

AI-102.premium.54q - DEMO

Number: AI-102
Passing Score: 800
Time Limit: 120 min



AI-102

Designing and Implementing a Microsoft Azure AI Solution



Question Set 1

QUESTION 1

DRAG DROP

You have 100 chatbots that each has its own Language Understanding model.

Frequently, you must add the same phrases to each model.

You need to programmatically update the Language Understanding models to include the new phrases.

How should you complete the code? To answer, drag the appropriate values to the correct targets. Each value 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Values

AddPhraseListAsync
Phraselist
PhraselistCreateObject
Phrases
SavePhraselistAsync
UploadPhraseListAsync

Answer Area

```
var phraselistId = await client.Features.  
(appId, versionId, new  
{  
    EnabledForAllModels = false,  
    IsExchangeable = true,  
    Name = "PL1",  
    Phrases = "item1,item2,item3,item4,item5"  
});
```

Correct Answer:

Values

AddPhraseListAsync
Phraselist
PhraselistCreateObject
Phrases
SavePhraselistAsync
UploadPhraseListAsync

Answer Area

```
var phraselistId = await client.Features.  
(appId, versionId, new  
{  
    EnabledForAllModels = false,  
    IsExchangeable = true,  
    Name = "PL1",  
    Phrases = "item1,item2,item3,item4,item5"  
});
```

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: AddPhraseListAsync

Example: Add phraselist feature

```
var phraselistId = await client.Features.AddPhraseListAsync(appId, versionId, new PhraselistCreateObject  
{  
    EnabledForAllModels = false,  
    IsExchangeable = true,  
    Name = "QuantityPhraselist",  
    Phrases = "few,more,extra"  
});
```

Box 2: PhraselistCreateObject

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/client-libraries-rest-api>

QUESTION 2

DRAG DROP

You plan to use a Language Understanding application named app1 that is deployed to a container.

App1 was developed by using a Language Understanding authoring resource named lu1.

App1 has the versions shown in the following table.

Version	Trained date	Published date
V1.2	None	None
V1.1	2020-10-01	None
V1.0	2020-09-01	2020-09-15

You need to create a container that uses the latest deployable version of app1.

Which three 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. (Choose three.) **Select**

and Place:

Actions

Run a container that has version set as an environment variable.

Export the model by using the Export as JSON option.

Select v1.1 of app1.

Run a container and mount the model file.

Select v1.0 of app1.

Export the model by using the Export for containers (GZIP) option.

Select v1.2 of app1.

Answer Area

Correct Answer:

Actions

Run a container that has `version` set as an environment variable.

Export the model by using the Export as JSON option.

Select v1.1 of app1.

Run a container and mount the model file.

Select v1.0 of app1.

Export the model by using the Export for containers (GZIP) option.

Select v1.2 of app1.

Answer Area

Export the model by using the Export for containers (GZIP) option.

Select v1.1 of app1.

Run a container and mount the model file.

VCEUp

Section: [none]

Explanation

Explanation/Reference:

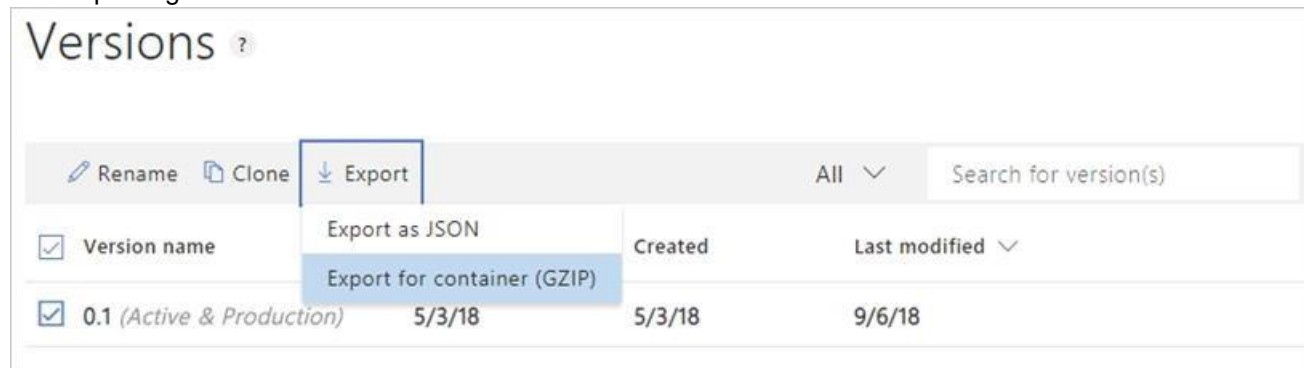
Explanation:

Step 1: Export the model using the Export for containers (GZIP) option.

Export versioned app's package from LUIS portal

The versioned app's package is available from the Versions list page.

1. Sign on to the LUIS portal.
2. Select the app in the list.
3. Select Manage in the app's navigation bar.
4. Select Versions in the left navigation bar.
5. Select the checkbox to the left of the version name in the list.
6. Select the Export item from the contextual toolbar above the list.
7. Select Export for container (GZIP).
8. The package is downloaded from the browser.



Step 2: Select v1.1 of app1.

A trained or published app packaged as a mounted input to the container with its associated App ID.

Step 3: Run a container and mount the model file.
Run the container, with the required input mount and billing settings.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-container-howto>

QUESTION 3 You need to build a chatbot that meets the following requirements:

- Supports chit-chat, knowledge base, and multilingual models
- Performs sentiment analysis on user messages
- Selects the best language model automatically

What should you integrate into the chatbot?

- A. QnA Maker, Language Understanding, and Dispatch
- B. Translator, Speech, and Dispatch
- C. Language Understanding, Text Analytics, and QnA Maker
- D. Text Analytics, Translator, and Dispatch

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Language Understanding: An AI service that allows users to interact with your applications, bots, and IoT devices by using natural language.

QnA Maker is a cloud-based Natural Language Processing (NLP) service that allows you to create a natural conversational layer over your data. It is used to find the most appropriate answer for any input from your custom knowledge base (KB) of information.

Text Analytics: Mine insights in unstructured text using natural language processing (NLP)—no machine learning expertise required. Gain a deeper understanding of customer opinions with sentiment analysis. The Language Detection feature of the Azure Text Analytics REST API evaluates text input

Incorrect Answers:

A, B, D: Dispatch uses sample utterances for each of your bot's different tasks (LUIS, QnA Maker, or custom), and builds a model that can be used to properly route your user's request to the right task, even across multiple bots.

Reference: <https://azure.microsoft.com/en-us/services/cognitive-services/text-analytics/>

<https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/overview/overview>

QUESTION 4

Your company wants to reduce how long it takes for employees to log receipts in expense reports. All the receipts are in English.

You need to extract top-level information from the receipts, such as the vendor and the transaction total. The solution must minimize development effort.

Which Azure Cognitive Services service should you use?

- A. Custom Vision
- B. Personalizer
- C. Form Recognizer
- D. Computer Vision

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Azure Form Recognizer is a cognitive service that lets you build automated data processing software using machine learning technology. Identify and extract text, key/value pairs, selection marks, tables, and structure from your documents—the service outputs structured data that includes the relationships in the original file, bounding boxes, confidence and more.

Form Recognizer is composed of custom document processing models, prebuilt models for invoices, receipts, IDs and business cards, and the layout model.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/form-recognizer>

QUESTION 5

HOTSPOT

You need to create a new resource that will be used to perform sentiment analysis and optical character recognition (OCR). The solution must meet the following requirements:

- Use a single key and endpoint to access multiple services.
- Consolidate billing for future services that you might use.
- Support the use of Computer Vision in the future.

How should you complete the HTTP request to create the new resource? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

	▼	https://management.azure.com/subscriptions/xxxxxxx-xxxx-
PATCH		
POST		
PUT		

xxxx-xxxx-
xxxxxxxxxxxxx/resourceGroups/RG1/providers/Microsoft.CognitiveServices/
accounts/CS1?api-version=2017-04-18

```
{  
  "location": "West US",  
  "kind": " ",  
  "sku": {  
    "name": "S0"  
  },  
  "properties": {},  
  "identity": {  
    "type": "SystemAssigned"  
  }  
}
```

▼	"
CognitiveServices	
ComputerVision	
TextAnalytics	

Correct Answer:

Answer Area

	▼	https://management.azure.com/subscriptions/xxxxxxx-xxxx-
PATCH		
POST		
PUT		

xxxx-xxxx-
 xxxxxxxxxxxx/resourceGroups/RG1/providers/Microsoft.CognitiveServices/
 accounts/CS1?api-version=2017-04-18

```
{
  "location": "West US",
  "kind": "


|                   |   |
|-------------------|---|
|                   | ▼ |
| CognitiveServices |   |
| ComputerVision    |   |
| TextAnalytics     |   |


  ",
  "sku": {
    "name": "S0"
  },
  "properties": {},
  "identity": {
    "type": "SystemAssigned"
  }
}
```

VCEUp

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: PUT

Sample Request: PUT https://management.azure.com/subscriptions/00000000-0000-0000-0000-000000000000/resourceGroups/test-rg/providers/Microsoft.DeviceUpdate/accounts/contoso?api-version=2020-03-01-preview

Incorrect Answers:

PATCH is for updates.

Box 2: CognitiveServices

Microsoft Azure Cognitive Services provide us to use its pre-trained models for various Business Problems related to Machine Learning.

List of Different Services are:

- Decision
- Language (includes sentiment analysis)
- Speech
- Vision (includes OCR) ▪
- Web Search

Reference: <https://docs.microsoft.com/en-us/rest/api/deviceupdate/resourcemanager/accounts/create><https://www.analyticsvidhya.com/blog/2020/12/microsoft-azure-cognitive-services-api-for-ai-development/>

QUESTION 6 You are developing a new sales system that will process the video and text from a public-facing website.

You plan to monitor the sales system to ensure that it provides equitable results regardless of the user's location or background.

Which two responsible AI principles provide guidance to meet the monitoring requirements? Each correct answer presents part of the solution. (Choose two.) **NOTE:**

Each correct selection is worth one point.

- A. transparency
- B. fairness
- C. inclusiveness
- D. reliability and safety
- E. privacy and security

Correct Answer: BD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

AI systems should treat all people fairly.

AI systems should perform reliably and safely.

Reference: <https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/strategy/responsible-ai>

QUESTION 7

DRAG DROP

You plan to use containerized versions of the Anomaly Detector API on local devices for testing and in on-premises datacenters.

You need to ensure that the containerized deployments meet the following requirements:

- Prevent billing and API information from being stored in the command-line histories of the devices that run the container.
- Control access to the container images by using Azure role-based access control (Azure RBAC).

Which four 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. (Choose four.) **NOTE:**

More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Select and Place:

Actions

Answer Area

- | |
|--|
| Create a custom Dockerfile. |
| Pull the Anomaly Detector container image. |
| Distribute a <code>docker run</code> script. |
| Push the image to an Azure container registry. |
| Build the image. |
| Push the image to Docker Hub. |

Correct Answer:

Actions

Create a custom Dockerfile.
Pull the Anomaly Detector container image.
Distribute a <code>docker run</code> script.
Push the image to an Azure container registry.
Build the image.
Push the image to Docker Hub.

Answer Area

Pull the Anomaly Detector container image.
Create a custom Dockerfile.
Push the image to an Azure container registry.
Distribute a <code>docker run</code> script.

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Step 1: Pull the Anomaly Detector container image.

Step 2: Create a custom Dockerfile

Step 3: Push the image to an Azure container registry.

To push an image to an Azure Container registry, you must first have an image.

Step 4: Distribute the docker run script

Use the docker run command to run the containers.

Reference:

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-intro>**QUESTION 8**

HOTSPOT

You plan to deploy a containerized version of an Azure Cognitive Services service that will be used for text analysis.

You configure `https://contoso.cognitiveservices.azure.com` as the endpoint URI for the service, and you pull the latest version of the Text Analytics Sentiment Analysis container.

You need to run the container on an Azure virtual machine by using Docker.

How should you complete the command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.**Hot Area:**

Answer Area

```
docker run --rm -it -p 5000:5000 --memory 8g --cpus 1 \
```

▼ \
http://contoso.blob.core.windows.net
https://contoso.cognitiveservices.azure.com
mcr.microsoft.com/azure-cognitive-services/textanalytics/keyphrase
mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment

```
Eula=accept \
```

Billing= ▼ \
http://contoso.blob.core.windows.net
https://contoso.cognitiveservices.azure.com
mcr.microsoft.com/azure-cognitive-services/textanalytics/keyphrase
mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment

```
ApiKey=xxxxxxxxxxxxxxxxxxxx
```

Correct Answer:**Answer Area**

```
docker run --rm -it -p 5000:5000 --memory 8g --cpus 1 \
```

▼ \
http://contoso.blob.core.windows.net
https://contoso.cognitiveservices.azure.com
mcr.microsoft.com/azure-cognitive-services/textanalytics/keyphrase
mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment

```
Eula=accept \
```

Billing= ▼ \
http://contoso.blob.core.windows.net
https://contoso.cognitiveservices.azure.com
mcr.microsoft.com/azure-cognitive-services/textanalytics/keyphrase
mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment

```
ApiKey=xxxxxxxxxxxxxxxxxxxx
```

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment To run the Sentiment Analysis v3 container, execute the following docker run command. docker run --rm -it -p 5000:5000 --memory 8g --cpus 1 \ mcr.microsoft.com/azure-cognitive-services/textanalytics/sentiment \

```
Eula=accept \
```

```
Billing={ENDPOINT_URI} \
```

```
ApiKey={API_KEY} is the endpoint for accessing the Text Analytics API. https://<your-custom-subdomain>.cognitiveservices.azure.com
```

Box 2: https://contoso.cognitiveservices.azure.com

{ENDPOINT_URI} is the endpoint for accessing the Text Analytics API: https://<your-custom-subdomain>.cognitiveservices.a The endpoint for accessing the Text Analytics API. zure.com

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-install-containers?tabs=sentiment>

QUESTION 9

You have the following C# method for creating Azure Cognitive Services resources programmatically.

```
static void create_resource(CognitiveServicesManagementClient client, string
resource_name, string kind, string account_tier, string location)
{
    CognitiveServicesAccount parameters =
        new CognitiveServicesAccount(null, null, kind, location, resource_name,
new CognitiveServicesAccountProperties(), new Sku(account_tier));
    var result = client.Accounts.Create(resource_group_name, account_tier,
parameters);
}
```

You need to call the method to create a free Azure resource in the West US Azure region. The resource will be used to generate captions of images automatically.

Which code should you use?

- A. create_resource(client, "res1", "ComputerVision", "F0", "westus")
- B. create_resource(client, "res1", "CustomVision.Prediction", "F0", "westus") C. create_resource(client, "res1", "ComputerVision", "S0", "westus")
- D. create_resource(client, "res1", "CustomVision.Prediction", "S0", "westus")

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Many of the Cognitive Services have a free tier you can use to try the service. To use the free tier, use F0 as the SKU for your resource.

There are two tiers of keys for the Custom Vision service. You can sign up for a F0 (free) or S0 (standard) subscription through the Azure portal.

Incorrect Answers:

A: There is no free tier (F0) for ComputerVision.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/cognitive-services-apis-create-account-client-library?pivots=programming-language-csharp> <https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/limits-and-quotas>

QUESTION 10 You successfully run the following HTTP request.

```
POST https://management.azure.com/subscriptions/18c51a87-3a69-47a8-aedc-a54745f708a1/resourceGroups/RG1/providers/Microsoft.CognitiveServices/accounts/contosol/regenerateKey?
api-version=2017-04-18
Body{"keyName": "Key2"}
```

What is the result of the request?

- A. A key for Azure Cognitive Services was generated in Azure Key Vault.
- B. A new query key was generated.
- C. The primary subscription key and the secondary subscription key were rotated.
- D. The secondary subscription key was reset.

Correct Answer: B

Section: [none]

Explanation**Explanation/Reference:**

Explanation:

Accounts - Regenerate Key regenerates the specified account key for the specified Cognitive Services account.

Syntax:

POST <https://management.azure.com/subscriptions/{subscriptionId}/resourceGroups/{resourceGroupName}/providers/Microsoft.CognitiveServices/accounts/{accountName}/regenerateKey?api-version=2017-04-18>

Reference:

<https://docs.microsoft.com/en-us/rest/api/cognitiveservices/accountmanagement/accounts/regeneratekey>

QUESTION 11 You build a custom Form Recognizer model.

You receive sample files to use for training the model as shown in the following table.

Name	Type	Size
File1	PDF	20 MB
File2	MP4	100 MB
File3	JPG	20 MB
File4	PDF	100 MB
File5	GIF	1 MB
File6	JPG	40 MB

Which three files can you use to train the model? Each correct answer presents a complete solution. (Choose three.) **NOTE:**

Each correct selection is worth one point.

- A. File1
- B. File2
- C. File3
- D. File4
- E. File5
- F. File6

Correct Answer: ACF

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Input requirements

Form Recognizer works on input documents that meet these requirements:

Format must be JPG, PNG, PDF (text or scanned), or TIFF. Text-embedded PDFs are best because there's no possibility of error in character extraction and location. File size must be less than 50 MB.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/form-recognizer/overview>

Testlet 2**Case study**

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Overview

Existing Environment

A company named Wide World Importers is developing an e-commerce platform.

You are working with a solutions architect to design and implement the features of the e-commerce platform. The platform will use microservices and a serverless environment built on Azure.

Wide World Importers has a customer base that includes English, Spanish, and Portuguese speakers.

Applications

Wide World Importers has an App Service plan that contains the web apps shown in the following table.

Name	Description
Product Management	An app used by employees to create and manage products. The app and the expected inputs from the employees are in English.
Inventory Tracking	An app used by employees to manage inventory when dispatching orders, receiving refunds, and receiving consignments from suppliers.

Azure Resources

You have the following resources:

- An Azure Active Directory (Azure AD) tenant
 - The tenant supports internal authentication.
 - All employees belong to a group named AllUsers.
 - Senior managers belong to a group named LeadershipTeam.
- An Azure Functions resource
 - A function app posts to Azure Event Grid when stock levels of a product change between OK, Low Stock, and Out of Stock. The function app uses the Azure Cosmos DB change feed.
 - The account uses the Core (SQL) API.
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Storage account
 - The account contains blob containers for assets related to products.
 - The assets include images, videos, and PDFs.
- An Azure Cognitive Services resource named wwics
- A Video Indexer resource named wwivi

Requirements

Business Goals

Wide World Importers wants to leverage AI technologies to differentiate itself from its competitors.

Planned Changes

Wide World Importers plans to start the following projects:

- A product creation project: Help employees create accessible and multilingual product entries, while expediting product entry creation.

- A smart e-commerce project: Implement an Azure Cognitive Search solution to display products for customers to browse. ▪

A shopping on-the-go project: Build a chatbot that can be integrated into smart speakers to support customers. **Business**

Requirements

Wide World Importers identifies the following business requirements for all the projects:

- Provide a multilingual customer experience that supports English, Spanish, and Portuguese. ▪
- Whenever possible, scale based on transaction volumes to ensure consistent performance. ▪
- Minimize costs. ▪

Governance and Security Requirements

Wide World Importers identifies the following governance and security requirements:

- Data storage and processing must occur in datacenters located in the United States. ▪
- Azure Cognitive Services must be inaccessible directly from the internet.

Accessibility Requirements

Wide World Importers identifies the following accessibility requirements:

- All images must have relevant alt text.
 - All videos must have transcripts that are associated to the video and included in product descriptions. ▪
- Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Product Creation Requirements

Wide World Importers identifies the following requirements for improving the Product Management app:

- Minimize how long it takes for employees to create products and add assets. ▪
- Remove the need for manual translations.

Smart E-Commerce Requirements

Wide World Importers identifies the following requirements for the smart e-commerce project:

- Ensure that the Cognitive Search solution meets a Service Level Agreement (SLA) of 99.9% availability for searches and index writes.
 - Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.
 - Support autocompletion and autosuggestion based on all product name variants.
 - Store all raw insight data that was generated, so the data can be processed later.
 - Update the stock level field in the product index immediately upon changes. ▪
- Update the product index hourly.

Shopping On-the-Go Requirements

Wide World Importers identifies the following requirements for the shopping on-the-go chatbot:

- Answer common questions.
- Support interactions in English, Spanish, and Portuguese.
- Replace an existing FAQ process so that all Q&A is managed from a central location.
- Provide all employees with the ability to edit Q&As. Only senior managers must be able to publish updates.
- Support purchases by providing information about relevant products to customers. Product displays must include images and warnings when stock levels are low or out of stock. **Product**

JSON Sample

You have the following JSON sample for a product.


```

{
  "sku": "b1",
  "name": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "stocklevel": "Out of Stock",
  "description": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "image": {
    "uri": "https://upload.worldwideimporters.org/bicycle.jpg",
    "alttext": {
      "en": "Bicycle",
      "es": "Bicicleta",
      "pt": "Bicicleta"
    }
  },
  "createdUtc": "2020-02-14T06:08:39Z",
  "language": "en"
}

```

QUESTION 1

DRAG DROP

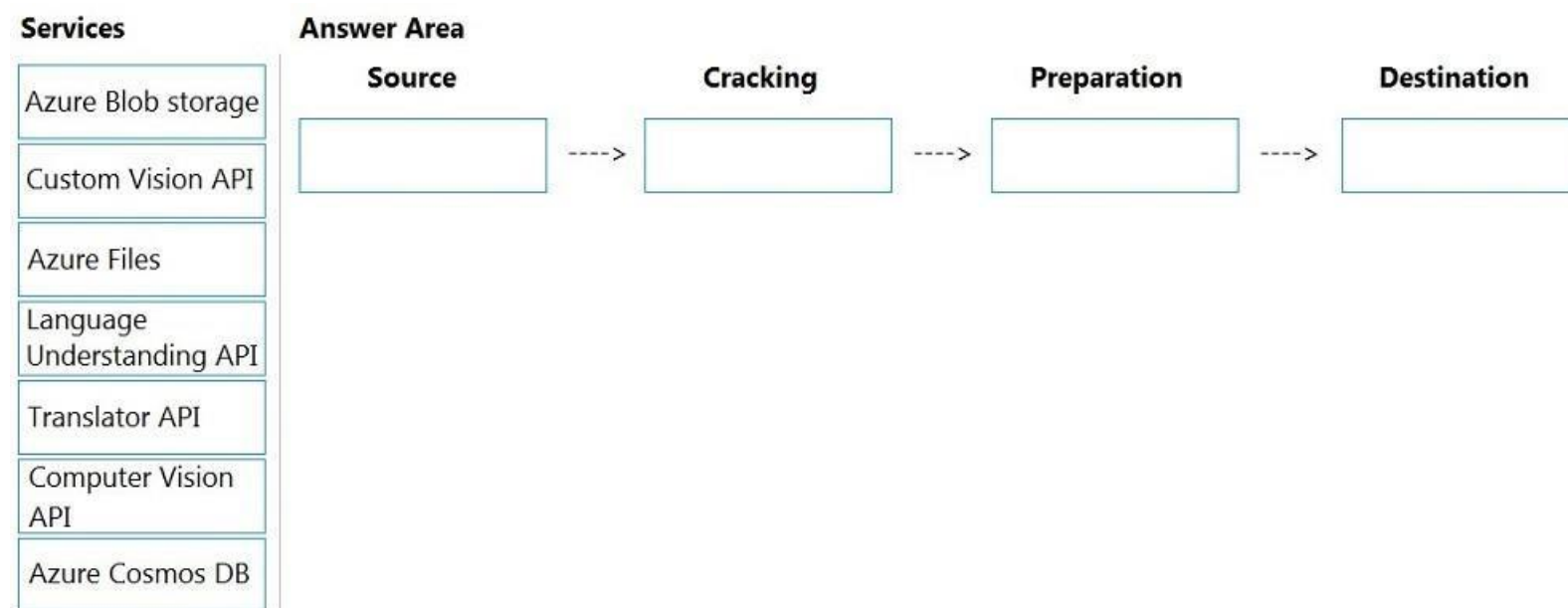
You are developing the smart e-commerce project.

You need to design the skillset to include the contents of PDFs in searches.

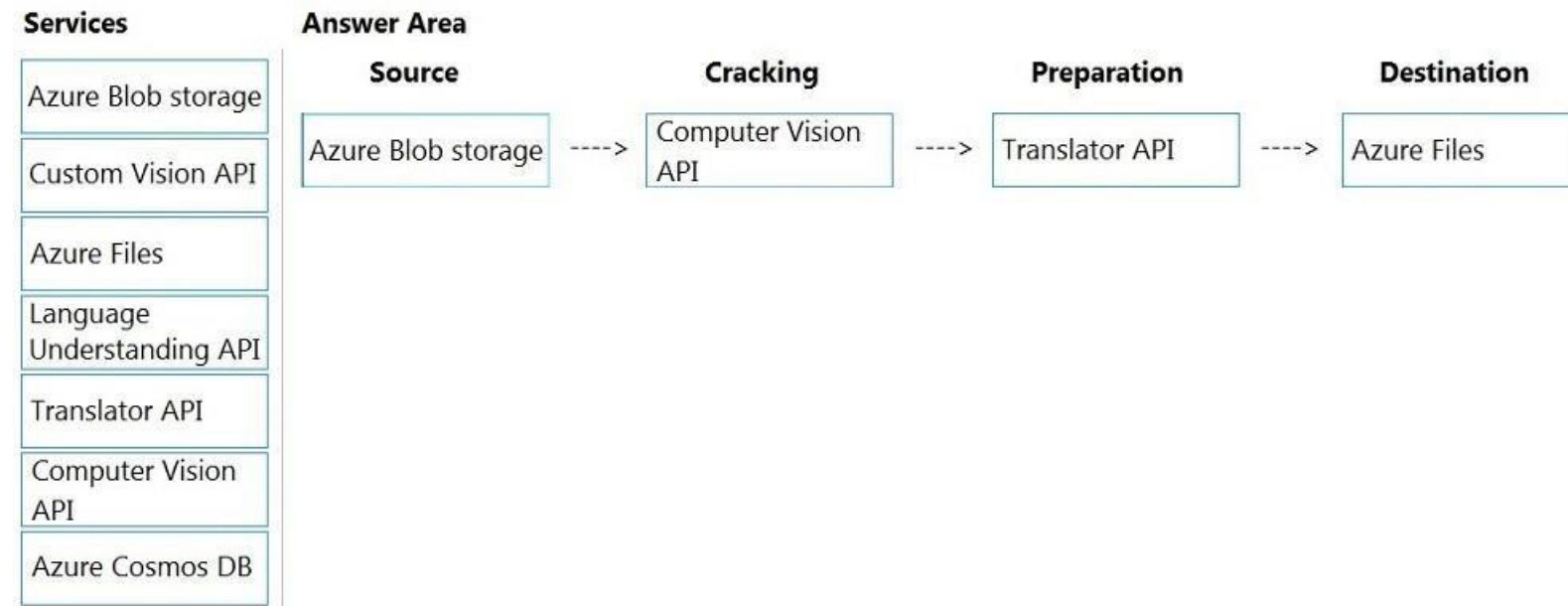
How should you complete the skillset design diagram? To answer, drag the appropriate services to the correct stages. Each service may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Azure Blob storage

At the start of the pipeline, you have unstructured text or non-text content (such as images, scanned documents, or JPEG files). Data must exist in an Azure data storage service that can be accessed by an indexer.

Box 2: Computer Vision API

Scenario: Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.

The Computer Vision Read API is Azure's latest OCR technology (learn what's new) that extracts printed text (in several languages), handwritten text (English only), digits, and currency symbols from images and multi-page PDF documents.

Box 3: Translator API

Scenario: Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Box 4: Azure Files

Scenario: Store all raw insight data that was generated, so the data can be processed later.

Incorrect Answers:

The custom vision API from Microsoft Azure learns to recognize specific content in imagery and becomes smarter with training and time.

Reference: [https://docs.microsoft.com/en-us/azure/search/cognitive-search-concept-](https://docs.microsoft.com/en-us/azure/search/cognitive-search-concept-intro)

[intro https://docs.microsoft.com/en-us/azure/cognitive-services/computer-](https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr)

[vision/overview-ocr](https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr) **Question Set 1**

QUESTION 1

You have a Video Indexer service that is used to provide a search interface over company videos on your company's website.

You need to be able to search for videos based on who is present in the video.

What should you do?

- A. Create a person model and associate the model to the videos.
- B. Create person objects and provide face images for each object.
- C. Invite the entire staff of the company to Video Indexer.
- D. Edit the faces in the videos.
- E. Upload names to a language model.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Video Indexer supports multiple Person models per account. Once a model is created, you can use it by providing the model ID of a specific Person model when uploading/indexing or reindexing a video. Training a new face for a video updates the specific custom model that the video was associated with.

Note: Video Indexer supports face detection and celebrity recognition for video content. The celebrity recognition feature covers about one million faces based on commonly requested data source such as IMDB, Wikipedia, and top LinkedIn influencers. Faces that aren't recognized by the celebrity recognition feature are detected but left unnamed. Once you label a face with a name, the face and name get added to your account's Person model. Video Indexer will then recognize this face in your future videos and past videos.

Reference: <https://docs.microsoft.com/en-us/azure/media-services/video-indexer/customize-person-model-with-api>

QUESTION 2 You use the Custom Vision service to build a classifier.

After training is complete, you need to evaluate the classifier.

Which two metrics are available for review? Each correct answer presents a complete solution. (Choose two.) **NOTE:**

Each correct selection is worth one point.

- A. recall
- B. F-score
- C. weighted accuracy
- D. precision
- E. area under the curve (AUC)

Correct Answer: AD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Custom Vision provides three metrics regarding the performance of your model: precision, recall, and AP.

Reference: <https://www.tallan.com/blog/2020/05/19/azure-custom-vision/>

QUESTION 3

DRAG DROP

You are developing a call to the Face API. The call must find similar faces from an existing list named employeefaces. The employeefaces list contains 60,000 images.

How should you complete the body of the HTTP request? To answer, drag the appropriate values to the correct targets. Each value 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Values

"faceListId"
"LargeFaceListId"
"matchFace"
"matchPerson"

Answer Area

```
{  
  "faceId": "18c51a87-3a69-47a8-aedc-a54745f708a1",  
  : "employeefaces",  
  "maxNumOfCandidatesReturned": 1,  
  "mode":   
}
```

Correct Answer:

Values

"faceListId"
"LargeFaceListId"
"matchFace"
"matchPerson"

Answer Area

```
{  
  "faceId": "18c51a87-3a69-47a8-aedc-a54745f708a1",  
  "LargeFaceListId": "employeefaces",  
  "maxNumOfCandidatesReturned": 1,  
  "mode": "matchFace"  
}
```

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: LargeFaceListID

LargeFaceList: Add a face to a specified large face list, up to 1,000,000 faces.

Note: Given query face's faceId, to search the similar-looking faces from a faceId array, a face list or a large face list. A "faceListId" is created by FaceList - Create containing persistedFaceIds that will not expire. And a "largeFaceListId" is created by LargeFaceList - Create containing persistedFaceIds that will also not expire.

Incorrect Answers:

Not "faceListId": Add a face to a specified face list, up to 1,000 faces.

Box 2: matchFace

Find similar has two working modes, "matchPerson" and "matchFace". "matchPerson" is the default mode that it tries to find faces of the same person as possible by using internal same-person thresholds. It is useful to find a known person's other photos. Note that an empty list will be returned if no faces pass the internal thresholds. "matchFace" mode ignores same-person thresholds and returns ranked similar faces anyway, even the similarity is low. It can be used in the cases like searching celebrity-looking faces.

Reference:

<https://docs.microsoft.com/en-us/rest/api/faceapi/face/findsimilar>

QUESTION 4

DRAG DROP

You are developing a photo application that will find photos of a person based on a sample image by using the Face API.

You need to create a POST request to find the photos.

How should you complete the request? To answer, drag the appropriate values to the correct targets. Each value 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.

NOTE: Each correct selection is worth one point.

Select and Place:

Values

detect
findsimilars
group
identify
matchFace
matchPerson
verify

Answer Area

POST {Endpoint}/face/v1.0/
Request Body

```
{
  "faceId": "c5c24a82-6845-4031-9d5d-978df9175426",
  "largeFaceListId": "sample_list",
  "largeFaceListId": "sample_list",
  "maxNumOfCandidatesReturned": 10,
  "mode": "  "
}
```

Correct Answer:**Values**

detect
findsimilars
group
identify
matchFace
matchPerson
verify

Answer Area

POST {Endpoint}/face/v1.0/
Request Body

```
{
  "faceId": "c5c24a82-6845-4031-9d5d-978df9175426",
  "largeFaceListId": "sample_list",
  "largeFaceListId": "sample_list",
  "maxNumOfCandidatesReturned": 10,
  "mode": "  "
}
```

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: detect

Face - Detect With Url: Detect human faces in an image, return face rectangles, and optionally with faceIds, landmarks, and attributes.

POST {Endpoint}/face/v1.0/detect

Box 2: matchPerson

Find similar has two working modes, "matchPerson" and "matchFace". "matchPerson" is the default mode that it tries to find faces of the same person as possible by using internal same-person thresholds. It is useful to find a known person's other photos. Note that an empty list will be returned if no faces pass the internal thresholds. "matchFace" mode ignores same-person thresholds and returns ranked similar faces anyway, even the similarity is low. It can be used in the cases like searching celebrity-looking faces.

Reference:

<https://docs.microsoft.com/en-us/rest/api/faceapi/face/detectwithurl> <https://docs.microsoft.com/en-us/rest/api/faceapi/face/findsimilar>

QUESTION 5**HOTSPOT**

You develop a test method to verify the results retrieved from a call to the Computer Vision API. The call is used to analyze the existence of company logos in images. The call returns a collection of brands named brands.

You have the following code segment.


```
foreach (var brand in brands)
{
    if (brand.Confidence >= .75)
        Console.WriteLine($"Logo of {brand.Name} between {brand.Rectangle.X},
{brand.Rectangle.Y} and {brand.Rectangle.W}, {brand.Rectangle.H}");
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The code will return the name of each detected brand with a confidence equal to or higher than 75 percent.	<input type="radio"/>	<input type="radio"/>
The code will return coordinates for the bottom-left corner of the rectangle that contains the brand logo of the displayed brands.	<input type="radio"/>	<input type="radio"/>
The code will return coordinates for the bottom-right corner of the rectangle that contains the brand logo of the displayed brands.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
The code will return the name of each detected brand with a confidence equal to or higher than 75 percent.	<input checked="" type="radio"/>	<input type="radio"/>
The code will return coordinates for the bottom-left corner of the rectangle that contains the brand logo of the displayed brands.	<input checked="" type="radio"/>	<input type="radio"/>
The code will return coordinates for the bottom-right corner of the rectangle that contains the brand logo of the displayed brands.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

Box 2: Yes

If several logs are detected, or the logo image and the stylized brand name are detected as two separate logos, it starts numbering them from the bottom-left corner.

Box 3: No

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-brand-detection>

QUESTION 6**HOTSPOT**

You develop an application that uses the Face API.

You need to add multiple images to a person group.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
Parallel.For(0, PersonCount, async i =>
{
    Guid personId = persons[i].PersonId;
    string personImageDir = $"/path/to/person/{i}/images";
    foreach (string imagePath in Directory.GetFiles(personImageDir, "*.jpg"))
    {
        using (  t = File.OpenRead(imagePath))
        {
            await faceClient.PersonGroupPerson. 
        }
    }
});
```

File
Stream
Uri
Url

AddFaceFromStreamAsync
AddFaceFromUrlAsync
CreateAsync
GetAsync

Correct Answer:

Answer Area

```
Parallel.For(0, PersonCount, async i =>
{
    Guid personId = persons[i].PersonId;
    string personImageDir = $"/path/to/person/{i}/images";
    foreach (string imagePath in Directory.GetFiles(personImageDir, "*.jpg"))
    {
        using (
            t = File.OpenRead(imagePath))

        {
            await faceClient.PersonGroupPerson.

        (personGroupId, personId, t);
        }
    }
});
```

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: Stream

The File.OpenRead(String) method opens an existing file for reading.

Example: Open the stream and read it back.

using (FileStream fs = File.OpenRead(path))

Box 2: CreateAsync

Create the persons for the PersonGroup. Persons are created concurrently.

Example:

await faceClient.PersonGroupPerson.CreateAsync(personGroupId, personName);

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/face/face-api-how-to-topics/how-to-add-faces>**QUESTION 7****HOTSPOT**

You are developing an application that will use the Computer Vision client library. The application has the following code.

```

public async Task AnalyzeImage(ComputerVisionClient client, string localImage)
{
    List<VisualFeatureTypes> features = new List<VisualFeatureTypes>()
    {
        VisualFeatureTypes.Description,
        VisualFeatureTypes.Tags,
    };
    using (Stream imageStream = File.OpenRead(localImage))
    {
        try
        {
            ImageAnalysis results = await client.AnalyzeImageInStreamAsync(imageStream, features);

            foreach (var caption in results.Description.Captions)
            {
                Console.WriteLine($"{caption.Text} with confidence {caption.Confidence}");
            }

            foreach (var tag in results.Tags)
            {
                Console.WriteLine($"{tag.Name} {tag.Confidence}");
            }
        }
        catch (Exception ex)
        {
            Console.WriteLine(ex.Message);
        }
    }
}

```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The code will perform face recognition.	<input type="radio"/>	<input type="radio"/>
The code will list tags and their associated confidence.	<input type="radio"/>	<input type="radio"/>
The code will read a file from the local file system.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
The code will perform face recognition.	<input type="radio"/>	<input checked="" type="radio"/>
The code will list tags and their associated confidence.	<input checked="" type="radio"/>	<input type="radio"/>
The code will read a file from the local file system.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: No

Box 2: Yes

The ComputerVision.analyzeImageInStreamAsync operation extracts a rich set of visual features based on the image content.

Box 3: No

Images will be read from a stream.

Reference: <https://docs.microsoft.com/en-us/java/api/com.microsoft.azure.cognitiveservices.vision.computervision.computervision.analyzeimageinstreamasync>

QUESTION 8

You are developing a method that uses the Computer Vision client library. The method will perform optical character recognition (OCR) in images. The method has the following code.

```
public static async Task ReadImageUrl(ComputerVisionClient client, string urlFile)
{
    const int numberOfCharsInOperationId = 36;

    var txtHeaders = await client.ReadAsync(urlFile, language: "en");

    string opLocation = txtHeaders.OperationLocation;
    string operationId = opLocation.Substring(opLocation.Length -
        numberOfCharsInOperationId);

    ReadOperationResult results;

    results = await client.GetReadResultAsync(Guid.Parse(operationId));

    var textUrlFileResults = results.AnalyzeResult.ReadResults;
    foreach (ReadResult page in textUrlFileResults)
    {
        foreach (Line line in page.Lines)
        {
            Console.WriteLine(line.Text);
        }
    }
}
```

During testing, you discover that the call to the `GetReadResultAsync` method occurs before the read operation is complete.

You need to prevent the `GetReadResultAsync` method from proceeding until the read operation is complete.

Which two actions should you perform? Each correct answer presents part of the solution. (Choose two.)

NOTE: Each correct selection is worth one point.

- A. Remove the `Guid.Parse(operationId)` parameter.
- B. Add code to verify the `results.Status` value.
- C. Add code to verify the status of the `txtHeaders.Status` value.
- D. Wrap the call to `GetReadResultAsync` within a loop that contains a delay.

Correct Answer: BD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Example code :

do

```
{
    results = await client.GetReadResultAsync(Guid.Parse(operationId));
}
while ((results.Status == OperationStatusCodes.Running ||
```

```
results.Status == OperationStatusCodes.NotStarted));
```

Reference: <https://github.com/Azure-Samples/cognitive-services-quickstart-code/blob/master/dotnet/ComputerVision/ComputerVisionQuickstart.cs>

Testlet 2

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Overview

Existing Environment

A company named Wide World Importers is developing an e-commerce platform.

You are working with a solutions architect to design and implement the features of the e-commerce platform. The platform will use microservices and a serverless environment built on Azure.

Wide World Importers has a customer base that includes English, Spanish, and Portuguese speakers.

Applications

Wide World Importers has an App Service plan that contains the web apps shown in the following table.

Name	Description
Product Management	An app used by employees to create and manage products. The app and the expected inputs from the employees are in English.
Inventory Tracking	An app used by employees to manage inventory when dispatching orders, receiving refunds, and receiving consignments from suppliers.

Azure Resources

You have the following resources:

- An Azure Active Directory (Azure AD) tenant
 - The tenant supports internal authentication.
 - All employees belong to a group named AllUsers.
 - Senior managers belong to a group named LeadershipTeam.
- An Azure Functions resource
 - A function app posts to Azure Event Grid when stock levels of a product change between OK, Low Stock, and Out of Stock. The function app uses the Azure Cosmos DB change feed.
 - The account uses the Core (SQL) API.
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Cosmos DB account
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Storage account
 - The account contains blob containers for assets related to products.
 - The assets include images, videos, and PDFs.
- An Azure Cognitive Services resource named wwics
- A Video Indexer resource named wwivi

Requirements

Business Goals

Wide World Importers wants to leverage AI technologies to differentiate itself from its competitors.

Planned Changes

Wide World Importers plans to start the following projects:

- A product creation project: Help employees create accessible and multilingual product entries, while expediting product entry creation.
- A smart e-commerce project: Implement an Azure Cognitive Search solution to display products for customers to browse. ▪

A shopping on-the-go project: Build a chatbot that can be integrated into smart speakers to support customers. **Business**

Requirements

Wide World Importers identifies the following business requirements for all the projects:

- Provide a multilingual customer experience that supports English, Spanish, and Portuguese. ▪
- Whenever possible, scale based on transaction volumes to ensure consistent performance. ▪
- Minimize costs.

Governance and Security Requirements

Wide World Importers identifies the following governance and security requirements:

- Data storage and processing must occur in datacenters located in the United States. ▪
- Azure Cognitive Services must be inaccessible directly from the internet.

Accessibility Requirements

Wide World Importers identifies the following accessibility requirements:

- All images must have relevant alt text.
 - All videos must have transcripts that are associated to the video and included in product descriptions. ▪
- Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Product Creation Requirements

Wide World Importers identifies the following requirements for improving the Product Management app:

- Minimize how long it takes for employees to create products and add assets. ▪
- Remove the need for manual translations.

Smart E-Commerce Requirements

Wide World Importers identifies the following requirements for the smart e-commerce project:

- Ensure that the Cognitive Search solution meets a Service Level Agreement (SLA) of 99.9% availability for searches and index writes.
 - Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.
 - Support autocompletion and autosuggestion based on all product name variants.
 - Store all raw insight data that was generated, so the data can be processed later.
 - Update the stock level field in the product index immediately upon changes. ▪
- Update the product index hourly.

Shopping On-the-Go Requirements

Wide World Importers identifies the following requirements for the shopping on-the-go chatbot:

- Answer common questions.
- Support interactions in English, Spanish, and Portuguese.
- Replace an existing FAQ process so that all Q&A is managed from a central location.
- Provide all employees with the ability to edit Q&As. Only senior managers must be able to publish updates.
- Support purchases by providing information about relevant products to customers. Product displays must include images and warnings when stock levels are low or out of stock. **Product**

JSON Sample

You have the following JSON sample for a product.

```
{
  "sku": "b1",
  "name": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "stocklevel": "Out of Stock",
  "description": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "image": {
    "uri": "https://upload.worldwideimporters.org/bicycle.jpg",
    "alttext": {
      "en": "Bicycle",
      "es": "Bicicleta",
      "pt": "Bicicleta"
    }
  },
  "createdUtc": "2020-02-14T06:08:39Z",
  "language": "en"
}
```

QUESTION 1**DRAG DROP**

You are planning the product creation project.

You need to recommend a process for analyzing videos.

Which four 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. (Choose four.) **Select**

and Place:

Actions

- Index the video by using the Video Indexer API.
- Upload the video to blob storage.
- Analyze the video by using the Computer Vision API.
- Extract the transcript from Microsoft Stream.
- Send the transcript to the Language Understanding API as an utterance.
- Extract the transcript from the Video Indexer API.
- Translate the transcript by using the Translator API.
- Upload the video to file storage.

Answer Area

Correct Answer:

Actions

- Index the video by using the Video Indexer API.
- Upload the video to blob storage.
- Analyze the video by using the Computer Vision API.
- Extract the transcript from Microsoft Stream.
- Send the transcript to the Language Understanding API as an utterance.
- Extract the transcript from the Video Indexer API.
- Translate the transcript by using the Translator API.
- Upload the video to file storage.

Answer Area

- Upload the video to blob storage.
- Index the video by using the Video Indexer API.
- Extract the transcript from the Video Indexer API.
- Translate the transcript by using the Translator API.

Section: [none]

Explanation**Explanation/Reference:**

Explanation:

Scenario: All videos must have transcripts that are associated to the video and included in product descriptions. Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Step 1: Upload the video to blob storage

Given a video or audio file, the file is first dropped into a Blob Storage. T

Step 2: Index the video by using the Video Indexer API.

When a video is indexed, Video Indexer produces the JSON content that contains details of the specified video insights. The insights include: transcripts, OCRs, faces, topics, blocks, etc.

Step 3: Extract the transcript from the Video Indexer API.

Step 4: Translate the transcript by using the Translator API.

Reference: <https://azure.microsoft.com/en-us/blog/get-video-insights-in-even-more-languages/>

<https://docs.microsoft.com/en-us/azure/media-services/video-indexer/video-indexer-output-json-v2>

Question Set 1**QUESTION 1**

You are building a Language Understanding model for an e-commerce platform.

You need to construct an entity to capture billing addresses.

Which entity type should you use for the billing address?

- A. machine learned
- B. Regex
- C. geographyV2
- D. Pattern.any
- E. list

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

A regular expression entity extracts an entity based on a regular expression pattern you provide. It ignores case and ignores cultural variant. Regular expression is best for structured text or a predefined sequence of alphanumeric values that are expected in a certain format. For example:

Entity	Regular expression	Example
Flight Number	flight [A-Z]{2} [0-9]{4}	flight AS 1234
Credit Card Number	[0-9]{16}	5478789865437632

VCEUp

Incorrect Answers:

C: The prebuilt geographyV2 entity detects places. Because this entity is already trained, you do not need to add example utterances containing GeographyV2 to the application intents. GeographyV2 entity is supported in English culture.

The geographical locations have subtypes:

Subtype	Purpose
poi	point of interest
city	name of city
countryRegion	name of country or region
continent	name of continent
state	name of state or province

D: Pattern.any is a variable-length placeholder used only in a pattern's template utterance to mark where the entity begins and ends.

E: A list entity represents a fixed, closed set of related words along with their synonyms. You can use list entities to recognize multiple synonyms or variations and extract a normalized output for them. Use the recommend option to see suggestions for new words based on the current list.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-entity-types>

QUESTION 2 You need to upload speech samples to a Speech Studio project.

How should you upload the samples?

- A. Combine the speech samples into a single audio file in the .wma format and upload the file.
- B. Upload a .zip file that contains a collection of audio files in the .wav format and a corresponding text transcript file.
- C. Upload individual audio files in the FLAC format and manually upload a corresponding transcript in Microsoft Word format.
- D. Upload individual audio files in the .wma format.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To upload your data, navigate to the Speech Studio . From the portal, click Upload data to launch the wizard and create your first dataset. You'll be asked to select a speech data type for your dataset, before allowing you to upload your data. The default audio streaming format is WAV

Use this table to ensure that your audio files are formatted correctly for use with Custom Speech:

Property	Value
File format	RIFF (WAV)
Sample rate	8,000 Hz or 16,000 Hz
Channels	1 (mono)
Maximum length per audio	2 hours
Sample format	PCM, 16-bit
Archive format	.zip
Maximum archive size	2 GB

VCEUp

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/how-to-custom-speech-test-and-train>

QUESTION 3 You are developing a method for an application that uses the Translator API.

The method will receive the content of a webpage, and then translate the content into Greek (el). The result will also contain a transliteration that uses the Roman alphabet.

You need to create the URI for the call to the Translator API.

You have the following URI.

`https://api.cognitive.microsofttranslator.com/translate?api-version=3.0`

Which three additional query parameters should you include in the URI? Each correct answer presents part of the solution. (Choose three.) **NOTE:**

Each correct selection is worth one point.

A. toScript=Cyrl

- B. from=el
- C. textType=html
- D. to=el
- E. textType=plain
- F. toScript=Latn

Correct Answer: CDF

Section: [none]

Explanation

Explanation/Reference:

Explanation:

C: textType is an optional parameter. It defines whether the text being translated is plain text or HTML text (used for web pages).

D: to is a required parameter. It specifies the language of the output text. The target language must be one of the supported languages included in the translation scope.

F: toScript is an optional parameter. It specifies the script of the translated text.

We use Latin (Roman alphabet) script.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/translator/reference/v3-0-translate>

QUESTION 4 You have a chatbot that was built by using the Microsoft Bot Framework.

You need to debug the chatbot endpoint remotely.

Which two tools should you install on a local computer? Each correct answer presents part of the solution. (Choose two.) **NOTE:**

Each correct selection is worth one point.

- A. Fiddler
- B. Bot Framework Composer
- C. Bot Framework Emulator
- D. Bot Framework CLI
- E. ngrok
- F. nginx

Correct Answer: CE

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Bot Framework Emulator is a desktop application that allows bot developers to test and debug bots, either locally or remotely.

ngrok is a cross-platform application that "allows you to expose a web server running on your local machine to the internet." Essentially, what we'll be doing is using ngrok to forward messages from external channels on the web directly to our local machine to allow debugging, as opposed to the standard messaging endpoint configured in the Azure portal.

Reference: <https://docs.microsoft.com/en-us/azure/bot-service/bot-service-debug-emulator>

QUESTION 5

DRAG DROP

You are building a retail chatbot that will use a QnA Maker service.

You upload an internal support document to train the model. The document contains the following question: "What is your warranty period?"

Users report that the chatbot returns the default QnA Maker answer when they ask the following question: "How long is the warranty coverage?"

The chatbot returns the correct answer when the users ask the following question: "What is your warranty period?"

Both questions should return the same answer.

You need to increase the accuracy of the chatbot responses.

Which three 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. (Choose three.) **Select and Place:**

Actions

- Add a new question and answer (QnA) pair.
- Retrain the model.
- Add additional questions to the document.
- Republish the model.
- Add alternative phrasing to the question and answer (QnA) pair.

Answer Area

Correct Answer:

Actions

- Add a new question and answer (QnA) pair.
- Retrain the model.
- Add additional questions to the document.
- Republish the model.
- Add alternative phrasing to the question and answer (QnA) pair.

Answer Area

- Add alternative phrasing to the question and answer (QnA) pair.
- Retrain the model.
- Republish the model.

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Add alternative phrasing to the question and answer (QnA) pair.
Add alternate questions to an existing QnA pair to improve the likelihood of a match to a user query.

Step 2: Retrain the model.

Periodically select Save and train after making edits to avoid losing changes.

Step 3: Republish the model

Note: A knowledge base consists of question and answer (QnA) pairs. Each pair has one answer and a pair contains all the information associated with that answer.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/how-to/edit-knowledge-base>

QUESTION 6 You need to measure the public perception of your brand on social media messages.

Which Azure Cognitive Services service should you use?

- A. Text Analytics
- B. Content Moderator
- C. Computer Vision
- D. Form Recognizer

Correct Answer: A

Section: [none]

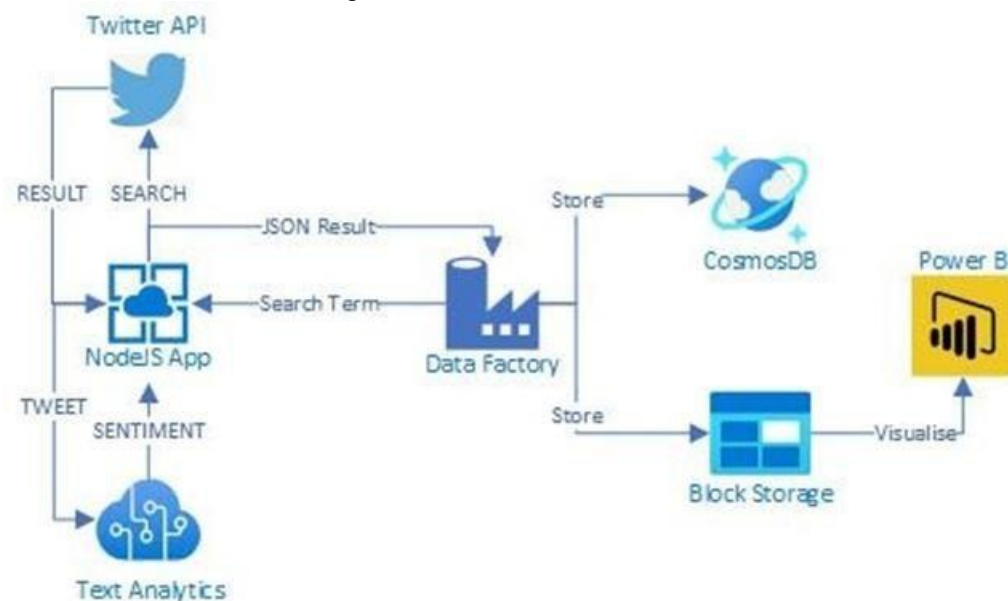
Explanation

Explanation/Reference:

Explanation:

Text Analytics Cognitive Service could be used to quickly determine the public perception for a specific topic, event or brand.

Example: A NodeJS app which pulls Tweets from Twitter using the Twitter API based on a specified search term. Then pass these onto Text Analytics for sentiment scoring before storing the data and building a visualisation in PowerBI. The Architecture looked something like this:



Reference: <https://www.linkedin.com/pulse/measuring-public-perception-azure-cognitive-services-steve-dalai>

QUESTION 7

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You build a language model by using a Language Understanding service. The language model is used to search for information on a contact list by using an intent named `FindContact`.

A conversational expert provides you with the following list of phrases to use for training.

- Find contacts in London.
- Who do I know in Seattle?
- Search for contacts in Ukraine.

You need to implement the phrase list in Language Understanding.

Solution: You create a new intent for location.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

An intent represents a task or action the user wants to perform. It is a purpose or goal expressed in a user's utterance.

Define a set of intents that corresponds to actions users want to take in your application.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-intent>

QUESTION 8

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You build a language model by using a Language Understanding service. The language model is used to search for information on a contact list by using an intent named `FindContact`.

A conversational expert provides you with the following list of phrases to use for training.

- Find contacts in London.
- Who do I know in Seattle?
- Search for contacts in Ukraine.

You need to implement the phrase list in Language Understanding.

Solution: You create a new entity for the domain.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead use a new intent for location.

Note: An intent represents a task or action the user wants to perform. It is a purpose or goal expressed in a user's utterance.

Define a set of intents that corresponds to actions users want to take in your application.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-intent>

QUESTION 9

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You build a language model by using a Language Understanding service. The language model is used to search for information on a contact list by using an intent named `FindContact`.

A conversational expert provides you with the following list of phrases to use for training.

- Find contacts in London.
- Who do I know in Seattle?
- Search for contacts in Ukraine.

You need to implement the phrase list in Language Understanding.

Solution: You create a new pattern in the `FindContact` intent.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:
Instead use a new intent for location.

Note: An intent represents a task or action the user wants to perform. It is a purpose or goal expressed in a user's utterance.

Define a set of intents that corresponds to actions users want to take in your application.

Reference:
<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-intent>

QUESTION 10

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You develop an application to identify species of flowers by training a Custom Vision model.

You receive images of new flower species.

You need to add the new images to the classifier.

Solution: You add the new images, and then use the Smart Labeler tool.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The model need to be extended and retrained.

Note: Smart Labeler to generate suggested tags for images. This lets you label a large number of images more quickly when training a Custom Vision model.

QUESTION 11

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You develop an application to identify species of flowers by training a Custom Vision model.

You receive images of new flower species.

You need to add the new images to the classifier.

Solution: You add the new images and labels to the existing model. You retrain the model, and then publish the model.

Does this meet the goal?

A. Yes

B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The model needs to be extended and retrained.

QUESTION 12

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You develop an application to identify species of flowers by training a Custom Vision model.

You receive images of new flower species.

You need to add the new images to the classifier.

Solution: You create a new model, and then upload the new images and labels.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The model needs to be extended and retrained.

QUESTION 13
HOTSPOT

You are developing a service that records lectures given in English (United Kingdom).

You have a method named `AppendToTranscriptFile` that takes translated text and a language identifier.

You need to develop code that will provide transcripts of the lectures to attendees in their respective language. The supported languages are English, French, Spanish, and German.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
static async Task TranslateSpeechAsync()
{
    var config = SpeechTranslationConfig.FromSubscription("69cad5cc-0ab3-4704-bdff-afbf4aa07d85", "uksouth");

    var lang = new List<string>
    {
        "en-GB",
        "fr", "de", "es",
        "French", "Spanish", "German",
        languages
    };

    config.SpeechRecognitionLanguage = "en-GB";
    lang.ForEach(config.AddTargetLanguage);

    using var audioConfig = AudioConfig.FromDefaultMicrophoneInput();
    using var recognizer = new
    {
        IntentRecognizer,
        SpeakerRecognizer,
        SpeechSynthesizer,
        TranslationRecognizer
    }(config, audioConfig);

    var result = await recognizer.RecognizeOnceAsync();
    if (result.Reason == ResultReason.TranslatedSpeech)
```

Correct Answer:

Answer Area

```
static async Task TranslateSpeechAsync()
{
    var config = SpeechTranslationConfig.FromSubscription("69cad5cc-0ab3-4704-bdff-afbf4aa07d85", "uksouth");

    var lang = new List<string>
    {
        "en-GB",
        "fr", "de", "es",
        "French", "Spanish", "German",
        languages
    };

    config.SpeechRecognitionLanguage = "en-GB";
    lang.ForEach(config.AddTargetLanguage);

    using var audioConfig = AudioConfig.FromDefaultMicrophoneInput();
    using var recognizer = new TranslationRecognizer(config, audioConfig);

    var result = await recognizer.RecognizeOnceAsync();
    if (result.Reason == ResultReason.TranslatedSpeech)
```

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: {"fr", "de", "es"}

A common task of speech translation is to specify target translation languages, at least one is required but multiples are supported. The following code snippet sets both French and German as translation language targets.

```
static async Task TranslateSpeechAsync()
{
    var translationConfig =
        SpeechTranslationConfig.FromSubscription(SPEECH__SUBSCRIPTION__KEY, SPEECH__SERVICE__REGION);

    translationConfig.SpeechRecognitionLanguage = "it-IT";

    // Translate to languages. See, https://aka.ms/speech/sttt-languages
    translationConfig.AddTargetLanguage("fr");
    translationConfig.AddTargetLanguage("de");
}
```

Box 2: TranslationRecognizer

After you've created a SpeechTranslationConfig, the next step is to initialize a TranslationRecognizer.

Example code:

```
static async Task TranslateSpeechAsync()
{
    var translationConfig =
        SpeechTranslationConfig.FromSubscription(SPEECH__SUBSCRIPTION__KEY, SPEECH__SERVICE__REGION);

    var fromLanguage = "en-US";
    var toLanguages = new List<string> { "it", "fr", "de" };
    translationConfig.SpeechRecognitionLanguage = fromLanguage;
    toLanguages.ForEach(translationConfig.AddTargetLanguage);

    using var recognizer = new TranslationRecognizer(translationConfig);
}
```

Testlet 2

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Overview

Existing Environment

A company named Wide World Importers is developing an e-commerce platform.

You are working with a solutions architect to design and implement the features of the e-commerce platform. The platform will use microservices and a serverless environment built on Azure.

Wide World Importers has a customer base that includes English, Spanish, and Portuguese speakers.

Applications

Wide World Importers has an App Service plan that contains the web apps shown in the following table.

Name	Description
Product Management	An app used by employees to create and manage products. The app and the expected inputs from the employees are in English.
Inventory Tracking	An app used by employees to manage inventory when dispatching orders, receiving refunds, and receiving consignments from suppliers.

Azure Resources

You have the following resources:

- An Azure Active Directory (Azure AD) tenant
 - The tenant supports internal authentication.
 - All employees belong to a group named AllUsers.
 - Senior managers belong to a group named LeadershipTeam.
- An Azure Functions resource
 - A function app posts to Azure Event Grid when stock levels of a product change between OK, Low Stock, and Out of Stock. The function app uses the Azure Cosmos DB change feed.
 - The account uses the Core (SQL) API.
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Cosmos DB account
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Storage account
 - The account contains blob containers for assets related to products.
 - The assets include images, videos, and PDFs.
- An Azure Cognitive Services resource named wwics
- A Video Indexer resource named wwivi

Requirements

Business Goals

Wide World Importers wants to leverage AI technologies to differentiate itself from its competitors.

Planned Changes

Wide World Importers plans to start the following projects:

- A product creation project: Help employees create accessible and multilingual product entries, while expediting product entry creation.
- A smart e-commerce project: Implement an Azure Cognitive Search solution to display products for customers to browse. ▪

A shopping on-the-go project: Build a chatbot that can be integrated into smart speakers to support customers. **Business**

Requirements

Wide World Importers identifies the following business requirements for all the projects:

- Provide a multilingual customer experience that supports English, Spanish, and Portuguese. ▪
- Whenever possible, scale based on transaction volumes to ensure consistent performance. ▪
- Minimize costs.

Governance and Security Requirements

Wide World Importers identifies the following governance and security requirements:

- Data storage and processing must occur in datacenters located in the United States. ▪
- Azure Cognitive Services must be inaccessible directly from the internet.

Accessibility Requirements

Wide World Importers identifies the following accessibility requirements:

- All images must have relevant alt text.
 - All videos must have transcripts that are associated to the video and included in product descriptions. ▪
- Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Product Creation Requirements

Wide World Importers identifies the following requirements for improving the Product Management app:

- Minimize how long it takes for employees to create products and add assets. ▪
- Remove the need for manual translations.

Smart E-Commerce Requirements

Wide World Importers identifies the following requirements for the smart e-commerce project:

- Ensure that the Cognitive Search solution meets a Service Level Agreement (SLA) of 99.9% availability for searches and index writes.
 - Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.
 - Support autocompletion and autosuggestion based on all product name variants.
 - Store all raw insight data that was generated, so the data can be processed later.
 - Update the stock level field in the product index immediately upon changes. ▪
- Update the product index hourly.

Shopping On-the-Go Requirements

Wide World Importers identifies the following requirements for the shopping on-the-go chatbot:

- Answer common questions.
- Support interactions in English, Spanish, and Portuguese.
- Replace an existing FAQ process so that all Q&A is managed from a central location.
- Provide all employees with the ability to edit Q&As. Only senior managers must be able to publish updates.
- Support purchases by providing information about relevant products to customers. Product displays must include images and warnings when stock levels are low or out of stock. **Product**

JSON Sample

You have the following JSON sample for a product.

```

{
  "sku": "b1",
  "name": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "stocklevel": "Out of Stock",
  "description": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "image": {
    "uri": "https://upload.worldwideimporters.org/bicycle.jpg",
    "alttext": {
      "en": "Bicycle",
      "es": "Bicicleta",
      "pt": "Bicicleta"
    }
  },
  "createdUtc": "2020-02-14T06:08:39Z",
  "language": "en"
}

```

QUESTION 1**HOTSPOT**

You are planning the product creation project.

You need to build the REST endpoint to create the multilingual product descriptions.

How should you complete the URI? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

api.cognitive.microsofttranslator.com	/detect
api-nam.cognitive.microsofttranslator.com	/languages
westus.tts.speech.microsoft.com	/text-to-speech
wwics.cognitiveservices.azure.com/translator	/translate

?api-version=3.0&to=es&to=pt

Correct Answer:

Answer Area

	▼		▼	?api-version=3.0&to=es&to=pt
api.cognitive.microsofttranslator.com		/detect		
api-nam.cognitive.microsofttranslator.com		/languages		
westus.tts.speech.microsoft.com		/text-to-speech		
wwics.cognitiveservices.azure.com/translator		/translate		

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: api.cognitive.microsofttranslator.com Translator

3.0: Translate. Send a POST request to:

<https://api.cognitive.microsofttranslator.com/translate?api-version=3.0>

Box 2: /translate

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/translator/reference/v3-0-translate>

Question Set 1

QUESTION 1

HOTSPOT

You are developing a text processing solution.

You develop the following method.

```
static void GetKeyPhrases(TextAnalyticsClient textAnalyticsClient, string text)
{
    var response = textAnalyticsClient.ExtractKeyPhrases(text);
    Console.WriteLine("Key phrases:");

    foreach (string keyphrase in response.Value)
    {
        Console.WriteLine($"{keyphrase}");
    }
}
```

You call the method by using the following code.

```
GetKeyPhrases(textAnalyticsClient, "the cat sat on the mat");
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area		
	Statements	Yes No
	The call will output key phrases from the input string to the console.	<input type="radio"/> <input type="radio"/>
	The output will contain the following words: the, cat, sat, on, and mat.	<input type="radio"/> <input type="radio"/>
	The output will contain the confidence level for key phrases.	<input type="radio"/> <input type="radio"/>

Correct Answer:

Answer Area		
	Statements	Yes No
	The call will output key phrases from the input string to the console.	<input checked="" type="radio"/> <input type="radio"/>
	The output will contain the following words: the, cat, sat, on, and mat.	<input type="radio"/> <input checked="" type="radio"/>
	The output will contain the confidence level for key phrases.	<input type="radio"/> <input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Yes
The Key Phrase Extraction API evaluates unstructured text, and for each JSON document, returns a list of key phrases.

Box 2: No
'the' is not a key phrase.

This capability is useful if you need to quickly identify the main points in a collection of documents. For example, given input text "The food was delicious and there were wonderful staff", the service returns the main talking points: "food" and "wonderful staff".

Box 3: No
Key phrase extraction does not have confidence levels.

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-keyword-extraction>

QUESTION 2

You deploy a web app that is used as a management portal for indexing in Azure Cognitive Search. The app is configured to use the primary admin key.

During a security review, you discover unauthorized changes to the search index. You suspect that the primary access key is compromised.

You need to prevent unauthorized access to the index management endpoint. The solution must minimize downtime.

What should you do next?

- A. Regenerate the primary admin key, change the app to use the secondary admin key, and then regenerate the secondary admin key.
- B. Change the app to use a query key, and then regenerate the primary admin key and the secondary admin key.
- C. Regenerate the secondary admin key, change the app to use the secondary admin key, and then regenerate the primary key.
- D. Add a new query key, change the app to use the new query key, and then delete all the unused query keys.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Regenerate admin keys.

Two admin keys are created for each service so that you can rotate a primary key, using the secondary key for business continuity.

1. In the Settings >Keys page, copy the secondary key.
2. For all applications, update the API key settings to use the secondary key.
3. Regenerate the primary key.
4. Update all applications to use the new primary key.

Note: Two admin api-keys, referred to as primary and secondary keys in the portal, are automatically generated when the service is created and can be individually regenerated on demand. Having two keys allows you to roll over one key while using the second key for continued access to the service.

Reference: <https://docs.microsoft.com/en-us/azure/search/search-security-api-keys#regenerate-admin-keys>

QUESTION 3 You have an existing Azure Cognitive Search service.

You have an Azure Blob storage account that contains millions of scanned documents stored as images and PDFs.

You need to make the scanned documents available to search as quickly as possible.

What should you do?

- A. Split the data into multiple blob containers. Create a Cognitive Search service for each container. Within each indexer definition, schedule the same runtime execution pattern.
- B. Split the data into multiple blob containers. Create an indexer for each container. Increase the search units. Within each indexer definition, schedule a sequential execution pattern.
- C. Create a Cognitive Search service for each type of document.
- D. Split the data into multiple virtual folders. Create an indexer for each folder. Increase the search units. Within each indexer definition, schedule the same runtime execution pattern.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Incorrect Answers:

A: Need more search units to process the data in parallel.

B: Run them in parallel, not sequentially.

C: Need a blob indexer.

Note: A blob indexer is used for ingesting content from Azure Blob storage into a Cognitive Search index.

Index large datasets

Indexing blobs can be a time-consuming process. In cases where you have millions of blobs to index, you can speed up indexing by partitioning your data and using multiple indexers to process the data in parallel. Here's how you can set this up:

- Partition your data into multiple blob containers or virtual folders ▪

Set up several data sources, one per container or folder.

- Create a corresponding indexer for each data source. All of the indexers should point to the same target search index.

- One search unit in your service can run one indexer at any given time. Creating multiple indexers as described above is only useful if they actually run in parallel.

Reference: <https://docs.microsoft.com/en-us/azure/search/search-howto-indexing-azure-blob-storage>

QUESTION 4

You need to implement a table projection to generate a physical expression of an Azure Cognitive Search index.

Which three properties should you specify in the skillset definition JSON configuration table node? Each correct answer presents part of the solution. (Choose three.) **NOTE:**

Each correct selection is worth one point.

A. `tableName`

B. `generatedKeyName`

C. `dataSource`

D. `dataSourceConnection`

E. `source`

Correct Answer: ABE

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Defining a table projection.

Each table requires three properties:

- `tableName`: The name of the table in Azure Storage.
- `generatedKeyName`: The column name for the key that uniquely identifies this row.
- `source`: The node from the enrichment tree you are sourcing your enrichments from. This node is usually the output of a shaper, but could be the output of any of the skills.

Reference: <https://docs.microsoft.com/en-us/azure/search/knowledge-store-projection-overview>

QUESTION 5

HOTSPOT

You are creating an enrichment pipeline that will use Azure Cognitive Search. The knowledge store contains unstructured JSON data and scanned PDF documents that contain text.

Which projection type should you use for each data type? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

JSON data:

	▼
File projection	
Object projection	
Table projection	

Scanned data:

	▼
File projection	
Object projection	
Table projection	

Correct Answer:

Answer Area

JSON data:

	▼
File projection	
Object projection	
Table projection	

Scanned data:

	▼
File projection	
Object projection	
Table projection	

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Object projection

Object projections are JSON representations of the enrichment tree that can be sourced from any node.

Box 2: File projection

File projections are similar to object projections and only act on the normalized_images collection.

Reference: <https://docs.microsoft.com/en-us/azure/search/knowledge-store-projection-overview>

QUESTION 6

HOTSPOT

You are building an Azure Cognitive Search custom skill.

You have the following custom skill schema definition.

```
{
  "@odata.type": "#Microsoft.Skills.Custom.WebApiSkill",
  "description": "My custom skill description",
  "uri": "https://contoso-webskill.azurewebsites.net/api/process",
  "context": "/document/organizations/*",
  "inputs": [
    {
      "name": "companyName",
      "source": "/document/organizations/*"
    }
  ],
  "outputs": [
    {
      "name": "companyDescription",
    }
  ]
}
```

For each of the following statements, select Yes if the statement. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
CompanyDescription is available for indexing.	<input type="radio"/>	<input type="radio"/>
The definition calls a web API as part of the enrichment process.	<input type="radio"/>	<input type="radio"/>
The enrichment step is called only for the first organization under "/document/organizations".	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
CompanyDescription is available for indexing.	<input checked="" type="radio"/>	<input type="radio"/>
The definition calls a web API as part of the enrichment process.	<input checked="" type="radio"/>	<input type="radio"/>
The enrichment step is called only for the first organization under "/document/organizations".	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

Once you have defined a skillset, you must map the output fields of any skill that directly contributes values to a given field in your search index.

Box 2: Yes

The definition is a custom skill that calls a web API as part of the enrichment process.

Box 3: No

For each organization identified by entity recognition, this skill calls a web API to find the description of that organization.

Reference: <https://docs.microsoft.com/en-us/azure/search/cognitive-search-output-field-mapping>

QUESTION 7 You have the following data sources:

- Finance: On-premises Microsoft SQL Server database
- Sales: Azure Cosmos DB using the Core (SQL) API
- Logs: Azure Table storage
- HR: Azure SQL database

You need to ensure that you can search all the data by using the Azure Cognitive Search REST API.

What should you do?

- A. Configure multiple read replicas for the data in Sales.
- B. Mirror Finance to an Azure SQL database.
- C. Migrate the data in Sales to the MongoDB API.
- D. Ingest the data in Logs into Azure Sentinel.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

On-premises Microsoft SQL Server database cannot be used as an index data source.

Note: Indexer in Azure Cognitive Search: : Automate aspects of an indexing operation by configuring a data source and an indexer that you can schedule or run on demand. This feature is supported for a limited number of data source types on Azure.

Indexers crawl data stores on Azure.

- Azure Blob Storage
- Azure Data Lake Storage Gen2 (in preview)
- Azure Table Storage
- Azure Cosmos DB
- Azure SQL Database
- SQL Managed Instance
- SQL Server on Azure Virtual Machines

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-indexer-overview#supported-data-sources>

Testlet 2

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Overview

Existing Environment

A company named Wide World Importers is developing an e-commerce platform.

You are working with a solutions architect to design and implement the features of the e-commerce platform. The platform will use microservices and a serverless environment built on Azure.

Wide World Importers has a customer base that includes English, Spanish, and Portuguese speakers.

Applications

Wide World Importers has an App Service plan that contains the web apps shown in the following table.

Name	Description
Product Management	An app used by employees to create and manage products. The app and the expected inputs from the employees are in English.
Inventory Tracking	An app used by employees to manage inventory when dispatching orders, receiving refunds, and receiving consignments from suppliers.

Azure Resources

You have the following resources:

- An Azure Active Directory (Azure AD) tenant
 - The tenant supports internal authentication.
 - All employees belong to a group named AllUsers.
 - Senior managers belong to a group named LeadershipTeam.
- An Azure Functions resource
 - A function app posts to Azure Event Grid when stock levels of a product change between OK, Low Stock, and Out of Stock. The function app uses the Azure Cosmos DB change feed.
 - The account uses the Core (SQL) API.
 - The account stores data for the Product Management app and the Inventory Tracking app.
- An Azure Cosmos DB account
 - An Azure Cosmos DB account
- An Azure Storage account
 - The account contains blob containers for assets related to products.
 - The assets include images, videos, and PDFs.
- An Azure Cognitive Services resource named wwics
- A Video Indexer resource named wwivi

Requirements

Business Goals

Wide World Importers wants to leverage AI technologies to differentiate itself from its competitors.

Planned Changes

Wide World Importers plans to start the following projects:

- A product creation project: Help employees create accessible and multilingual product entries, while expediting product entry creation.
- A smart e-commerce project: Implement an Azure Cognitive Search solution to display products for customers to browse.
- A shopping on-the-go project: Build a chatbot that can be integrated into smart speakers to support customers.

Business

Requirements

Wide World Importers identifies the following business requirements for all the projects:

- Provide a multilingual customer experience that supports English, Spanish, and Portuguese.
- Whenever possible, scale based on transaction volumes to ensure consistent performance.
- Minimize costs.

Governance and Security Requirements

Wide World Importers identifies the following governance and security requirements:

- Data storage and processing must occur in datacenters located in the United States.
- Azure Cognitive Services must be inaccessible directly from the internet.

Accessibility Requirements

Wide World Importers identifies the following accessibility requirements:

- All images must have relevant alt text.
- All videos must have transcripts that are associated to the video and included in product descriptions.
- Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese.

Product Creation Requirements

Wide World Importers identifies the following requirements for improving the Product Management app:

- Minimize how long it takes for employees to create products and add assets.
- Remove the need for manual translations.

Smart E-Commerce Requirements

Wide World Importers identifies the following requirements for the smart e-commerce project:

- Ensure that the Cognitive Search solution meets a Service Level Agreement (SLA) of 99.9% availability for searches and index writes.
- Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.
- Support autocompletion and autosuggestion based on all product name variants.
- Store all raw insight data that was generated, so the data can be processed later.
- Update the stock level field in the product index immediately upon changes.
- Update the product index hourly.

Shopping On-the-Go Requirements

Wide World Importers identifies the following requirements for the shopping on-the-go chatbot:

- Answer common questions.
 - Support interactions in English, Spanish, and Portuguese.
 - Replace an existing FAQ process so that all Q&A is managed from a central location.
 - Provide all employees with the ability to edit Q&As. Only senior managers must be able to publish updates.
 - Support purchases by providing information about relevant products to customers. Product displays must include images and warnings when stock levels are low or out of stock.
- Product**

JSON Sample

You have the following JSON sample for a product.

```
{
  "sku": "b1",
  "name": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "stocklevel": "Out of Stock",
  "description": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "image": {
    "uri": "https://upload.worldwideimporters.org/bicycle.jpg",
    "alttext": {
      "en": "Bicycle",
      "es": "Bicicleta",
      "pt": "Bicicleta"
    }
  },
  "createdUtc": "2020-02-14T06:08:39Z",
  "language": "en"
}
```

QUESTION 1 You are developing the smart e-commerce project.

You need to implement autocompletion as part of the Cognitive Search solution.

Which three actions should you perform? Each correct answer presents part of the solution. (Choose three.)

NOTE: Each correct selection is worth one point.

- A. Make API queries to the autocomplete endpoint and include `suggesterName` in the body.
- B. Add a suggester that has the three product name fields as source fields.
- C. Make API queries to the search endpoint and include the product name fields in the `searchFields` query parameter.
- D. Add a suggester for each of the three product name fields.
- E. Set the `searchAnalyzer` property for the three product name variants.
- F. Set the `analyzer` property for the three product name variants.

Correct Answer: ABF

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Support autocompletion and autosuggestion based on all product name variants.

A: Call a suggester-enabled query, in the form of a Suggestion request or Autocomplete request, using an API. API usage is illustrated in the following call to the Autocomplete REST API.

POST /indexes/myxboxgames/docs/autocomplete?search&api-version=2020-06-30

```
{
  "search": "minecraf",
  "suggesterName": "sg"
```

```
}
```

B: In Azure Cognitive Search, typeahead or "search-as-you-type" is enabled through a suggester. A suggester provides a list of fields that undergo additional tokenization, generating prefix sequences to support matches on partial terms. For example, a suggester that includes a City field with a value for "Seattle" will have prefix combinations of "sea", "seat", "seatt", and "seattl" to support typeahead. F. Use the default standard Lucene analyzer ("analyzer": null) or a language analyzer (for example, "analyzer": "en.Microsoft") on the field.

Reference: <https://docs.microsoft.com/en-us/azure/search/index-add-suggesters>

Question Set 1**QUESTION 1**

You are building a multilingual chatbot.

You need to send a different answer for positive and negative messages.

Which two Text Analytics APIs should you use? Each correct answer presents part of the solution. (Choose two.)

NOTE: Each correct selection is worth one point.

- A. Linked entities from a well-known knowledge base
- B. Sentiment Analysis
- C. Key Phrases
- D. Detect Language
- E. Named Entity Recognition

Correct Answer: BD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

B: The Text Analytics API's Sentiment Analysis feature provides two ways for detecting positive and negative sentiment. If you send a Sentiment Analysis request, the API will return sentiment labels (such as "negative", "neutral" and "positive") and confidence scores at the sentence and document-level.

D: The Language Detection feature of the Azure Text Analytics REST API evaluates text input for each document and returns language identifiers with a score that indicates the strength of the analysis.

This capability is useful for content stores that collect arbitrary text, where language is unknown.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-sentiment-analysis?tabs=version-3-1> <https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-language-detection>

QUESTION 2

DRAG DROP

You plan to build a chatbot to support task tracking.

You create a Language Understanding service named lu1.

You need to build a Language Understanding model to integrate into the chatbot. The solution must minimize development time to build the model.

Which four 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. (Choose four.) **Select**

and Place:

Actions**Answer Area**

Train the application.
Publish the application.
Add a new application.
Add example utterances.
Add the prebuilt domain ToDo.

Correct Answer:**Actions****Answer Area**

Train the application.	Add a new application.
Publish the application.	Add example utterances.
Add a new application.	Train the application.
Add example utterances.	Publish the application.
Add the prebuilt domain ToDo.	

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Step 1: Add a new application
 Create a new app

1. Sign in to the LUIS portal with the URL of <https://www.luis.ai>.
2. Select Create new app.
3. Etc.

Step 2: Add example utterances.

In order to classify an utterance, the intent needs examples of user utterances that should be classified with this intent.

Step 3: Train the application

Step 4: Publish the application

In order to receive a LUIS prediction in a chat bot or other client application, you need to publish the app to the prediction endpoint.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/tutorial-intents-only>

QUESTION 3

You are building a bot on a local computer by using the Microsoft Bot Framework. The bot will use an existing Language Understanding model.

You need to translate the Language Understanding model locally by using the Bot Framework CLI.

What should you do first?

A. From the Language Understanding portal, clone the model.

- B. Export the model as an .lu file.
- C. Create a new Speech service.
- D. Create a new Language Understanding service.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You might want to manage the translation and localization for the language understanding content for your bot independently.

Translate command in the @microsoft/bf-lu library takes advantage of the Microsoft text translation API to automatically machine translate .lu files to one or more than 60+ languages supported by the Microsoft text translation cognitive service.

What is translated?

An .lu file and optionally translate

Comments in the lu file

LU reference link texts

List of .lu files under a specific path.

Reference: <https://github.com/microsoft/botframework-cli/blob/main/packages/luis/docs/translate-command.md>

QUESTION 4

DRAG DROP

You are using a Language Understanding service to handle natural language input from the users of a web-based customer agent.

The users report that the agent frequently responds with the following generic response: "Sorry, I don't understand that."

You need to improve the ability of the agent to respond to requests.

Which three 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. (Choose three.) **Select**

and Place:

Actions

Add prebuilt domain models as required.

Validate the utterances logged for review and modify the model.

Migrate authoring to an Azure resource authoring key.

Enable active learning.

Enable log collection by using Log Analytics.

Train and republish the Language Understanding model.

Answer Area

Correct Answer:

Actions

Add prebuilt domain models as required.

Validate the utterances logged for review and modify the model.

Migrate authoring to an Azure resource authoring key.

Enable active learning.

Enable log collection by using Log Analytics.

Train and republish the Language Understanding model.

Answer Area

Add prebuilt domain models as required.

Enable active learning.

Train and republish the Language Understanding model.

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: Add prebuilt domain models as required.

Prebuilt models provide domains, intents, utterances, and entities. You can start your app with a prebuilt model or add a relevant model to your app later.

Note: Language Understanding (LUIS) provides prebuilt domains, which are pre-trained models of intents and entities that work together for domains or common categories of client applications.

The prebuilt domains are trained and ready to add to your LUIS app. The intents and entities of a prebuilt domain are fully customizable once you've added them to your app.

Step 2: Enable active learning

To enable active learning, you must log user queries. This is accomplished by calling the endpoint query with the log=true querystring parameter and value.

Step 3: Train and republish the Language Understanding model

The process of reviewing endpoint utterances for correct predictions is called Active learning. Active learning captures endpoint queries and selects user's endpoint utterances that it is unsure of. You review these utterances to select the intent and mark entities for these real-world utterances. Accept these changes into your example utterances then train and publish. LUIS then identifies utterances more accurately.

Incorrect Answers:

Enable log collection by using Log Analytics

Application authors can choose to enable logging on the utterances that are sent to a published application. This is not done through Log Analytics.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-how-to-review-endpoint-utterances#log-user-queries-to-enable-active-learning> <https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-prebuilt-model>

QUESTION 5 You build a conversational bot named bot1.

You need to configure the bot to use a QnA Maker application.

From the Azure Portal, where can you find the information required by bot1 to connect to the QnA Maker application?

- A. Access control (IAM)
- B. Properties

- C. Keys and Endpoint
- D. Identity

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Obtain values to connect your bot to the knowledge base

1. In the QnA Maker site, select your knowledge base.
2. With your knowledge base open, select the SETTINGS tab. Record the value shown for service name. This value is useful for finding your knowledge base of interest when using the QnA Maker portal interface. It's not used to connect your bot app to this knowledge base.
3. Scroll down to find Deployment details and record the following values from the Postman sample HTTP request:
4. POST /knowledgebases/<knowledge-base-id>/generateAnswer
5. Host: <your-host-url>
6. Authorization: EndpointKey <your-endpoint-key>

Reference: <https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-howto-qlna>

QUESTION 6

HOTSPOT

You are building a chatbot by using the Microsoft Bot Framework Composer.

You have the dialog design shown in the following exhibit.



NOTE: Each correct selection is worth one point.

Hot Area:

Statements	Yes	No
<code>user.name</code> is an entity.	<input type="radio"/>	<input type="radio"/>
The dialog asks for a user name and a user age and assigns appropriate values to the <code>user.name</code> and <code>user.age</code> properties.	<input type="radio"/>	<input type="radio"/>
The chatbot attempts to take the first non-null entity value for <code>userName</code> or <code>personName</code> and assigns the value to <code>user.name</code> .	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
<code>user.name</code> is an entity.	<input type="radio"/>	<input checked="" type="radio"/>
The dialog asks for a user name and a user age and assigns appropriate values to the <code>user.name</code> and <code>user.age</code> properties.	<input checked="" type="radio"/>	<input type="radio"/>
The chatbot attempts to take the first non-null entity value for <code>userName</code> or <code>personName</code> and assigns the value to <code>user.name</code> .	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: No

User.name is a property.

Box 2: Yes

Box 3: Yes

The coalesce() function evaluates a list of expressions and returns the first non-null (or non-empty for string) expression.

Reference: [https://docs.microsoft.com/en-us/composer/concept-language-](https://docs.microsoft.com/en-us/composer/concept-language-generation)[generation https://docs.microsoft.com/en-us/azure/data-](https://docs.microsoft.com/en-us/azure/data-explorer/kusto/query/coalescefunction)[explorer/kusto/query/coalescefunction](https://docs.microsoft.com/en-us/azure/data-explorer/kusto/query/coalescefunction)

VCEUp

QUESTION 7**HOTSPOT**

You are building a chatbot for a Microsoft Teams channel by using the Microsoft Bot Framework SDK. The chatbot will use the following code.

```
protected override async Task OnMembersAddedAsync(IList<ChannelAccount>
membersAdded, ITurnContext<IConversationUpdateActivity> turnContext,
CancellationToken cancellationToken)
{
    foreach (var member in membersAdded)
        if (member.Id != turnContext.Activity.Recipient.Id)
            await turnContext.SendActivityAsync($"Hi there - {member.Name}.
{WelcomeMessage}", cancellationToken: cancellationToken);
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.**Hot Area:**

Answer Area

Statements	Yes	No
OnMembersAddedAsync will be triggered when a user joins the conversation.	<input type="radio"/>	<input type="radio"/>
When a new user joins the conversation, the existing users in the conversation will see the chatbot greeting.	<input type="radio"/>	<input type="radio"/>
OnMembersAddedAsync will be initialized when a user sends a message.	<input type="radio"/>	<input type="radio"/>

Correct Answer:**Answer Area**

Statements	Yes	No
OnMembersAddedAsync will be triggered when a user joins the conversation.	<input checked="" type="radio"/>	<input type="radio"/>
When a new user joins the conversation, the existing users in the conversation will see the chatbot greeting.	<input checked="" type="radio"/>	<input type="radio"/>
OnMembersAddedAsync will be initialized when a user sends a message.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: Yes

The ActivityHandler.OnMembersAddedAsync method overrides this in a derived class to provide logic for when members other than the bot join the conversation, such as your bot's welcome logic.

Box 2: Yes membersAdded is a list of all the members added to the conversation, as described by the conversation update activity. Box 3: No

Reference: <https://docs.microsoft.com/en-us/dotnet/api/microsoft.bot.builder.activityhandler.onmembersaddedasync?view=botbuilder-dotnet-stable>**QUESTION 8****HOTSPOT**

You are reviewing the design of a chatbot. The chatbot includes a language generation file that contains the following fragment.

```
# Greet (user)
- ${Greeting() }, ${user.name}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.**Hot Area:**

Answer Area

Statements	Yes	No
<code>\${user.name}</code> retrieves the user name by using a prompt.	<input type="radio"/>	<input type="radio"/>
<code>Greet()</code> is the name of the language generation template.	<input type="radio"/>	<input type="radio"/>
<code>\${Greeting() }</code> is a reference to a template in the language generation file.	<input type="radio"/>	<input type="radio"/>

Correct Answer:**Answer Area**

Statements	Yes	No
<code>\${user.name}</code> retrieves the user name by using a prompt.	<input type="radio"/>	<input checked="" type="radio"/>
<code>Greet()</code> is the name of the language generation template.	<input type="radio"/>	<input checked="" type="radio"/>
<code>\${Greeting() }</code> is a reference to a template in the language generation file.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: No

Example: Greet a user whose name is stored in `user.name`

- `${ welcomeUser(user.name) }`

Example: Greet a user whose name you don't know:

- `${ welcomeUser() }`

Box 2: No

`Greet(User)` is a Send a response action.

Box 3: Yes

Reference: <https://docs.microsoft.com/en-us/composer/how-to-ask-for-user-input>**QUESTION 9****HOTSPOT**

You are building a chatbot by using the Microsoft Bot Framework SDK.

You use an object named `UserProfile` to store user profile information and an object named `ConversationData` to store information related to a conversation.

You create the following state accessors to store both objects in state.

```
var userStateAccessors = _userState.CreateProperty<UserProfile>(nameof(UserProfile));
```

```
var conversationStateAccessors = _conversationState.CreateProperty<ConversationData>(nameof(ConversationData));
```

The state storage mechanism is set to Memory Storage.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area	Statements	Yes	No
	The code will create and maintain the <code>UserProfile</code> object in the underlying storage layer.	<input type="radio"/>	<input type="radio"/>
	The code will create and maintain the <code>ConversationData</code> object in the underlying storage layer.	<input type="radio"/>	<input type="radio"/>
	The <code>UserProfile</code> and <code>ConversationData</code> objects will persist when the Bot Framework runtime terminates.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area	Statements	Yes	No
	The code will create and maintain the <code>UserProfile</code> object in the underlying storage layer.	<input checked="" type="radio"/>	<input type="radio"/>
	The code will create and maintain the <code>ConversationData</code> object in the underlying storage layer.	<input checked="" type="radio"/>	<input type="radio"/>
	The <code>UserProfile</code> and <code>ConversationData</code> objects will persist when the Bot Framework runtime terminates.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

You create property accessors using the `CreateProperty` method that provides a handle to the `BotState` object. Each state property accessor allows you to get or set the value of the associated state property.

Box 2: Yes

Box 3: No

Before you exit the turn handler, you use the state management objects' `SaveChangesAsync()` method to write all state changes back to storage.

Reference:

<https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-howto-v4-state>

QUESTION 10

HOTSPOT

You are building a chatbot that will provide information to users as shown in the following exhibit.

Passengers

Sarah Hum
Jeremy Goldberg
Evan Litvak

2 Stops

Tue, May 30, 2017 10:25 PM

San Francisco Amsterdam		San Francisco Amsterdam
SFO AMS		SFO AMS

Non-Stop

Fri, Jun 2, 2017 11:55 PM

San Francisco Amsterdam		San Francisco Amsterdam
SFO AMS		SFO AMS

Total	\$4,032.54
-------	------------

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

The chatbot is showing [answer choice].

	▼
an Adaptive Card	
a Hero Card	
a Thumbnail Card	

The card includes [answer choice].

	▼
an action set	
an image	
an image group	
media	

Correct Answer:

Answer Area

The chatbot is showing [answer choice].

	▼
an Adaptive Card	
a Hero Card	
a Thumbnail Card	

The card includes [answer choice].

	▼
an action set	
an image	
an image group	
media	

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: A Thumbnail card

A Thumbnail card typically contains a single thumbnail image, some short text, and one or more buttons.

Incorrect Answers:

- an Adaptive card is highly customizable card that can contain any combination of text, speech, images, buttons, and input fields.
- a Hero card typically contains a single large image, one or more buttons, and a small amount of text.

Box 2: an image

Reference: <https://docs.microsoft.com/en-us/microsoftteams/platform/task-modules-and-cards/cards/cards-reference> **Testlet 2**

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- An Azure Cognitive Services resource named wwics
- A Video Indexer resource named wwivi

Requirements

Business Goals

Wide World Importers wants to leverage AI technologies to differentiate itself from its competitors.

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Wide World Importers plans to start the following projects:

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A shopping on-the-go project: Build a chatbot that can be integrated into smart speakers to support customers. **Business**

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Wide World Importers identifies the following business requirements for all the projects:

- Provide a multilingual customer experience that supports English, Spanish, and Portuguese. ▪
- Whenever possible, scale based on transaction volumes to ensure consistent performance. ▪
- Minimize costs. ▪

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Wide World Importers identifies the following governance and security requirements:

- Data storage and processing must occur in datacenters located in the United States. ▪
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Wide World Importers identifies the following requirements for improving the Product Management app:

- Minimize how long it takes for employees to create products and add assets. ▪
- Remove the need for manual translations.

Smart E-Commerce Requirements

Wide World Importers identifies the following requirements for the smart e-commerce project:

- Ensure that the Cognitive Search solution meets a Service Level Agreement (SLA) of 99.9% availability for searches and index writes.
 - Provide users with the ability to search insight gained from the images, manuals, and videos associated with the products.
 - Support autocompletion and autosuggestion based on all product name variants.
 - Store all raw insight data that was generated, so the data can be processed later.
 - Update the stock level field in the product index immediately upon changes. ▪
- Update the product index hourly.

Shopping On-the-Go Requirements

Wide World Importers identifies the following requirements for the shopping on-the-go chatbot:

- Answer common questions.
- Support interactions in English, Spanish, and Portuguese.
- Replace an existing FAQ process so that all Q&A is managed from a central location.
- Provide all employees with the ability to edit Q&As. Only senior managers must be able to publish updates.
- Support purchases by providing information about relevant products to customers. Product displays must include images and warnings when stock levels are low or out of stock. **Product**

JSON Sample

You have the following JSON sample for a product.


```
{
  "sku": "b1",
  "name": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "stocklevel": "Out of Stock",
  "description": {
    "en": "Bicycle",
    "es": "Bicicleta",
    "pt": "Bicicleta"
  },
  "image": {
    "uri": "https://upload.worldwideimporters.org/bicycle.jpg",
    "alttext": {
      "en": "Bicycle",
      "es": "Bicicleta",
      "pt": "Bicicleta"
    }
  },
  "createdUtc": "2020-02-14T06:08:39Z",
  "language": "en"
}
```

QUESTION 1**HOTSPOT**

You are developing the shopping on-the-go project.

You are configuring access to the QnA Maker resources.

Which role should you assign to AllUsers and LeadershipTeam? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

AllUsers:	<div><div></div><div></div></div>
	<div>Cognitive Service User</div> <div>Contributor</div> <div>Owner</div> <div>QnA Maker Editor</div> <div>QnA Maker Read</div>
LeadershipTeam:	<div><div></div><div></div></div>
	<div>Cognitive Service User</div> <div>Contributor</div> <div>Owner</div> <div>QnA Maker Editor</div> <div>QnA Maker Read</div>

Correct Answer:**Answer Area**

AllUsers:	<div><div></div><div></div></div>
	<div>Cognitive Service User</div> <div>Contributor</div> <div>Owner</div> <div>QnA Maker Editor</div> <div>QnA Maker Read</div>
LeadershipTeam:	<div><div></div><div></div></div>
	<div>Cognitive Service User</div> <div>Contributor</div> <div>Owner</div> <div>QnA Maker Editor</div> <div>QnA Maker Read</div>

Section: [none]**Explanation****Explanation/Reference:**

Explanation:

Box 1: QnA Maker Editor

Scenario: Provide all employees with the ability to edit Q&As.

The QnA Maker Editor (read/write) has the following permissions:

- Create KB API

- Update KB API
- Replace KB API
- Replace Alterations
- "Train API" [in new service model v5]

Box 2: Contributor

Scenario: Only senior managers must be able to publish updates.

Contributor permission: All except ability to add new members to roles

Reference: <https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/reference-role-based-access-control>