DataHandler;
        webReq.send();}

    </script>
  </head>
  <body>
    <div id="Output"> </div>
  </body>
</html>

```

Hot Area:

```

<html>
  <head>
    <script lang="JavaScript">
      function DataHandler()
        var webReq = new XMLHttpRequest; {

        if (webReq.  ==  ) {
          

|            |       |
|------------|-------|
| abort      | false |
| open       | true  |
| status     | 2     |
| readyState | 3     |
|            | 4     |



          if (webReq.status ==  ) {
            

|     |
|-----|
| 100 |
| 200 |
| 400 |
| 500 |



            document.getElementById("Output").innerHTML =
              (webReq.responseText);}}
      var webReq = getXMLHttpRequest();
      if (webReq != null) {
        webReq.open
          ("GET", "http://localhost/products.xml", true);
        webReq.onreadystatechange = DataHandler;
        webReq.send();}
    </script>
  </head>
  <body>
    <div id="Output"> </div>
  </body>
</html>

```

Correct Answer:

```

<html>
  <head>
    <script lang="JavaScript">
      function DataHandler()
        var webReq = new XMLHttpRequest; {

        if (webReq.  ==  ) {
          

|            |       |
|------------|-------|
| abort      | false |
| open       | true  |
| status     | 2     |
| readyState | 3     |
|            | 4     |



          if (webReq.status ==  ) {
            

|     |
|-----|
| 100 |
| 200 |
| 400 |
| 500 |



            document.getElementById("Output").innerHTML =
              (webReq.responseText);}}
        var webReq = getXMLHttpRequest();
        if (webReq != null) {
          webReq.open
            ("GET", "http://localhost/products.xml", true);
          webReq.onreadystatechange = DataHandler;
          webReq.send();}

      </script>
    </head>
    <body>
      <div id="Output"> </div>
    </body>
  </html>

```

Section: Volume C
Explanation

Explanation/Reference:

```

<html>
<head>
  <script lang="JavaScript">
    function DataHandler()
      var webReq = new XMLHttpRequest; {

if (webReq.  ==  ) {

      if (webReq.status ==  ) {

        document.getElementById("Output").innerHTML =
          (webReq.responseText);}}
      var webReq = getXMLHttpRequest();
      if (webReq != null) {
        webReq.open
          ("GET", "http://localhost/products.xml", true);
        webReq.onreadystatechange = DataHandler;
        webReq.send();}

    </script>
  </head>
  <body>
    <div id="Output"> </div>
  </body>
</html>

```

When readyState is 4 and status is 200, the response is ready:

Example

```
xmlhttp.onreadystatechange=function()
{
if (xmlhttp.readyState===4 && xmlhttp.status===200)
{
document.getElementById("myDiv").innerHTML=xmlhttp.responseText;
}
}
```

Note:

* readyState == 4

Holds the status of the XMLHttpRequest. Changes from 0 to 4:

0: request not initialized

1: server connection established

2: request received

3: processing request

4: request finished and response is ready

* status==200

200: "OK"

404: Page not found

Reference: AJAX - The onreadystatechange Event

QUESTION 157

You are developing a shared library to format information. The library contains a method named `_private`.

The `_private` method must never be called directly from outside of the shared library.

You need to implement an API for the shared library.

How should you complete the relevant code? (Develop the solution by selecting the required code segments and arranging them in the correct order. You may not need all of the code segments.)

Select and Place:

Answer Area

```
Formatter.prototype.parseValue =  
function (input) {  
  return _private(input);  
}
```

```
prototype.parseValue = _private(input);
```

```
this._private = function (data) {  
  return custom(data);  
}
```

```
}
```

```
return {  
  parseValue: function (input)  
{ return _private(); }  
}
```

```
function getFormatter() {
```

```
  var _private = function (data) {  
    return custom(data);  
  };
```

```
  this.parseValue = function (input) {  
    return _private(input);  
  };
```

```
  $('#parseValue') = function (input) {  
    return _private(input);  
  };
```

Correct Answer:

Answer Area

```
prototype.parseValue = _private(input);
```

```
return {  
  parseValue: function (input)  
  { return _private(); }  
}
```

```
var _private = function (data) {  
  return custom(data);  
};
```

```
this.parseValue = function (input) {  
  return _private(input);  
};
```

```
$('#parseValue') = function (input) {  
  return _private(input);  
};
```

```
function getFormatter() {
```

```
  Formatter.prototype.parseValue =  
  function (input) {  
    return _private(input);  
  }
```

```
  this._private = function (data) {  
    return custom(data);  
  }
```

```
}
```

Section: Volume C

Explanation

Explanation/Reference:

* Here there is a basic example:

```
// our constructor
function Person(name, age){
  this.name = name;
  this.age = age;
};
// prototype assignment
Person.prototype = (function(){
  // we have a scope for private stuff
  // created once and not for every instance
  function toString(){
    return this.name + " is " + this.age;
  };
  // create the prototype and return them
  return {
    // never forget the constructor ...
    constructor:Person,
    // "magic" toString method
    toString:function(){
      // call private toString method
      return toString.call(this);
    }
  };
})();
```

* Example:

You can simulate private methods like this:

```
function Restaurant() {
}
Restaurant.prototype = (function() {
  var private_stuff = function() {
    // Private code here
  };
  return {
    constructor:Restaurant,
    use_restroom:function() {
      private_stuff();
    }
  }
})();
```

```
};  
})();  
var r = new Restaurant();  
// This will work:  
r.use_restroom();  
// This will cause an error:  
r.private_stuff();
```

QUESTION 158

You develop an interactive scalable vector graphics (SVG) application. You write the following HTML markup that makes a rectangle rotate:

```
<svg width="200px" height="200px">  
  <g transform="translate(400, 400)" id="myImage">  
    <rect id="mySquare" x="-10" y="-10" width="20" height="20" color="blue" />  
  </g>  
</svg>  
<input id="speed" type="text" value="10" />  
<button id="zoom" onclick="startAnimation();">Start</button>
```

You need to control the speed of the rotating rectangle.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<script>
  var squareShape;
  var myTimer;

  function startAnimation () {

    squareShape= 
    squareShape.currentTheta = 0;

    myTimer= 
    animateImage();
  }

  function animateImage() {

    + squareShape.currentTheta + ")");
    squareShape.currentTheta += 0.1;
  }
</script>
```

Hot Area:

```

<script>
  var squareShape;
  var myTimer;

  function startAnimation () {

    squareShape=
    document.myImage;
    document.mySquare;
    document.getElementById("myImage");
    document.getElementById("mySquare");

    squareShape.currentTheta = 0;

    myTimer=
    speed.value;
    myTimer.interval (speed.value);
    setTimer(animateImage, speed.value);
    new timer(animateImage, speed.value);

    animateImage ();
  }

  function animateImage () {

    setInterval(animateImage, speed.value);
    squareShape.setAttribute("rotate", "angle("
    squareShape.setAttribute("transform", "angle("
    squareShape.setAttribute("transform", "rotate("
    squareShape.setAttribute("mySquare", "transform("

    + squareShape.currentTheta + ")");
    squareShape.currentTheta += 0.1;
  }
</script>

```

Correct Answer:

```

<script>
  var squareShape;
  var myTimer;

  function startAnimation () {

    squareShape=
    document.myImage;
    document.mySquare;
    document.getElementById("myImage");
    document.getElementById("mySquare");

    squareShape.currentTheta = 0;

    myTimer=
    speed.value;
    myTimer.interval (speed.value);
    setTimer(animateImage, speed.value);
    new timer(animateImage, speed.value);

    animateImage ();
  }

  function animateImage () {

    setInterval(animateImage, speed.value);
    squareShape.setAttribute("rotate", "angle("
    squareShape.setAttribute("transform", "angle("
    squareShape.setAttribute("transform", "rotate("
    squareShape.setAttribute("mySquare", "transform("

    + squareShape.currentTheta + ")");
    squareShape.currentTheta += 0.1;
  }
</script>

```

Section: Volume C
Explanation

Explanation/Reference:

```

<script>
  var squareShape;
  var myTimer;

  function startAnimation () {

    squareShape=
    document.myImage;
    document.mySquare;
    document.getElementById("myImage");
    document.getElementById("mySquare");

    squareShape.currentTheta = 0;

    myTimer=
    speed.value;
    myTimer.interval (speed.value);
    setTimeout(animateImage, speed.value);
    new timer(animateImage, speed.value);

    animateImage ();
  }

  function animateImage () {

    setInterval(animateImage, speed.value);
    squareShape.setAttribute("rotate", "angle("
    squareShape.setAttribute("transform", "angle("
    squareShape.setAttribute("transform", "rotate("
    squareShape.setAttribute("mySquare", "transform("

    + squareShape.currentTheta + ")");
    squareShape.currentTheta += 0.1;

  }
</script>

```

Note:

* What is SVG?

SVG stands for Scalable Vector Graphics

SVG is used to define vector-based graphics for the Web

SVG defines the graphics in XML format

SVG graphics do NOT lose any quality if they are zoomed or resized

Every element and every attribute in SVG files can be animated

SVG is a W3C recommendation

* Example:

```
<script>
```

```
/* CONSTANTS */
```

```
var initialTheta = 0; // The initial rotation angle, in degrees.
```

```
var thetaDelta = 0.3; // The amount to rotate the square every "delay" milliseconds, in degrees.
```

```
var delay = 10; // The delay between animation stills, in milliseconds. Affects animation smoothness.
```

```
var angularLimit = 90; // The maximum number of degrees to rotate the square.
```

```
/*
```

```
Note that it will take the square (angularLimit/thetaDelta)*delay milliseconds to rotate an angularLimit
```

```
number of degrees. For example, (90/0.3)*10 = 3000 ms (or 3 seconds) to rotate the square 90 degrees.
```

```
*/
```

```
/* GLOBALS */
```

```
var theSquare; // Will contain a reference to the square element, as well as other things.
```

```
var timer; // Contains the setInterval() object, used to stop the animation.
```

```
function init()
```

```
/*
```

```
Assumes that this function is called after the page loads.
```

```
*/
```

```
{
```

```
theSquare = document.getElementById("mySquare"); // Set this custom property after the page loads.
```

```
theSquare.currentTheta = initialTheta; // The initial rotation angle to use when the animation starts, stored in
```

```
timer = setInterval(doAnim, delay); // Call the doAnim() function every "delay" milliseconds until "timer" is cleared.
```

```
}
```

```
function doAnim()
```

```
/*
```

```
This function is called by setInterval() every "delay" milliseconds.
```

```
*/
{
if (theSquare.currentTheta > angularLimit)
{
clearInterval(timer); // The square has rotated enough, instruct the browser to stop calling the
doAnim() function.
return; // No point in continuing; stop now.
}
theSquare.setAttribute("transform", "rotate(" + theSquare.currentTheta + ")"); // Rotate the square
by a small amount.
theSquare.currentTheta += thetaDelta; // Increase the angle that the square will be rotated to, by a
small amount.
}
</script>
</head>
```

QUESTION 159

You create a webpage that includes the following HTML markup: (Line numbers are included for reference only.)

```
01 <!DOCTYPE html>
02 <html>
03   <head>
04     <script src="jquery.js"></script>
05   </head>
06   <body>
07     <p>Type OK to validate form.</p>
08     <form action="javascript:alert('success!');">
09       <div>
10         <input type="text" />
11         <input type="submit" />
12       </div>
13     </form>
14     <script>
15
16   </script>
17 </body>
18 </html>
```

You need to ensure that a form cannot be submitted unless the INPUT element contains the word OK.

Which five actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

Select and Place:

Answer Area

```
);
```

```
$("#form").submit(function () {
```

```
return false;
```

```
}
```

```
return true;
```

```
}
```

```
if ($("#input:first_child").val() == "OK") {
```

```
if ($("#input:first").val() == "OK") {
```

Correct Answer:

	Answer Area
	<pre>\$("#form").submit(function () {</pre>
	<pre> if (\$("#input:first").val() == "OK") {</pre>
	<pre> return true;</pre>
	<pre> }</pre>
	<pre> return false;</pre>
	<pre>};</pre>
<pre>if (\$("#input:first_child").val() == "OK") {</pre>	

Section: Volume C

Explanation

Explanation/Reference:

first
Selects the first matched element.
Reference: :first Selector

QUESTION 160

You are implementing a web worker by using JavaScript and HTML5. The web worker processes a long-running loop and returns the result to a webpage.
The web worker is defined on the webpage as follows:

```
var myWorker = new Worker('task.js');
myWorker.postMessage({
  message: 'go',
  iterations: 1000000000
});
```

You have the following requirements:

- Evaluate the message value in the web worker.
- Process the loop based on the iterations value that is passed from the webpage.
- Return a value back to the webpage from the web worker.

You need to implement the web worker.

How should you complete the relevant code? (To answer, drag the appropriate code segment to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

	Answer Area
<div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">event.data.message</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">event.data.iterations</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">event[message]</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">event[iterations]</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">postMessage(returnValue);</div> <div style="border: 1px solid #ccc; padding: 2px;">relayMessage(returnValue);</div>	<pre>onmessage = function (event) { if (<input type="text"/> === 'go') { for (var i = 0; i <= <input type="text"/> ; i += 1) { var returnValue = i; } <input type="text"/> } };</pre>

Correct Answer:


```

<!DOCTYPE html>
<html>
  <head>
    <style type="text/css">
      .container {
        display: -ms-grid;
        -ms-grid-columns: 1fr 1fr 1fr;
        -ms-grid-rows: 1fr 1fr 1fr;
      }
      .blueBox {
        -ms-grid-row: 2;
        -ms-grid-column: 2;
        -ms-wrap-flow: auto;
        float:none;
        background-color: blue;
      }
      .text {
        -ms-grid-row: 1;
        -ms-grid-column: 1;
        -ms-grid-column-span: 3;
        -ms-grid-row-span: 3;
      }
    </style>
  </head>
  <body>
    <div class="body">
      <div name="container" class="container">

```

How does the page render? For each statement in the table, select Yes if the behavior is described. Select No if it is not. Make only one selection in each column.

Hot Area:

Yes	No	
<input type="radio"/>	<input type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

Correct Answer:

Yes	No	
<input type="radio"/>	<input checked="" type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input checked="" type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input checked="" type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

Section: Volume C
Explanation

Explanation/Reference:

Yes	No	
<input type="radio"/>	<input checked="" type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input checked="" type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input checked="" type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

QUESTION 162

You are creating a function by using JavaScript.
You have the following requirements:

The function must display loan amounts to the user within the following HTML element:

```
<div id="display"></div>
```

The loan amount of 2100 must display in the HTML element.

All declared variables and functions must be scoped to the myApp variable.

You need to implement the function.

How should you complete the relevant code? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

	Answer Area
<code>this.loanAmount += 1000;</code>	<pre>var myApp = {}; (function () { this.display = function (value) { document.getElementById('display').innerHTML += value; }; this.increaseLoanAmount = function () { return; }; this.increaseLoanAmountAgain = function () { return; }; }).apply(myApp); myApp.increaseLoanAmount(); myApp.increaseLoanAmountAgain(); myApp.display();</pre>
<code>this.loanAmount = 100;</code>	
<code>loanAmount = 100;</code>	
<code>loanAmount += 1000;</code>	
<code>myApp.loanAmount</code>	
<code>loanAmount</code>	

Correct Answer:

	Answer Area
<code>this.loanAmount += 1000;</code>	<pre>var myApp = {}; (function () { this.display = function (value) { document.getElementById('display').innerHTML += value; }; this.increaseLoanAmount = function () { return; }; this.increaseLoanAmountAgain = function () { return; }; }).apply(myApp); myApp.increaseLoanAmount(); myApp.increaseLoanAmountAgain(); myApp.display(</pre>
<code>this.loanAmount = 100;</code>	
<code>loanAmount = 100;</code>	
<code>loanAmount += 1000;</code>	
<code>myApp.loanAmount</code>	
<code>loanAmount</code>	

Section: Volume C

Explanation

Explanation/Reference:

```

var myApp = {};
(function () {
    this.loanAmount = 100;
    this.display = function (value) {
        document.getElementById('display').innerHTML += value;
    };
    this.increaseLoanAmount = function () {
        this.loanAmount += 1000;
        return;
    };
    this.increaseLoanAmountAgain = function () {
        this.loanAmount += 1000;
        return;
    };
}).apply(myApp);
myApp.increaseLoanAmount();
myApp.increaseLoanAmountAgain();

myApp.display( myApp.loanAmount );

```

QUESTION 163

You create a custom style by using CSS3.

A box with rounded corners must appear around text. The box must match the following illustration:



You need to add the CSS3 markup to your style.

How should you complete the relevant CSS styles? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<style>
  p {
    border: solid;
```

```
}
```

```
</style>
```

Hot Area:

```
<style>
  p {
    border: solid;

    display: inline;
    box-sizing: border-box;
    box-shadow: 10px 10px 10px #f00;
    box-shadow: 4px 4px 4px #f00;

    border-radius: 10px;
    border-spacing: 10px;
    border-bottom-style: outset;
    box-decoration-break: slice;

  }
</style>
```

Correct Answer:

```
<style>
  p {
    border: solid;

    display: inline;
    box-sizing: border-box;
    box-shadow: 10px 10px 10px #f00;
    box-shadow: 4px 4px 4px #f00;

    border-radius: 10px;
    border-spacing: 10px;
    border-bottom-style: outset;
    box-decoration-break: slice;

  }
</style>
```

Section: Volume C

Explanation

Explanation/Reference:

```

<style>
  p {
    border: solid;

    display: inline;
    box-sizing: border-box;
    box-shadow: 10px 10px 10px #f00;
    box-shadow: 4px 4px 4px #f00;

    border-radius: 10px;
    border-spacing: 10px;
    border-bottom-style: outset;
    box-decoration-break: slice;

  }
</style>

```

* box-sizing

The box-sizing property is used to tell the browser what the sizing properties (width and height) should include.

Should they include the border-box or just the content-box which is the default value of the width and height properties.

* border-radius

The border-radius property is a shorthand property for setting the four border-* radius properties.

Example

Add rounded borders to a <div> element:

```

div {
border: 2px solid;
border-radius: 25px;
}

```

Reference: [CSS3 box-sizing Property](#); [CSS3 border-radius Property](#)

QUESTION 164

You implement a callback function by using JavaScript.

You need to process the returned XML data.

How should you complete the relevant code? (To answer, select the appropriate option from each drop-down list in the answer area.)

```
<script>
  function getStatus(url, callback) {
    var httpRequest = new XMLHttpRequest();
    httpRequest.onreadystatechange = function () {
      if (httpRequest.readyState === 4
        && httpRequest.status === 200) {
        
      }
    };
    httpRequest.open('GET', url);
    httpRequest.send();
  }

  function start(url) {
    getStatus(url, function () {
      
    });
  }
</script>
```

Hot Area:

```

<script>
  function getStatus(url, callback) {
    var httpRequest = new XMLHttpRequest();
    httpRequest.onreadystatechange = function () {
      if (httpRequest.readyState === 4
        && httpRequest.status === 200) {
        
        callback.call(httpRequest);
        httpRequest.setRequestHeader();
        callback.call(httpRequest.responseXML);
        callback = httpRequest.getResponseHeader();
      }
    };
    httpRequest.open('GET', url);
    httpRequest.send();
  }

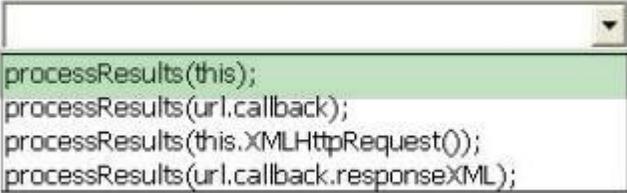
  function start(url) {
    getStatus(url, function () {
      
      processResults(this);
      processResults(url.callback);
      processResults(this.XMLHttpRequest());
      processResults(url.callback.responseXML);
    });
  }
</script>

```

Correct Answer:

```

<script>
  function getStatus(url, callback) {
    var httpRequest = new XMLHttpRequest();
    httpRequest.onreadystatechange = function () {
      if (httpRequest.readyState === 4
        && httpRequest.status === 200) {
        
        callback.call(httpRequest);
        httpRequest.setRequestHeader();
        callback.call(httpRequest.responseXML);
        callback = httpRequest.getResponseHeader();
      }
    };
    httpRequest.open('GET', url);
    httpRequest.send();
  }

  function start(url) {
    getStatus(url, function () {
      
      processResults(this);
      processResults(url.callback);
      processResults(this.XMLHttpRequest());
      processResults(url.callback.responseXML);
    });
  }
</script>

```

Section: Volume C
Explanation

Explanation/Reference:

```
<script>
function getStatus(url, callback) {
    var httpRequest = new XMLHttpRequest();
    httpRequest.onreadystatechange = function () {
        if (httpRequest.readyState === 4
            && httpRequest.status === 200) {
            callback.call(httpRequest);
            httpRequest.setRequestHeader();
            callback.call(httpRequest.responseXML);
            callback = httpRequest.getResponseHeader();
        }
    };
    httpRequest.open('GET', url);
    httpRequest.send();
}

function start(url) {
    getStatus(url, function () {
        processResults(this);
        processResults(url.callback);
        processResults(this.XMLHttpRequest());
        processResults(url.callback.responseXML);
    });
}
</script>
```

* Example:
httpRequest.onreadystatechange = function() {
// inline function to check the status
// of our request
// this is called on every state change
if (httpRequest.readyState === 4 &&

```
httpRequest.status === 200) {
callback.call(httpRequest.responseXML);
// call the callback function
}
};
// call the function
some_function2("text.xml", function() {
console.log(this);
});
Reference: understand callback functions in Javascript
```

QUESTION 165

You develop an HTML5 webpage. You have the following HTML markup:

```
<div id="MapContents"></div>

```

You need to update the content of the DIV element when the mouse hovers over an image and when the mouse coordinates change. How should you complete the relevant code? (To answer, drag the appropriate code segment to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

	Answer Area
innerHTML	<pre>var contents = document.getElementById("MapContents"); var image = document.getElementById("UsMap"); image.addEventListener(' [] ', function (e) { contents. [] = "x: " + e.x + "
y: " + e.y + "
"; });</pre>
mousemove	
mouseout	
mouseover	
nodeValue	
outerText	

Correct Answer:

Answer Area

mouseout

mouseover

nodeValue

outerText

```

var contents = document.getElementById("MapContents");
var image = document.getElementById("UsMap");

image.addEventListener(' mousemove ', function (e) {

    contents.innerHTML = "x: " + e.x + "<br/>y: " + e.y + "<br/>";

});

```

Section: Volume D

Explanation

Explanation/Reference:

```

var contents = document.getElementById("MapContents");
var image = document.getElementById("UsMap");

image.addEventListener(' mousemove ', function (e) {

    contents.innerHTML = "x: " + e.x + "<br/>y: " + e.y + "<br/>";

});

```

* addEventListener mousemove

Use the element.addEventListener() method to attach an event handler to a specified element.

onmousemove: Fires when the mouse pointer is moving while it is over an element

* The clientX property returns the horizontal coordinate (according to the client area) of the mouse pointer when a mouse event was triggered.

Example:

Output the coordinates of the mouse pointer when an mouse event has occurred:

```

var x = event.clientX; // Get the horizontal coordinate
var y = event.clientY; // Get the vertical coordinate
var coor = "X coords: " + x + ", Y coords: " + y;

```

The result of coor could be:

X coords: 142, Y coords: 99

Reference: HTML DOM addEventListener() Method; onmousemove Event; MouseEvent clientX Property

QUESTION 166

You are creating a custom CSS3 style.

You have the following requirements to complete the style:

- Box1 has a red outline.
- Box1 contains box2, and box2 must remain inside box1
- Box2 must have a green to black gradient.
- Box2 must be surrounded by white space.

The style resembles the following diagram:

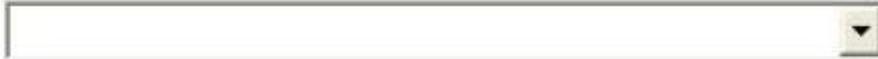


You need to add the CSS3 code to the styles.

How should you complete the relevant code? (To answer, select the appropriate code segment in each drop-down list in the answer area.)

```
<style>
  #box1
  {

```



```
}
```

```
#box2
```

```
{
```

```
  width: 6em;
  height: 4em;
  position: absolute;
```



```
}
```

```
</style>
```

Hot Area:

```
<style>
  #box1
  {
```



```
margin: 5em; border: 1px solid #f00;
margin: 5em; border-color: red;
margin: 10px 10px 10px 10px; color: red;
margin: 10px 10px 10px 10px; border-style: solid;
```

```
}
```

```
#box2
{
```

```
width: 6em;
height: 4em;
position: absolute;
```



```
background-image: linear-gradient(to bottom, green, black);
background-image: linear-gradient(to top, green, black);
background-image: radial-gradient(to bottom, green, black);
background-image: radial-gradient(to top, green, black);
```



```
margin: 0px 0px 0px 0px;
margin: 10px 10px 10px 10px;
padding: 0px 0px 0px 0px;
padding: 10px 10px 10px 10px;
```

```
}
</style>
```

Correct Answer:

```
<style>
  #box1
  {
```

```
margin: 5em; border: 1px solid #f00;
margin: 5em; border-color: red;
margin: 10px 10px 10px 10px; color: red;
margin: 10px 10px 10px 10px; border-style: solid;
```

```
}
```

```
#box2
{
  width: 6em;
  height: 4em;
  position: absolute;
```

```
background-image: linear-gradient(to bottom, green, black);
background-image: linear-gradient(to top, green, black);
background-image: radial-gradient(to bottom, green, black);
background-image: radial-gradient(to top, green, black);
```

```
margin: 0px 0px 0px 0px;
margin: 10px 10px 10px 10px;
padding: 0px 0px 0px 0px;
padding: 10px 10px 10px 10px;
```

```
}
</style>
```

Section: Volume D
Explanation

Explanation/Reference:

```
<style>
```

```
  #box1
```

```
  {
```

```
margin: 5em; border: 1px solid #f00;
```

```
margin: 5em; border-color: red;
```

```
margin: 10px 10px 10px 10px; color: red;
```

```
margin: 10px 10px 10px 10px; border-style: solid;
```

```
  }
```

```
  #box2
```

```
  {
```

```
width: 6em;
```

```
height: 4em;
```

```
position: absolute;
```

```
background-image: linear-gradient(to bottom, green, black);
```

```
background-image: linear-gradient(to top, green, black);
```

```
background-image: radial-gradient(to bottom, green, black);
```

```
background-image: radial-gradient(to top, green, black);
```

```
margin: 0px 0px 0px 0px;
```

```
margin: 10px 10px 10px 10px;
```

```
padding: 0px 0px 0px 0px;
```

```
padding: 10px 10px 10px 10px;
```

```
  }
```

```
</style>
```

* border: 1px solid #f00;
a red border 1 pixel thick.

* background-image: linear-gradient(to bottom, green,black);

Linear Gradients (goes down/up/left/right/diagonally).

Starts at the top with green and goes to bottom with black.

* margin: 10px 10px 10px 10px;

The CSS margin properties define the space around elements.

The top, right, bottom, and left margin can be changed independently using separate properties.

Incorrect:

* border-color: red;

will not display any border

* Radial Gradients (defined by their center).

QUESTION 167

You are validating user input by using built-in JavaScript functions.

The application must:

- Store the value that is entered in a variable named inputValue
- Use the built-in isNaN(inputValue) function to evaluate the data type

You need to validate the return value of the isNaN(inputValue) function.

Which values will be returned? (To answer, configure the appropriate options in the dialog box in the answer area.)

If user inputs:

-13 `isNaN(userInput)` returns

24.3 `isNaN(userInput)` returns

3*8 `isNaN(userInput)` returns

'5' `isNaN(userInput)` returns

Hot Area:

If user inputs:

-13 `isNaN(userInput)` returns
 True
 False

24.3 `isNaN(userInput)` returns
 True
 False

3*8 `isNaN(userInput)` returns
 True
 False

'5' `isNaN(userInput)` returns
 True
 False

Correct Answer:

If user inputs:

-13 `isNaN(userInput)` returns
True
False

24.3 `isNaN(userInput)` returns
True
False

3*8 `isNaN(userInput)` returns
True
False

'5' `isNaN(userInput)` returns
True
False

isNaN is false for all these inputs.

The isNaN() function determines whether a value is an illegal number (Not-a-Number).

This function returns true if the value is NaN, and false if not.

Reference: JavaScript parseInt() Function; JavaScript isNaN() Function

QUESTION 168

You are developing an HTML5 web application that will display encyclopedia entries.

Each encyclopedia entry has an associated image that is referred to in the entry.

You need to display the image by using the correct semantic markup.

What should you do? (To answer, drag the appropriate HTML tag to the correct element. Each tag may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

title

figcaption

label

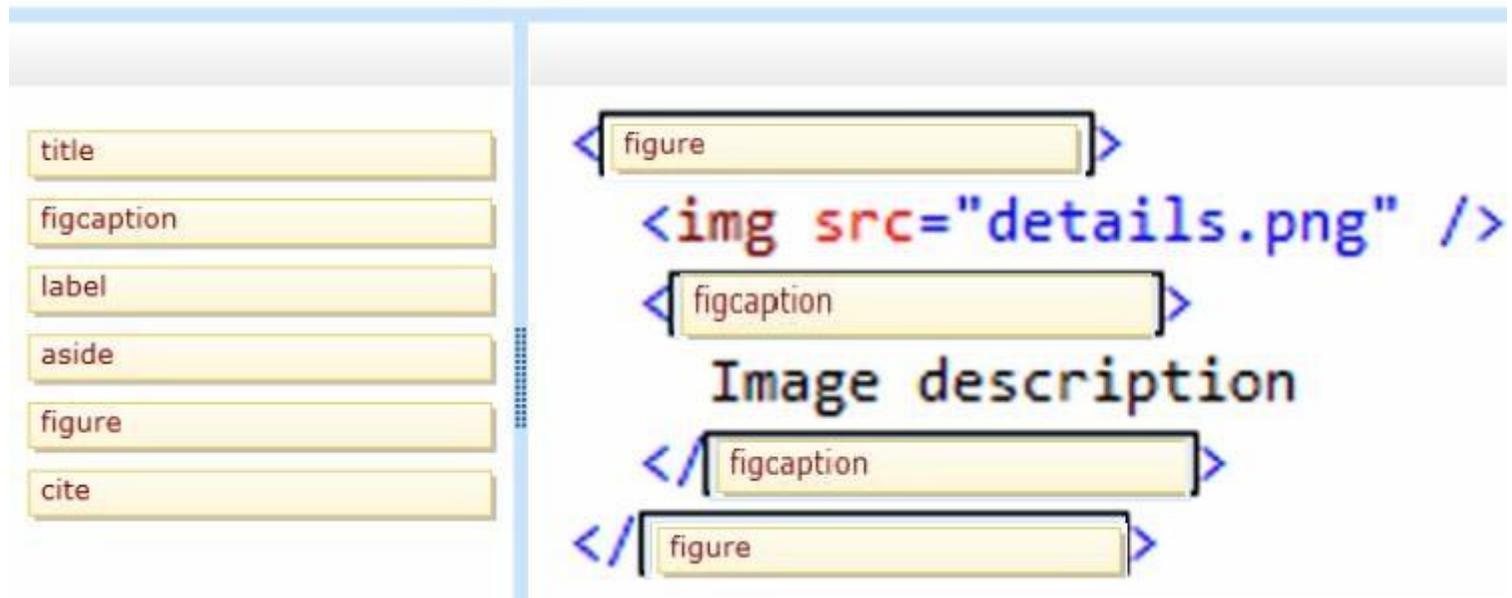
aside

figure

cite

```
  
</img>  
Image description  
</>  
</>
```

Correct Answer:



Section: Volume D
Explanation

Explanation/Reference:

```

<figure>
  
  <figcaption>
    Image description
  </figcaption>
</figure>

```

The <figure> element

The <figure> element is intended to be used in conjunction with the <figcaption> element to mark up diagrams, illustrations, photos, and code examples (among other things).

Example:

```
<figure>

<figcaption>A cheeky macaque, Lower Kintaganban River, Borneo. Original by <a
href="http://www.flickr.com/photos/rclark/">Richard Clark</a></figcaption>
</figure>
```

Reference: The figure & figcaption elements

QUESTION 169

You develop a website for a company by using HTML5.

You have the following requirements:

- Allow multiple news postings per page under the title "Welcome to the Semantic Web!".
- Search engines must be able to index individual news postings.
- News postings must be styled by using the following CSS markup:
.posting { line-height: 150%; }

You need to structure the markup for each individual news posting.

How should you complete the relevant markup? (To answer, drag the appropriate markup to the correct location or locations in the answer area. Use only markup that applies.)

Select and Place:

	Answer Area
article	< [] >
aside	< [] >
body	< [] >
div	Welcome to the Semantic Web!
div class="posting"	</ [] >
div id="posting"	< [] >
head	...
header	</ [] >
	</ [] >

Correct Answer:

The image shows a web-based code editor interface. On the left is a sidebar with a list of HTML tags: article, aside, body, div, div class="posting", div id="posting", head, and header. On the right is the 'Answer Area' which displays the HTML code being typed. The code is as follows:

```
< article >  
  < header >  
    Welcome to the Semantic Web!  
  </ header >  
  < div class="posting" >  
    ...  
  </ div >  
</ article >
```

Section: Volume D
Explanation

Explanation/Reference:

```
< article >
  < header >
    Welcome to the Semantic Web!
  </ header >
  < div class="posting" >
    ...
  </ div >
</ article >
```

* The <article> element specifies independent, self-contained content.

Examples of where an <article> element can be used:

Forum post

Blog post

Newspaper article

* The <header> element specifies a header for a document or section.

* when declaring the div element we must refer to CSS style named posting with a class="posting" attribute.

Reference: HTML5 Semantic Elements

QUESTION 170

You are implementing an HTML page that uses a custom sans-serif font. The CSS statement for the page is as follows.

```
@font-face {
  font-family: 'special';
  src: url(/Special.eot) format('embedded-opentype');
}

body {
  font-family: 'special';
}
```

Some users report that text is displayed in the default font for the browser. You need to modify the CSS statement to ensure that the content is displayed with the custom font. What should you do? (To answer, select the appropriate options from the drop-down lists in the er area.)

Work Area

```
@font-face {
  font-family: 'special';
  src: url(/Special.eot) format('embedded-opentype');
}

body {
```

Hot Area:

Work Area

```
@font-face {  
  font-family: 'special';  
  src: url(/Special.eot) format('embedded-opentype');
```

```
font-family: 'special', sans-serif;  
font-family: 'special', inherit;  
font-family: 'special'; font-synthesis: sans-serif;  
font-family: 'special'; font-variant: sans-serif;  
src: local('sans-serif') url(/Special.ttf) format('all');  
src: url(/Special.ttf) format('truetype');
```

```
}
```

```
body {
```

```
font-family: 'special', sans-serif;  
font-family: 'special', inherit;  
font-family: 'special'; font-synthesis: sans-serif;  
font-family: 'special'; font-variant: sans-serif;  
src: local('sans-serif') url(/Special.ttf) format('all');  
src: url(/Special.ttf) format('truetype');
```

Correct Answer:

Work Area

```
@font-face {  
  font-family: 'special';  
  src: url(/Special.eot) format('embedded-opentype');  
  font-family: 'special', sans-serif;  
  font-family: 'special', inherit;  
  font-family: 'special'; font-synthesis: sans-serif;  
  font-family: 'special'; font-variant: sans-serif;  
  src: local('sans-serif') url(/Special.ttf) format('all');  
  src: url(/Special.ttf) format('truetype');  
}
```

```
body {  
  font-family: 'special', sans-serif;  
  font-family: 'special', inherit;  
  font-family: 'special'; font-synthesis: sans-serif;  
  font-family: 'special'; font-variant: sans-serif;  
  src: local('sans-serif') url(/Special.ttf) format('all');  
  src: url(/Special.ttf) format('truetype');  
}
```

Section: Volume D

Explanation

Explanation/Reference:

Work Area

```
@font-face {  
  font-family: 'special';  
  src: url(/Special.eot) format('embedded-opentype');
```

```
font-family: 'special', sans-serif;  
font-family: 'special', inherit;  
font-family: 'special'; font-synthesis: sans-serif;  
font-family: 'special'; font-variant: sans-serif;  
src: local('sans-serif') url(/Special.ttf) format('all');  
src: url(/Special.ttf) format('truetype');
```

```
}
```

```
body {
```

```
font-family: 'special', sans-serif;  
font-family: 'special', inherit;  
font-family: 'special'; font-synthesis: sans-serif;  
font-family: 'special'; font-variant: sans-serif;  
src: local('sans-serif') url(/Special.ttf) format('all');  
src: url(/Special.ttf) format('truetype');
```

Using The Font You Want

In the CSS3 @font-face rule you must first define a name for the font (e.g. myFirstFont), and then point to the font file.

To use the font for an HTML element, refer to the name of the font (myFirstFont) through the fontfamily property:

Example

```
@font-face {  
  font-family: myFirstFont;  
  src: url(sansation_light.woff);  
}  
div {
```

```
font-family: myFirstFont;  
}
```

Note:

* CSS3 Web Fonts - The @font-face Rule

Web fonts allow Web designers to use fonts that are not installed on the user's computer.

When you have found/bought the font you wish to use, just include the font file on your web server, and it will be automatically downloaded to the user when needed.

Your "own" fonts are defined within the CSS3 @font-face rule.

* TrueType Fonts (TTF)

TrueType is a font standard developed in the late 1980s, by Apple and Microsoft. TrueType is the most common font format for both the Mac OS and Microsoft Windows operating systems.

Reference: CSS3 Web Fonts

QUESTION 171

You are developing a form that captures a user's email address by using HTML5 and jQuery.

The form must capture the form elements as a string.

You need to implement this functionality.

How should you develop the form? (To answer, drag the appropriate code segment to the correct target or targets in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

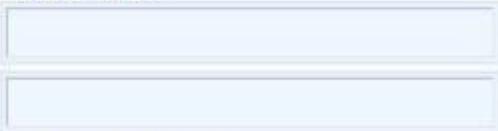
```
str = $("form").serialize();
```

```
str = decodeURIComponent(str);
```

```
str = $("form").contents.toString();
```

```
str = $("form").toLocaleString();
```

```
str = decodeURI(str);
```

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      
      return true;
    });
  </script>
</body>
</html>
```

Correct Answer:

```
str = $("form").contents.toString();
str = $("form").toLocaleString();
str = decodeURI(str);

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      return true;
    });
  </script>
</body>
</html>
```

Section: Volume D
Explanation

Explanation/Reference:

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <form>
    <input type="text" name="email" />
    <input type="submit" value="Submit" />
  </form>
  <script>
    $("form").submit(function () {
      var str;
      str = $("form").serialize();
      str = decodeURIComponent(str);
      return true;
    });
  </script>
</body>
</html>

```

* The `serialize()` method creates a URL encoded text string by serializing form values. You can select one or more form elements (like input and/or text area), or the form element itself. The serialized values can be used in the URL query string when making an AJAX request.

Example: `$("form").serialize();`

* `decodeURIComponent`

The `decodeURIComponent()` function decodes a URI component.

Return Value: A String, representing the decoded URI

Incorrect:

Not `decodeURI`:

`decodeURI` is intended for use on the full URI.

`decodeURIComponent` is intended to be used on .. well .. URI components that is any part that lies between separators (`;/?:@&=+$,#`).

Reference: [jQuery serialize\(\) Method](#)

QUESTION 172

You are developing a customer web form that includes the following HTML.

```
<input id="txtValue" type="text" />
```

A customer must enter a valid age in the text box prior to submitting the form.

You need to add validation to the control.

Which code segment should you use?

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation: val

Return value

A string containing the value of the element, or an array of strings if the element can have multiple values

QUESTION 173

You are developing a customer contact form that will be displayed on a page of a company's website. The page collects information about the customer.

If a customer enters a value before submitting the form, it must be a valid email address.

You need to ensure that the data validation requirement is met.

What should you use?

- A. `<input name="email" type="url"/>`
- B. `<input name="email" type="text" required="required"/>`
- C. `<input name="email" type="text"/>`
- D. `<input name="email" type="email"/>`

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation: Example:

`<form>`

E-mail:

```
<input type="email" name="email">
</form>
```

Reference:

http://www.w3schools.com/html/html5_form_input_types.asp

QUESTION 174

You are developing an application that consumes a Windows Communication Foundation (WCF) service.

The application interacts with the service by using the following code. (Line numbers are included for reference only.)

```
01 <script>
02   function getCountry(country) {
03     $.ajax({
04       type: "POST",
05       contentType: "application/json; charset=utf-8",
06       url: "http://contoso.com/Service.svc/GetCountry",
07       data: '{"Country":"' + country + "'",
08       dataType: "json",
09       success: OnSuccess,
10       error: OnError
11     });
12   }
13 }
14 function OnSuccess(data, status) {
15   ...
16 }
17 function OnError(request, status, error) {
18   ...
19 }
20 </script>
```

You need to authenticate to the WCF service.

What should you do?

- A. At line 11, add the following lines of code.
 ,username: yourusername
 ,password: yourpassword
- B. At line 11, add the following line of code.
 ,credentials: prompt
- C. At line 06, replace the code with the following line of code.
 url: "http://contoso.com/Service.svc/GetCountry?
 Username=username&password=password",
- D. At line 11, add the following line of code. The username and password will be stored in an XML file.
 ,credentials: credentials.xml

Correct Answer: C

Section: Volume A

Explanation

Explanation/Reference:

Explanation:

QUESTION 175

You are developing a web page that enables customers to upload documents to a web server. The page includes an HTML5 PROGRESS element named progressBar that displays information about the status of the upload.

The page includes the following code. (Line numbers are included for reference only.)

```
01 var xhr = new XMLHttpRequest();
02 var progressBar = $("#progressBar");
03
04 function(e) {
05     if (e.lengthComputable) {
06         progressBar.value = (e.loaded / e.total) * 100;
07         progressBar.textContent = progressBar.value;
08     };
```

An event handler must be attached to the request object to update the PROGRESS element on the page.

You need to ensure that the status of the upload is displayed in the progress bar.

Which line of code should you insert at line 03?

- A. xhr.upload.onloadeddata =
- B. xhr.upload.onplaying =
- C. xhr.upload.onseeking =
- D. xhr.upload.onprogress =

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation: Example:

```
xhr.upload.onprogress = function(evt)
```

```
{  
  if (evt.lengthComputable)  
  {  
    var percentComplete = parseInt((evt.loaded / evt.total) * 100); console.log("Upload: " + percentComplete + "% complete") }  
};
```

Reference:

<http://stackoverflow.com/questions/3352555/xhr-upload-progress-is-100-from-the-start>

QUESTION 176

You are developing a customer web form that includes the following HTML.

```
<label id="txtValue"X/label>
```

Information from the web form is submitted to a web service. The web service returns the following JSON object.

```
{  
  "Confirmation": "1234",  
  "FirstName": "John"  
}
```

You need to display the Confirmation number from the JSON response in the txtValue label field.

Which JavaScript code segment should you use?

- A. `$("#txtValue").val = (JSONObject.Confirmation);`
- B. `$("#txtValue").val (JSONObject.Confirmation);`
- C. `$("#txtValue").text = (JSONObject.Confirmation);`
- D. `$("#txtValue").text (JSONObject.Confirmation);`

Correct Answer: D

Section: Volume A

Explanation

Explanation/Reference:

Explanation:

Incorrect:

not A, not B: A label object has no value attribute.

Reference:

<http://api.jquery.com/text/>

QUESTION 177

You review a webpage that contains the following markup:

```

<!DOCTYPE html>
<html>
  <head>
    <style type="text/css">
      .container {
        display: -ms-grid;
        -ms-grid-columns: 1fr 1fr 1fr;
        -ms-grid-rows: 1fr 1fr 1fr;
      }
      .blueBox {
        -ms-grid-row: 2;
        -ms-grid-column: 2;
        -ms-wrap-flow: auto;
        float:none;
        background-color: blue;
      }
      .text {
        -ms-grid-row: 1;
        -ms-grid-column: 1;
        -ms-grid-column-span: 3;
        -ms-grid-row-span: 3;
      }
    </style>
  </head>
  <body>
    <div class="body">
      <div name="container" class="container">
        <div name="blueBox" class="blueBox"></div>
        <div name="content" class="text"></div>
      </div>
    </div>
  </body>
</html>

```

How does the page render? For each statement in the table, select Yes if the behavior is described. Select No if it is not. Make only one selection in each column.

Hot Area:

Yes	No	
<input type="radio"/>	<input type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

Correct Answer:

Yes	No	
<input type="radio"/>	<input checked="" type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input checked="" type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input checked="" type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

Section: Volume C
Explanation

Explanation/Reference:

Yes	No	
<input type="radio"/>	<input checked="" type="radio"/>	Content in the DIV element named content flows around all sides of the DIV element named blueBox .
<input checked="" type="radio"/>	<input type="radio"/>	The DIV element named blueBox will always be displayed at row 2, column 2 of the grid.
<input checked="" type="radio"/>	<input type="radio"/>	Content in the DIV element named content will fill all cells in the grid.

QUESTION 178

You create an HTML5 application that includes JavaScript. The application performs several AJAX requests. One AJAX request retrieves order information from a web service and then sends the

information back to a webpage within the application.

You must create a custom event. You have the following requirements:

- The webpage must contain an HTML element named ordersListing that will receive the custom event notification.
- The event name must be ordersReceived.
- The event must pass a custom value named orderCount.
- The event must run a JavaScript method named showOrdersReceivedCount after the orders Listing HTML element receives the event.
- Do not allow other DOM elements to receive the event.
- Allow the event to be cancelled.
- Send the event into the event system.

You need to implement the custom event to notify specific DOM elements of the AJAX response. Which three actions should you perform in sequence? (Develop the solution by selecting the required code segments and arranging them in the correct order.)

Select and Place:

Answer Area

```
ordersListing.dispatchEvent(new CustomEvent  
("ordersReceived", {  
  detail: {  
    orderCount: 5  
  },  
  bubbles: false,  
  cancelable: true  
}));
```

```
var ordersReceivedEvent = new CustomEvent  
("ordersReceived", {  
  bubbles: true,  
  cancelable: true  
});
```

```
ordersListing.addEventListener  
("orders", showOrders);
```

```
ordersReceived.dispatchEvent  
(ordersReceivedEvent);
```

```
var ordersReceived = document.getElementById  
("ordersReceived");
```

```
var ordersListing = document.getElementById  
("ordersListing");
```

```
ordersListing.addEventListener  
("ordersReceived", showOrdersReceivedCount);
```

```
ordersListing.dispatchEvent(new CustomEvent  
("ordersReceived", {  
  detail: {  
    orderCount: 5
```

Correct Answer:

Answer Area

```
ordersListing.dispatchEvent(new CustomEvent  
("ordersReceived", {  
  detail: {  
    orderCount: 5  
  },  
  bubbles: false,  
  cancelable: true  
}));
```

```
var ordersReceivedEvent = new CustomEvent  
("ordersReceived", {  
  bubbles: true,  
  cancelable: true  
});
```

```
ordersListing.addEventListener  
("orders", showOrders);
```

```
var ordersReceived = document.getElementById  
("ordersReceived");
```

```
var ordersListing = document.getElementById  
("ordersListing");
```

```
ordersListing.dispatchEvent(new CustomEvent  
("ordersReceived", {  
  detail: {  
    orderCount: 5
```

```
ordersListing.addEventListener  
("ordersReceived", showOrdersReceivedCount);
```

```
ordersReceived.dispatchEvent  
(ordersReceivedEvent);
```

Section: Volume C
Explanation

Explanation/Reference:

* From Scenario: Do not allow other DOM elements to receive the event.

So: bubbles: false

* From scenario: Allow the event to be cancelled.

So: cancellable: true

* From scenario:

The webpage must contain an HTML element named ordersListing that will receive the custom event notification.

* Events which are designated as bubbling will initially proceed with the same event flow as nonbubbling events. The event is dispatched to its target EventTarget and any event listeners found there are triggered. Bubbling events will then trigger any additional event listeners found by following the EventTarget's parent chain upward, checking for any event listeners registered on each successive EventTarget. This upward propagation will continue up to and including the Document. EventListeners registered as capturers will not be triggered during this phase. The chain of EventTargets from the event target to the top of the tree is determined before the initial dispatch of the event. If modifications occur to the tree during event processing, event flow will proceed based on the initial state of the tree.

Note:

* Ajax (an acronym for Asynchronous JavaScript and XML) is a group of interrelated web development techniques used on the client-side to create asynchronous web applications. With Ajax, web applications can send data to, and retrieve data from, a server asynchronously (in the background) without interfering with the display and behavior of the existing page. Data can be retrieved using the XMLHttpRequest object. Despite the name, the use of XML is not required (JSON is often used instead), and the requests do not need to be asynchronous.

QUESTION 179

You are developing an application by using JavaScript.

You must write a function that returns the sum of the variables named v1, v2, v3, v4.

You need to complete the sum function.

How should you complete the relevant code? (To answer, drag the appropriate code segment or segments to the correct location or locations in the answer area. Use only code segments that apply.)

Select and Place:

	Answer Area
<code>v3 + v4;</code>	<pre><script> function add(v1, v2) { return v1 + v2 + <input type="text"/> } function addValues() { var o = { v3: 10, v4: 13 }; var res = <input type="text"/> return res; } </script></pre>
<code>o.v3 + o.v4;</code>	
<code>this.v3 + this.v4;</code>	
<code>this.o.v3 + this.o.v4;</code>	
<code>add (o, 15, 3);</code>	
<code>add (15, 3) + o;</code>	
<code>add.call(o, 15, 3);</code>	
<code>add.apply (o, 15, 3);</code>	

Correct Answer:

	Answer Area
<code>v3 + v4;</code>	<pre><script> function add(v1, v2) { return v1 + v2 + <code>this.v3 + this.v4;</code> } function addValues() { var o = { v3: 10, v4: 13 }; var res = <code>add.call(o, 15, 3);</code> return res; } </script></pre>
<code>o.v3 + o.v4;</code>	
<code>this.o.v3 + this.o.v4;</code>	
<code>add (o, 15, 3);</code>	
<code>add (15, 3) + o;</code>	
<code>add.apply (o, 15, 3);</code>	

Section: Volume C
Explanation

Explanation/Reference:

```

<script>
  function add(v1, v2) {
    return v1 + v2 + this.v3 + this.v4;
  }

  function addValues() {
    var o = { v3: 10, v4: 13 };
    var res = add.call(o, 15, 3);
    return res;
  }
</script>

```

* What is the difference between call and apply?

apply lets you invoke the function with arguments as an array; call requires the parameters be listed explicitly.

Pseudo syntax:

theFunction.apply(valueForThis, arrayOfArgs)

theFunction.call(valueForThis, arg1, arg2, ...)

Reference: What is the difference between call and apply?

QUESTION 180

You are developing a web page that includes the following HTML.

```

<input name="ITSupport" type="checkbox" value="IT" id="choc"
  onclick="enable();" /><label for="IT">IT Support</label>
<input type="email" placeholder="IT@Contoso.com" id="eMail"
  name="eMail" disabled /><label for="eMail" >Your eMail </label>

```

You need to ensure that the email element is enabled only if the user selects the IT Support check box.

Which CSS selectors should you use? (To answer, drag the appropriate selector to the correct location. Each selector may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

Correct Answer:

www.vceplus.com - Website designed to help IT pros advance their careers - Born to Learn

enabled

disabled

hidden

true

false

set

disabled

```

input: {
  background-color: #e0e0e0;
}

<script type="text/javascript">
function enable(e) {
  if (document.getElementById) {
    if (document.getElementById('IT').checked) {
      document.getElementById('eMail').disabled = false ;

    } else {
      document.getElementById('eMail').disabled = true ;

    }
  }
}
</script>

```

Section: Volume D
Explanation

Explanation/Reference:

```


input: {
  background-color: #e0e0e0;
}

<script type="text/javascript">
function enable(e) {
  if (document.getElementById) {
    if (document.getElementById('IT').checked) {
      document.getElementById('eMail').disabled = false;
    } else {
      document.getElementById('eMail').disabled = true;
    }
  }
}
</script>

```

The disabled property sets or returns whether an email field should be disabled, or not. A disabled element is unusable and un-clickable. Disabled elements are usually rendered in gray by default in browsers.

Example

Disable an email field:

```
document.getElementById("myEmail").disabled = true;
```

Reference: [Input Email disabled Property](#)

QUESTION 181

You are creating a class named Sedan that must inherit from the Car class. The Sedan class must modify the inherited fourDoor () method. The Car class is defined as follows.

```

function Car() {}
Car.prototype.fourDoor = function () {
  alert('four doors');
}

```

Future instances of Sedan must be created with the overridden method.

You need to write the code to implement the Sedan class.

Which two code segments should you use? (Each correct answer presents part of the solution. Choose two.)

- A.

```
Sedan.fourDoor = function ()  
{  
    alert('door count');  
}
```
- B.

```
Sedan.prototype.fourDoor = function ()  
{  
    alert('door count');  
}
```
- C.

```
function Sedan()  
{  
    Car.call(this);  
}  
Sedan.prototype = new Car();  
Sedan.prototype.constructor = Sedan;
```
- D.

```
function Sedan()  
{  
    Car.call(this);  
}  
Sedan.prototype.constructor = Sedan.create;
```

- A. Option A
- B. Option B

- C. Option C
- D. Option D

Correct Answer: BC

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * The Object.prototype property represents the Object prototype object.

* Object.prototype.constructor

Specifies the function that creates an object's prototype.

* Example:

```
Employee.prototype = new Person();
```

```
var Customer = function(name) {  
  this.name = name;  
};  
Customer.prototype = new Person();
```

```
var Mime = function(name) {  
  this.name = name;  
  this.canTalk = false;  
};  
Mime.prototype = new Person();
```

Reference: Object.prototype

QUESTION 182

You are modifying a blog site to improve search engine readability.

You need to group relevant page content together to maximize search engine readability.

Which tag should you use?

- A. <nav>
- B. <article>
- C.
- D. <div>

Correct Answer: B
Section: Volume B
Explanation

Explanation/Reference:

Explanation: The <article> tag specifies independent, self-contained content.

An article should make sense on its own and it should be possible to distribute it independently from the rest of the site.

Potential sources for the <article> element:

Forum post
Blog post
News story
Comment

Reference: HTML <article> Tag

http://www.w3schools.com/tags/tag_article.asp

http://www.w3schools.com/html/html5_new_elements.asp

QUESTION 183

You are developing application web form by using HTML5 and JavaScript.

You need to prevent users from submitting form data more than once.

Which code segment should you use?

A.

```
<body>
  <input id="btnSubmit" type="button" value="Submit" onclick="disable(this)" />
  <input id="btnCancel" type="button" value="Submit" onclick="disable(this)" />
  <script>
    function disable(ctrl) {
      ctrl.disabled = true;
    }
  </script>
</body>
```

B.

```
<body>
  <input id="btnSubmit" type="button" value="Submit" onclick="disable()" />
  <input id="btnCancel" type="button" value="Submit" onclick="disable()" />
  <script>
    function disable() {
      this.disabled = true;
    }
  </script>
</body>
```

C.

```
<body>
  <input id="btnSubmit" type="button" value="Submit" onclick="disable()" />
  <input id="btnCancel" type="button" value="Submit" onclick="disable()" />
  <script>
    function disable() {
      document.getElementById("btn" + this.name).disabled = true;
    }
  </script>
</body>
```

D.

```
<body>
  <input id="btnSubmit" type="button" value="Submit" onclick="disable(me)" />
  <input id="btnCancel" type="button" value="Submit" onclick="disable(me)" />
  <script>
    function disable(ctrl) {
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * this, in disable(this), refers to the clicked button.

* The disabled attribute is a boolean attribute.

When present, it specifies that the <input> element should be disabled.

A disabled input element is unusable and un-clickable.

The disabled attribute can be set to keep a user from using the <input> element until some other condition has been met (like selecting a checkbox, etc.). Then, a JavaScript could remove the disabled value, and make the <input> element usable.

Reference: HTML <input> disabled Attribute

QUESTION 184

You are developing an HTML5 web application for a surveyor company that displays topographic images.

The application must:

- Display the topographic images at different zoom levels without loss of detail
- Print the topographic images without loss of detail
- Work from only one source file for each topographic image

You need to ensure that the topographic images display according to the requirements.

Which HTML5 element should you use?

- A. SVG
- B. CANVAS
- C. SAMP
- D. AREA

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: * SVG stands for Scalable Vector Graphics SVG is used to define graphics for the Web SVG is a W3C recommendation

* The HTML <svg> element (introduced in HTML5) is a container for SVG graphics.

SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

Reference: HTML5 SVG

QUESTION 185

You are modifying a website. The body of the page will be divided into two sections:

- A content section will contain blog posts and comments.
- An area on the right-hand side will contain advertisements.

The page is defined by the following HTML.

```
<table width="100%" border="1">
  <tr>
    <td class="header" colspan="2">
      Welcome to My Blog!
    </td>
  </tr>
  <tr>
    <td width="70%">
      ...
    </td>
    <td width="30%">
      ...
    </td>
  </tr>
  <tr>
    <td class="footer" colspan="2">
      ...
    </td>
  </tr>
</table>
```

The site must conform to HTML5 standards and must use HTML5 semantic tags.

You need to ensure that the advertisements are on the rightmost section of the page.

Which tag should you use?

- A. <aside>
- B. <div>
- C. <article>
- D. <footer>

Correct Answer: A

Section: Volume B

Explanation

Explanation/Reference:

Explanation: The <aside> tag defines some content aside from the content it is placed in. The aside content should be related to the surrounding content.

aside is now acceptable for secondary content when not nested within an article element.

Reference: HTML <aside> Tag

QUESTION 186

You are developing an HTML5 page.

You need to add author and copyright information.

Which tag should you use?

- A. <aside>
- B. <header>
- C. <footer>
- D. <section>

Correct Answer: C

Section: Volume B

Explanation

Explanation/Reference:

Explanation: The footer element represents a footer for its nearest ancestor sectioning content or sectioning root element. A footer typically contains information about its section such as who wrote it, links to related documents, copyright data, and the like.

Reference: The footer element

<http://dev.w3.org/html5/spec-preview/the-footer-element.html>

QUESTION 187

You are creating a function by using JavaScript. The function accepts an object as the parameter and returns a string that identifies the data type of the object.

You have the following requirements:

- The function must return "Number" if the object is a number
- The function must return "String" if the object is a string
- The function must return "Unknown" if the object is neither a number nor a string

You need to implement the function to meet the requirements.

How should you build the code segment? (To answer, drag the appropriate word to the correct

location in the code segment. Each word may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

default
switch
break
case

```
function GetObjectType (obj) {  
  [ ] (obj.constructor) {  
    [ ] Number:  
      return "Number";  
    [ ] ;  
    [ ] String:  
      return "String";  
    [ ] ;  
    [ ] :  
      return "Unknown";  
  }  
}
```

Correct Answer:

default

switch

break

case

```
function GetObjectType(obj) {  
  switch (obj.constructor) {  
    case Number:  
      return "Number";  
    break ;  
    case String:  
      return "String";  
    break ;  
    default :  
      return "Unknown";  
  }  
}
```

Section: Volume B
Explanation

Explanation/Reference:

```
function GetObjectType(obj) {
  switch (obj.constructor) {
    case Number:
      return "Number";
      break ;
    case String:
      return "String";
      break ;
    default :
      return "Unknown";
  }
}
```

* Use the switch statement to select one of many blocks of code to be executed.

Syntax

```
switch(expression) {
  case n:
  code block
  break;
  case n:
  code block
  break;
  default:
  default code block
}
```

This is how it works:

The switch expression is evaluated once.

The value of the expression is compared with the values of each case.

If there is a match, the associated block of code is executed.

* Object.prototype.constructor

Returns a reference to the Object function that created the instance's prototype. Note that the value of this property is a reference to the function itself, not a string containing the function's

name. The value is only read-only for primitive values such as 1, true and "test".

* Description

All objects inherit a constructor property from their prototype:

```
var o = {};
```

```
o.constructor === Object; // true
```

```
var a = [];
```

```
a.constructor === Array; // true
```

```
var n = new Number(3);
```

```
n.constructor === Number; // true
```

* The constructor property is created together with the function as a single property of func.prototype.

Reference: JavaScript Switch Statement;Object.prototype.constructor

QUESTION 188

You are developing an application for an online retailer. The company ships only to certain countries.

The application must:

- Store a list of country codes in an array
- Validate the country code of the shipping address against the countries array
- Include a Boolean value in the array that indicates whether or not you can ship to the country
- Display a list of countries that can be shipped to if the user inputs a code for a country that the retailer cannot ship to

You need to develop the application to meet the requirements.

Which code segment or segments should you use? (To answer, drag the appropriate code segment or segments from the list of code segments to the correct location or locations in the work area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
if (!arr[ctry]) {
```

```
for (var i in arr)  
  if (arr[i]) txt += i + " ";
```

```
if (arr[ctry]) {
```

```
for (var i; i < arr.length(); i++)  
  if (arr[i]) txt += i + " ";
```

```
for (var i in arr)  
  txt += i + " ";
```



```
<input id="Country" type="text" />  
<input type="button" value="submit" onclick="validate()" />  
<div id="valid"></div>  
<script>  
  function validate() {  
    var arr = new Array();  
    arr["US"] = true;  
    arr["CA"] = true;  
    arr["UK"] = false;  
  
    var ctry = document.getElementById("Country").value;
```

```
var txt = "Country is not valid. ";
```

Correct Answer:

```
if (arr[ctry]) {
```

```
for (var i; i < arr.length(); i++)  
  if (arr[i]) txt += i + " ";
```

```
for (var i in arr)  
  txt += i + " ";
```

```
<input id="Country" type="text" />  
<input type="button" value="submit" onclick="validate()" />  
<div id="valid"></div>
```

```
<script>
```

```
function validate() {  
  var arr = new Array();  
  arr["US"] = true;  
  arr["CA"] = true;  
  arr["UK"] = false;
```

```
var ctry = document.getElementById("Country").value;
```

```
if (!arr[ctry]) {
```

```
var txt = "Country is not valid. ";
```

Section: Volume B
Explanation

Explanation/Reference:

```
if (arr[ctry]) {
```

```
for (var i; i < arr.length(); i++)  
  if (arr[i]) txt += i + " ";
```

```
for (var i in arr)  
  txt += i + " ";
```

```
<input id="Country" type="text" />  
<input type="button" value="submit" onclick="validate()" />  
<div id="valid"></div>  
<script>  
  function validate() {  
    var arr = new Array();  
    arr["US"] = true;  
    arr["CA"] = true;  
    arr["UK"] = false;  
  
    var ctry = document.getElementById("Country").value;  
    if (!arr[ctry]) {  
      var txt = "Country is not valid. ";  
      txt += "Valid values are ";  
  
      for (var i in arr)  
        if (arr[i]) txt += i + " ";  
      document.getElementById("valid").innerText = txt;
```

* !arr[ctry] is true when the array element is false.

* The for..in statement iterates over the enumerable properties of an object, in arbitrary order. For each distinct property, statements can be executed.

Incorrect:

```
for (var i; i < arr.length() ; i++)  
  if (arr[i]) txt += i + " ";
```

Would work fine if var i; would be replaced by i=0;

Reference: JavaScript Arrays; The for..in statement

QUESTION 189

You are creating a web worker for an HTML5 application.

The following tasks must be performed from within the web worker:

- Register an event listener for the web worker
- Start and stop the web worker

You need to define a function that performs the required tasks.

Which line of code should you use? (To answer, drag the appropriate line or lines of code to the correct location or locations. Each line of code may be used once, more than once, or not at all.

You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
self.postMessage('Worker: ' + data);
```

```
self.addEventListener('message', function(event));
```

```
self.attachEvent('Worker', data);
```

```
self.terminate();
```

```
self.close();
```

.....

```
var data = event.data;  
switch (data.cmd) {  
  case 'start':  
      
    break;  
  case 'stop':  
      
    break;  
  default:  
    self.postMessage('Try again: ' + data.msg);  
};  
, false);
```

Correct Answer:

```
self.attachEvent('Worker', data);
```

```
self.terminate();
```

.....

```
self.addEventListener('message', function(event));
```

```
var data = event.data;
```

```
switch (data.cmd) {
```

```
case 'start':
```

```
self.postMessage('Worker: ' + data);
```

```
break;
```

```
case 'stop':
```

```
self.close();
```

```
break;
```

```
default:
```

```
self.postMessage('Try again: ' + data.msg);
```

```
};
```

```
}, false);
```

Section: Volume B
Explanation

Explanation/Reference:

```
self.attachEvent('Worker', data);
```

```
self.terminate();
```

```
self.addEventListener('message', function(event));
```

```
var data = event.data;
```

```
switch (data.cmd) {
```

```
  case 'start':
```

```
    self.postMessage('Worker: ' + data);
```

```
    break;
```

```
  case 'stop':
```

```
    self.close();
```

```
    break;
```

```
  default:
```

```
    self.postMessage('Try again: ' + data.msg);
```

```
};
```

```
}, false);
```

* addEventListener

The `addEventListener()` method attaches an event handler to the specified element. In context of a worker, both `self` and `this` refer to the global scope. The worker can either add an event listener for the message event, or it can define the `onmessage` handler to listen for any messages sent by the parent thread.

* `postmessage`

Pass a message to the worker.

* `close()`

Terminating Workers

Workers are resource-intensive; they are OS-level threads. Therefore, you do not want to create a large number of worker threads, and you should terminate the web worker after it completes its work. Workers can terminate themselves, like this:

```
self.close();
```

Reference: HTML DOM `addEventListener()` Method; The Basics of Web Workers

QUESTION 190

You are developing an airline reservation website by using HTML5 and JavaScript. A page on the site allows users to enter departure and destination airport information and to search for tickets.

You have the following requirements:

- Users must be able to save information in the application about their favorite destination airport.
- The airport information must be displayed in the destination text box whenever the user returns to the page.

You need to develop the site to meet the requirements.

Which line or lines of code should you use? (To answer, drag the appropriate command or commands from the list of commands to the correct location or locations in the work area. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Select and Place:

```
var dest = localStorage.destination;
```

```
localStorage.destination = dest;
```

```
var dest = sessionStorage.destination;
```

```
sessionStorage.destination = dest;
```

```
<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {
      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;
    }
  </script>
</body>
```

Correct Answer:

```
var dest = sessionStorage.destination;
```

```
sessionStorage.destination = dest;
```

```
<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {
      var dest = localStorage.destination;

      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;
      localStorage.destination = dest;
    }
  </script>
</body>
```

Section: Volume B
Explanation

Explanation/Reference:

```
var dest = sessionStorage.destination;
```

```
sessionStorage.destination = dest;
```

.....

```
<body>
  <input id="txtDest" type="text" />
  <input type="button" value="Submit"
    onclick="storeDestination('txtDest')" />
  <script>
    showDestination();
    function showDestination() {
      var dest = localStorage.destination;

      if (dest != null)
        document.getElementById("txtDest").value = dest;
    }

    function storeDestination(id) {
      var dest = document.getElementById(id).value;

      localStorage.destination = dest;
    }
  </script>
</body>
```

- * retrieve localStorage.destination
- * store localStorage.destination

QUESTION 191

You are developing a web page that will be divided into three vertical sections. The main content of the site will be placed in the center section. The two outer sections will contain advertisements.

You have the following requirements:

- The main content section must be set to two times the width of the advertising sections.
- The layout must be specified by using the CSS3 flexible box model.

You need to ensure that the visual layout of the page meets the requirements.

Which CSS3 property should you use?

- A. box-orient
- B. box-flex-group
- C. box-flex
- D. box-direction

Correct Answer: C

Section: Volume A

Explanation

Explanation/Reference:

Explanation: box-flex

Values: 0 | Any integer

The flexibility ratio for this child. If a child had 1 and its sibling had 2, any additional space in the parent box would be consumed twice as much by the sibling. It defaults to 0 which is inflexible.

Reference: Quick hits with the Flexible Box Model

<http://www.html5rocks.com/en/tutorials/flexbox/quick/>

QUESTION 192

You are developing an HTML5 page. The page includes the following code.

```
<p id="outer" style="position:relative">
  <p id="inner"></p>
</p>
```

The inner paragraph must be exactly 15 pixels from the top left corner of the outer paragraph. You set the left style for the inner paragraph to the appropriate value.

You need to set the position property of the inner paragraph.

Which value should you use?

- A. absolute
- B. static
- C. fixed
- D. relative

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: absolute: The element is positioned relative to its first positioned (not static) ancestor element.

Incorrect:

Not D:

relative: The element is positioned relative to its normal position, so "left:20" adds 20 pixels to the element's LEFT position.

Reference: CSS position Property

http://www.w3schools.com/cssref/pr_class_position.asp

QUESTION 193

You are developing a customer web form that includes the following HTML input field.

```
<input id="txtValue"/>
```

If a customer enters a value in the input field, then it must be a numeric value.

You need to add validation to the input field.

Which HTML should you use?

- A. `<input id="txtValue" type="text" pattern="/#" />`
- B. `<input id="txtValue" type="number" />`
- C. `<input id="txtVa!ue" type="integer" />`
- D. `<input id="txtValue" type="text" required="required"/>`

Correct Answer: B

Section: Volume A

Explanation

Explanation/Reference:

Explanation: HTML5 Input Types:

color
date
datetime

datetime-local
email
month
number
range
search
tel
time
url
week

Reference: HTML Input Types

http://www.w3schools.com/html/html5_form_input_types.asp

QUESTION 194

You are developing a customer web form that includes the following HTML.

```
<input id="txtValue"/>
```

You need to change the HTML markup so that customers can enter only a valid three-letter country code.

Which HTML should you use?

- A. `<input id="txtValue" type="code" />`
- B. `<input id="txtValue" type="text" pattern=" [A-Za-z] {3}" />`
- C. `<input id="txtValue" type="text" required="required"/>`
- D. `<input id="txtValue" type="country" />`

Correct Answer: B

Section: Volume A

Explanation

Explanation/Reference:

Explanation: HTML `<input>` pattern Attribute

The pattern attribute specifies a regular expression that the `<input>` element's value is checked against.

Example

An HTML form with an input field that can contain only three letters (no numbers or special characters):

```
<form action="demo_form.asp">
Country code: <input type="text" name="country_code"
pattern="[A-Za-z]{3}" title="Three letter country code"> <input type="submit">
</form>
```

Reference: HTML `<input>` pattern Attribute

http://www.w3schools.com/tags/att_input_pattern.asp

QUESTION 195

You are developing a web form that includes the following HTML.

```
<input id="txtValue" type="text" />
```

You need to ensure that a value is entered into txtValue before the form is submitted.

Which code segment should you use?

A.

```
function validate() {
    var name = $("#txtValue").val();
    if (name == null || name == "")
        alert("please enter valid value");
    return;
}
```

B.

```
function validate() {
    var value = $("#txtValue").val();
    var regex = /^[\\d\\,\\.]*$/;
    if (!regex.test(value))
        alert("please enter valid value");
    return;
}
```

C.

```
function validate() {
    var name = $("#txtValue").get();
    if (name == null || name == "")
        alert("please enter valid value");
    return;
}
```

D.

```
function validate() {
    var value = $("#txtValue").get();
    var regex = /^[A-Za-z]{3}/;
    if (!regex.test(value) || value == "")
        alert("please enter valid value");
    return;
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section: Volume A

Explanation

Explanation/Reference:

Explanation: * Input Text Object Properties include:

value: Sets or returns the value of the value attribute of the text field

* Check if text is a null value or an empty string.

Incorrect:

not .get(): there is no input text object property get.

Reference: HTML DOM Input Text Object

QUESTION 196

You are developing a web page that consumes a Windows Communication Foundation (WCF)

service. The page includes the following code segment.

```
var xhr = new XMLHttpRequest() ;
```

The page uses the xhrHandler() method to listen for changes to the request status of the WCF service calls. It uses the xmlToJavaScript() method to convert the response from the WCF service to a JavaScript object.

The xhrHandler() method must be called automatically each time the request status changes.

You need to add the event handler to the request object.

Which line of code should you use?

- A. `xhr.onCallback = xhrHandler;`
- B. `xhr.onreadystatechange = xhrHandler;`

- C. xhr.readyState = xhrHandler;
- D. xhr.status = xhrHandler;

Correct Answer: B
Section: Volume B
Explanation

Explanation/Reference:

Explanation:

/ onreadystatechange: Sets or retrieves the event handler for asynchronous requests. Specifies a reference to an event handler for an event that fires at every state change readyState

Returns the state of the object as follows:

- * 0 = uninitialized open() has not yet been called.
- * 1 = open send() has not yet been called.
- * 2 = sent send() has been called, headers and status are available.
- * 3 = receiving Downloading, responseText holds partial data (although this functionality is not available in IE [3])
- * 4 = loaded Done.

/ Example (assuming that there is a function handler()):

```
var oReq = getXMLHttpRequest();
if (oReq != null) {
oReq.open("GET", "http://localhost/test.xml", true);
oReq.onreadystatechange = handler;
oReq.send();
}
```

Reference: XMLHttpRequest object; XMLHttpRequest (XHR)

[https://msdn.microsoft.com/en-us/library/ie/ms535874\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/ie/ms535874(v=vs.85).aspx)

<http://mrfwebdesign.blogspot.ca/2008/11/xmlhttprequest-xhr.html>

QUESTION 197

You are developing a customer web form that includes following HTML.

```
<input id="txtValue"/>
```

You need to develop the form so that customers can enter only a valid country code consisting of three English alphabet characters.

Which code segment should you use?

A.

```
function validate() {
    var name = $("#txtValue").text();
    if (name == null || name == "")
        alert("please enter valid value");
    return;
}
```

B.

```
function validate() {
    var value = $("#txtValue").text();
    var regex = /^[\\d\\,\\.]*$/;
    if (!regex.test(value) || name == "")
        alert("please enter valid value");
    return;
}
```

C.

```
function validate() {
    var value = $("#txtValue").val();
    var regex = /^[A-Za-z]{3}/;
    if (!regex.test(value) || value == "")
        alert("please enter valid value");
    return;
}
```

D.

```
function validate() {
    var name = $("#txtValue").val();
    if (name == null || name == "")
        alert("please enter valid value");
    return;
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: C
Section: Volume B
Explanation

Explanation/Reference:

Explanation: * The val() method returns or sets the value attribute of the selected elements.

* HTML <input> pattern Attribute

The pattern attribute specifies a regular expression that the <input> element's value is checked against.

Example

An HTML form with an input field that can contain only three letters (no numbers or special characters):

```
<form action="demo_form.asp">  
Country code: <input type="text" name="country_code"  
pattern="[A-Za-z]{3}" title="Three letter country code"> <input type="submit">  
</form>
```

Reference: HTML <input> pattern Attribute

http://www.w3schools.com/tags/att_input_pattern.asp

QUESTION 198

You are developing an application that consumes an external web service that returns the latest stock rate.

The application has two methods:

- The getResults() method makes an AJAX web service request
- The ShowRate() method displays the stock rate from the web service response

You need to ensure that the ShowRate() method always displays the latest stock rate.

Which code segment should you use?

A.

```
function getResults(){
$.ajax({
  type: 'POST',
  cache:true,
  url: "StockRates.asmx/GetRate",
  data: { 'StockName': stockName }
  dataType: 'json',
  success: function (result) {
    stockRate = result;
  });
  ShowRate();
}

function ShowRate() {
  alert(stockRate);
}
```

B.

```
var stockRate;
function getResults(){
$.ajax({
  async: false,
  type: 'POST',
  url: "StockRates.asmx/GetRate",
  data: { 'StockName': stockName },
  dataType: 'json',
  success: function (result) {
    stockRate = result;
  });
  ShowRate();
}

function ShowRate() {
  alert(stockRate);
}
```

C.

```
var stockRate;
function getResults(){
$.ajax({
  async: true,
  type: 'POST',
  url: "StockRates.asmx/GetRate",
  data: { 'StockName': stockName },
  dataType: 'json',
  success: function (result) {
    stockRate = result;
  });
  ShowRate();
}

function ShowRate() {
  alert(stockRate);
}
```

D.

```
var stockRate;
function getResults(){
$.ajax({
  async: false,
  cache:false,
  type: 'POST',
  url: "StockRates.asmx/GetRate",
  data: { 'StockName': stockName },
  dataType: 'json',
  success: function (result) {
    stockRate = result;
  });
  ShowRate();
}

function ShowRate() {
  alert(stockRate);
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

Section: Volume B

Explanation

Explanation/Reference:

Explanation: " always displays the latest stock rate ". Should use cache: false

Note: cache (default: true, false for dataType 'script' and 'jsonp') Type: Boolean
If set to false, it will force requested pages not to be cached by the browser.

Reference: jQuery.ajax()

QUESTION 199

You are creating a JavaScript function to display the current version of a web application

You declare a button as follows.

```
<input type="button" id="About" value="About" />
```

You need to create an event handler for the button by using an anonymous function.

Which code segment should you use?

- A. `var button = document.getElementById("About");
button.addEventListener('click', function { alert("Version 2.1.0") });`
- B. `var button = document.getElementById("About");
button.addEventListener('click', function (alert("Version 2.1.0")));`
- C. `var button = document.getElementById("About");
button.addEventListener('click', function () { alert("Version 2.1.0") });`
- D. `var button = document.getElementById("About");
button.addEventListener('click', alert("Version 2.1.0"));`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: C
Section: Volume B
Explanation

Explanation/Reference:

Explanation: Example

When passing parameter values, use an "anonymous function" that calls the specified function with the parameters:

```
document.addEventListener("click", function() {  
  myFunction(p1, p2);  
});
```

Reference: HTML DOM addEventListener() Method

QUESTION 200

You develop an HTML5 webpage. You have the following HTML markup:

```
<input type="text" id="username" />
```

You need to prevent users from entering specific characters into the username field.

What should you do?

- A. Using the keyup event, add an anonymous function that returns true when a specific character keycode value is determined.
- B. Using the change event, add an anonymous function that returns true when a specific character keycode value is determined.
- C. Using the keydown event, add an anonymous function that returns false when a specific character keycode value is determined.
- D. Using the change event, add an anonymous function that returns false when a specific character keycode value is determined.

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The change event is fired for <input>, <select>, and <textarea> elements when a change to the element's value is committed by the user.

Use the change event and an anonymous function to detect illegal specific characters in the input.

QUESTION 201

You troubleshoot a webpage that contains the following HTML markup: (Line numbers are included for reference only.)

```
01 <div onclick="someEvent()">
02   <input type="radio" name="sizeRadio" id="sizeRadioSml" value="1" />
   <label for="sizeRadioSml">Small</label>
03   <input type="radio" name="sizeRadio" id="sizeRadioMed" value="2" />
   <label for="sizeRadioMed">Medium</label>
04   <input type="radio" name="sizeRadio" id="sizeRadioLrg" value="3" />
   <label for="sizeRadioLrg">Large</label>
05 </div>
```

The webpage also contains the following JavaScript function named someEvent() that is declared in the HEAD section of the HTML:

```
Function someEvent() {
Alert('someEvent fired!');
```

```
}
```

The JavaScript function named `someEvent()` must run only when the user clicks the DIV element, not the INPUT elements.

You need to modify the webpage to invoke the JavaScript function named `someEvent()`.

What should you do? (Each correct answer presents a complete solution. Choose two.)

- A. Modify all INPUT elements by using the following HTML attribute:

```
onclick="stopPropagation(event) "
```

Declare the JavaScript function named **stopPropagation()** in the HEAD section of the HTML as follows:

```
function stopPropagation(event) {  
    event = event || window.event;  
    if (event.stopPropagation) {  
        event.stopPropagation();  
    } else {  
        event.cancelBubble = true;  
    }  
}
```

- B. Place all INPUT elements within a SPAN element.

- C. Replace the DIV element declaration at line 01 with the following HTML markup:

```
<div onclick="someEvent(this, event) ">
```

Modify the JavaScript function named **someEvent()** as follows:

```
function someEvent( e1, event ) {  
    var target = event.srcElement || event.target;  
    if( e1 === target ) {  
        alert('someEvent fired!');  
    }  
}
```

- D. Replace the DIV element declaration at line 01 with the following HTML markup:

```
<div>
```

Modify all INPUT elements by using the following HTML attribute:

```
onclick="someEvent() "
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: AB

Section: Volume D

Explanation

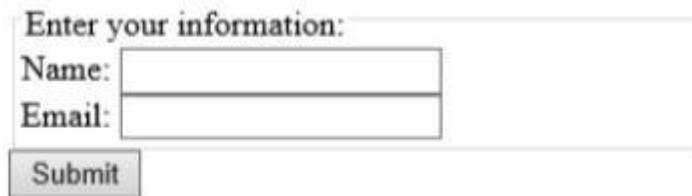
Explanation/Reference:

QUESTION 202

You develop a webpage by using HTML5.

The user interface of the webpage must show a gray-lined box that contains the label Enter your information:. Inside the box are two labels and two input boxes. The first input box must be labeled Name:. The second input box must be labeled Email:. Below the box is a Submit button.

The user interface must look like the following;



The image shows a user interface form. At the top, there is a label "Enter your information:". Below this label, there are two input fields. The first input field is labeled "Name:" and the second input field is labeled "Email:". Below the input fields, there is a "Submit" button.

You need to create the user interface.

Which markup should you use?

- C A.

```
<table border="1">
  <tr>
    <td>Enter your information:<br />
      Name: <input type="text" /><br />
      Email: <input type="email" /><br />
    </td>
  </tr>
</table>
<button value="submit">Submit</button>
```
- C B.

```
<fieldset>
  <legend>Enter your information:</legend>
  Name: <input type="text" /><br />
  Email: <input type="email" /><br />
</fieldset>
<button value="submit">Submit</button>
```
- C C.

```
<details>
  <label>Enter your information:</label>
  Name: <input type="text" /><br />
  Email: <input type="email" /><br />
</details>
<button value="submit">Submit</button>
```
- C D.

```
<section>
  <label>Enter your information:</label>
  Name: <input type="text" /><br />
  Email: <input type="email" /><br />
</section>
<button value="submit">Submit</button>
```

- A. Option A
B. Option B
C. Option C

D. Option D

Correct Answer: B

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * The <fieldset> tag is used to group related elements in a form. The <fieldset> tag draws a box around the related elements. The <legend> tag defines a caption for the <fieldset> element.

Example:

Group related elements in a form:

```
<form>
<fieldset>
<legend>Personalia:</legend>
Name: <input type="text"><br>
Email: <input type="text"><br>
Date of birth: <input type="text">
</fieldset>
</form>
```

Reference: HTML <fieldset> Tag; HTML <legend> Tag

QUESTION 203

You are developing a customer contact form that will be displayed on a page of a company's website. The page collects information about the customer.

If a customer enters a value before submitting the form, it must be a valid email address.

You need to ensure that the data validation requirement is met.

What should you use?

- A. <input name="email" type="input" required="required"/>
- B. <input name="email" type="url" required="email"/>
- C. <input name="email" class="email"/>
- D. <input name="email" type="email"/>

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: The `<input type="email">` is used for input fields that should contain an e-mail address.

Depending on browser support, the e-mail address can be automatically validated when submitted.

Some smartphones recognize the email type, and adds ".com" to the keyboard to match email input.

Reference: HTML Input Types

QUESTION 204

You are developing an application to track project management for your company. The status of the project is stored in a variable named `percentComplete`.

The method must execute only when `percentComplete` is equal to the numeric value 100.

You need to develop the application to meet the requirement.

Which code segment should you use?

- A. `if (percentComplete = 100 || percentComplete != 100) {
 ...
}`
- B. `if (percentComplete = 100 && percentComplete != 100) {
 ...
}`
- C. `if (percentComplete % 100) {
 ...
}`
- D. `if (percentComplete === 100) {
 ...
}`
- E. `if (percentComplete = 100) {
 ...
}`

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D

Section: Volume D

Explanation

Explanation/Reference:

Explanation: ===: This is "strict" or "identical" equality.

Reference: JavaScript Triple Equals Operator vs Double Equals Operator (=== vs ==)

QUESTION 205

You have a webpage that includes the following markup and code:

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function start() {
        var counter = 10;
        var fun = function () {
          counter = 20;
        }
        return counter;
      }
    </script>
  </head>
  <body>
    <button id="submit" onclick="alert(start());">Start</button>
  </body>
</html>
```

You need to troubleshoot the code by clicking the Submit button.

Which value will be displayed?

- A. 10
- B. 20
- C. Undefined
- D. Runtime error

Correct Answer: A

Section: Volume D

Explanation

Explanation/Reference:

Explanation: * The outermost assignment, counter = 10; will decide the output that is displayed.

* Local variables have local scope: They can only be accessed within the function.

Example

```
// code here can not use carName
function myFunction() {
```

```
var carName = "Volvo";  
// code here can use carName  
}
```

* A variable declared outside a function, becomes GLOBAL. A global variable has global scope: All scripts and functions on a web page can access it.

Example

```
var carName = "Volvo";  
// code here can use carName  
function myFunction() {  
// code here can use carName  
}
```

Reference: JavaScript Scope