

# Designing and Implementing a Microsoft Azure AI Solution v1.0 (AI-102) - Full Access

Question 1 ( Question Set 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.AddPhraseListAsync  
(appId, versionId, new PhraselistCreateObject  
{  
    EnabledForAllModels = false,  
    IsExchangeable = true,  
    Name = "PL1",  
    Phrases = "item1,item2,item3,item4,item5"  
});
```

Answer :

**Values**

AddPhraseListAsync  
Phraselist  
PhraselistCreateObject  
Phrases  
SavePhraselistAsync  
UploadPhraseListAsync

**Answer Area**

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

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 ( Question Set 1 )

**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	<i>None</i>	<i>None</i>

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:

<b>Actions</b>	<b>Answer Area</b>
Run a container that has <b>version</b> 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 :

<b>Actions</b>	<b>Answer Area</b>
Run a container that has <b>version</b> set as an environment variable.	
Export the model by using the Export for containers (GZIP) 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.	

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.

## Versions ?

<input type="checkbox"/> Rename	<input type="checkbox"/> Clone	<input type="checkbox"/> Export	All	Search for version(s)
<input checked="" type="checkbox"/> Version name		Export as JSON	Created	Last modified
<input checked="" type="checkbox"/> 0.1 (Active & Production)	5/3/18	5/3/18	9/6/18	

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 contain and mount the model file.

Run the container, with the required input mount and billing settings.

Reference:

### Question 3 ( Question Set 1 )



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

Answer : C

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 ( Question Set 1 )



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

Answer : C

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 ( Question Set 1 )



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/xxxxxxxx-xxxx-xxxx-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"
  }
}

```

Answer :

**Answer Area**

https://management.azure.com/subscriptions/xxxxxxxx-xxxx-xxxx-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"
  }
}

```

Explanation:

Box 1: PUT -

Sample Request: PUT https://management.azure.com/subscriptions/oooooooo-oooo-oooo-oooo-oooooooooooo/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 ( Question Set 1 )



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

Answer : BD

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 ( Question Set 1 )



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 docker run script.

Push the image to an Azure container registry.

Build the image.

Push the image to Docker Hub.

Answer :

#### Actions

#### Answer Area

Create a custom Dockerfile.

Pull the Anomaly Detector container image.

Distribute a docker run script.

Push the image to an Azure container registry.

Pull the Anomaly Detector container image.

Create a custom Dockerfile.

Push the image to an Azure container registry.

Distribute a docker run script.

Question 8 ( Question Set 1 )



**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=xxxxxxxxxxxxxxxxxxxxxx

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=xxxxxxxxxxxxxxxxxxxxxx

**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.azure.com. 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 ( Question Set 1 )**

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", "Fo", "westus")
- B. create\_resource(client, "res1", "CustomVision.Prediction", "Fo", "westus")
- C. create\_resource(client, "res1", "ComputerVision", "So", "westus")
- D. create\_resource(client, "res1", "CustomVision.Prediction", "So", "westus")

Answer : B

Explanation:

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

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

Incorrect Answers:

A: There is no free tier (Fo) 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 ( Question Set 1 )**

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.

Answer : B

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 ( Question Set 1 )**

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

Answer : ACF

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>

#### Question 12 ( Question Set 1 )



A customer uses Azure Cognitive Search.

The customer plans to enable a server-side encryption and use customer-managed keys (CMK) stored in Azure.

What are three implications of the planned change? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. The index size will increase.

B. Query times will increase.

C. A self-signed X.509 certificate is required.

D. The index size will decrease.

E. Query times will decrease.

F. Azure Key Vault is required.

Answer : ABE

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-security-overview>

#### Question 13 ( Question Set 1 )



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

You plan to notify users that their data has been processed by the sales system.

Which responsible AI principle does this help meet?

A. transparency

B. fairness

C. inclusiveness

D. reliability and safety

Answer : D

Reference:

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

#### Question 14 ( Question Set 1 )



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 create a web app named app1 that runs on an Azure virtual machine named vm1. Vm1 is on an Azure virtual network named vnet1.

You plan to create a new Azure Cognitive Search service named service1.

You need to ensure that app1 can connect directly to service1 without routing traffic over the public internet.

Solution: You deploy service1 and a public endpoint to a new virtual network, and you configure Azure Private Link.

Does this meet the goal?

A. Yes

B. No

Answer : A

Reference:

<https://docs.microsoft.com/en-us/azure/private-link/private-link-overview>

#### Question 15 ( Question Set 1 )



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 create a web app named app1 that runs on an Azure virtual machine named vm1. Vm1 is on an Azure virtual network named vnet1.

You plan to create a new Azure Cognitive Search service named service1.

You need to ensure that app1 can connect directly to service1 without routing traffic over the public internet.

Solution: You deploy service1 and a public endpoint, and you configure an IP firewall rule.

Does this meet the goal?

- A. Yes  
B. No

Answer : B

Reference:  
<https://docs.microsoft.com/en-us/azure/private-link/private-link-overview>

#### Question 16 ( Question Set 1 )



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 create a web app named app1 that runs on an Azure virtual machine named vm1. Vm1 is on an Azure virtual network named vnet1.

You plan to create a new Azure Cognitive Search service named service1.

You need to ensure that app1 can connect directly to service1 without routing traffic over the public internet.

Solution: You deploy service1 and a public endpoint, and you configure a network security group (NSG) for vnet1.

Does this meet the goal?

- A. Yes  
B. No

Answer : B

Reference:  
<https://docs.microsoft.com/en-us/azure/private-link/private-link-overview>

#### Question 17 ( Question Set 1 )



You plan to perform predictive maintenance.

You collect IoT sensor data from 100 industrial machines for a year. Each machine has 50 different sensors that generate data at one-minute intervals. In total, you have 5,000 time series datasets.

You need to identify unusual values in each time series to help predict machinery failures.

Which Azure Cognitive Services service should you use?

- A. Anomaly Detector  
B. Cognitive Search  
C. Form Recognizer  
D. Custom Vision

Answer : A

#### Question 18 ( Question Set 1 )



HOTSPOT -

You are developing a streaming Speech to Text solution that will use the Speech SDK and MP3 encoding.

You need to develop a method to convert speech to text for streaming MP3 data.

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

```
var audioFormat =  (AudioStreamContainerFormat.MP3);
.SetProperty
.GetCompressedFormat
.GetWaveFormatPCM
.PullAudioInputStream

var speechConfig = SpeechConfig.FromSubscription("18c51a87-3a69-47a8-aedc-a54745f708a1", "westus");

var audioConfig = AudioConfig.FromStreamInput(pushStream, audioFormat);

using (var recognizer = new  (speechConfig, audioConfig))
{
    var result = await recognizer.RecognizeOnceAsync();
    var text = result.Text;
}
```

Answer :

**Answer Area**

```

var audioFormat =   

var speechConfig = SpeechConfig.FromSubscription("18c51a87-3a69-47a8-aedc-a54745f708a1", "westus");  

var audioConfig = AudioConfig.FromStreamInput(pushStream, audioFormat);  

using (var recognizer = new   


{  

    var result = await recognizer.RecognizeOnceAsync();  

    var text = result.Text;  

}

```

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/how-to-use-codec-compressed-audio-input-streams?tabs=debian&pivots=programming-csharp>**Question 19 ( Question Set 1 )****HOTSPOT -**

You are developing an internet-based training solution for remote learners.

Your company identifies that during the training, some learners leave their desk for long periods or become distracted.

You need to use a video and audio feed from each learner's computer to detect whether the learner is present and paying attention. The solution must minimize development effort and identify each learner.

Which Azure Cognitive Services service should you use for each requirement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

**Answer Area**

From a learner's video feed, verify whether the learner is present:

Face
Speech
Text Analytics

From a learner's facial expression in the video feed, verify whether the learner is paying attention:

Face
Speech
Text Analytics

From a learner's audio feed, detect whether the learner is talking:

Face
Speech
Text Analytics

Answer :

**Answer Area**

From a learner's video feed, verify whether the learner is present:

Face
Speech
Text Analytics

From a learner's facial expression in the video feed, verify whether the learner is paying attention:

Face
Speech
Text Analytics

From a learner's audio feed, detect whether the learner is talking:

Face
Speech
Text Analytics

Question 20 ( Question Set 1 )



You plan to provision a QnA Maker service in a new resource group named RG1.

In RG1, you create an App Service plan named AP1.

Which two Azure resources are automatically created in RG1 when you provision the QnA Maker service? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Language Understanding
- B. Azure SQL Database
- C. Azure Storage
- D. Azure Cognitive Search
- E. Azure App Service

Answer : DE

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/how-to/set-up-qnamaker-service-azure?tabs=v1#delete-azure-resources>

Question 21 ( Question Set 1 )



You are building a language model by using a Language Understanding service.

You create a new Language Understanding resource.

You need to add more contributors.

What should you use?

- A. a conditional access policy in Azure Active Directory (Azure AD)
- B. the Access control (IAM) page for the authoring resources in the Azure portal
- C. the Access control (IAM) page for the prediction resources in the Azure portal

Answer : B

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-how-to-collaborate>

Question 22 ( Testlet 1 )



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 -

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.

Existing Environment -

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 -

[https://www.itexams.com/exam/AI-102?qp\\_select=100](https://www.itexams.com/exam/AI-102?qp_select=100)

## 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.

An Azure Cosmos DB account

- 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 alt 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 autocomplete 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 -

[https://www.itexams.com/exam/AI-102?qp\\_select=100](https://www.itexams.com/exam/AI-102?qp_select=100)

12/60

## 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"
}
```

## DRAG DROP -

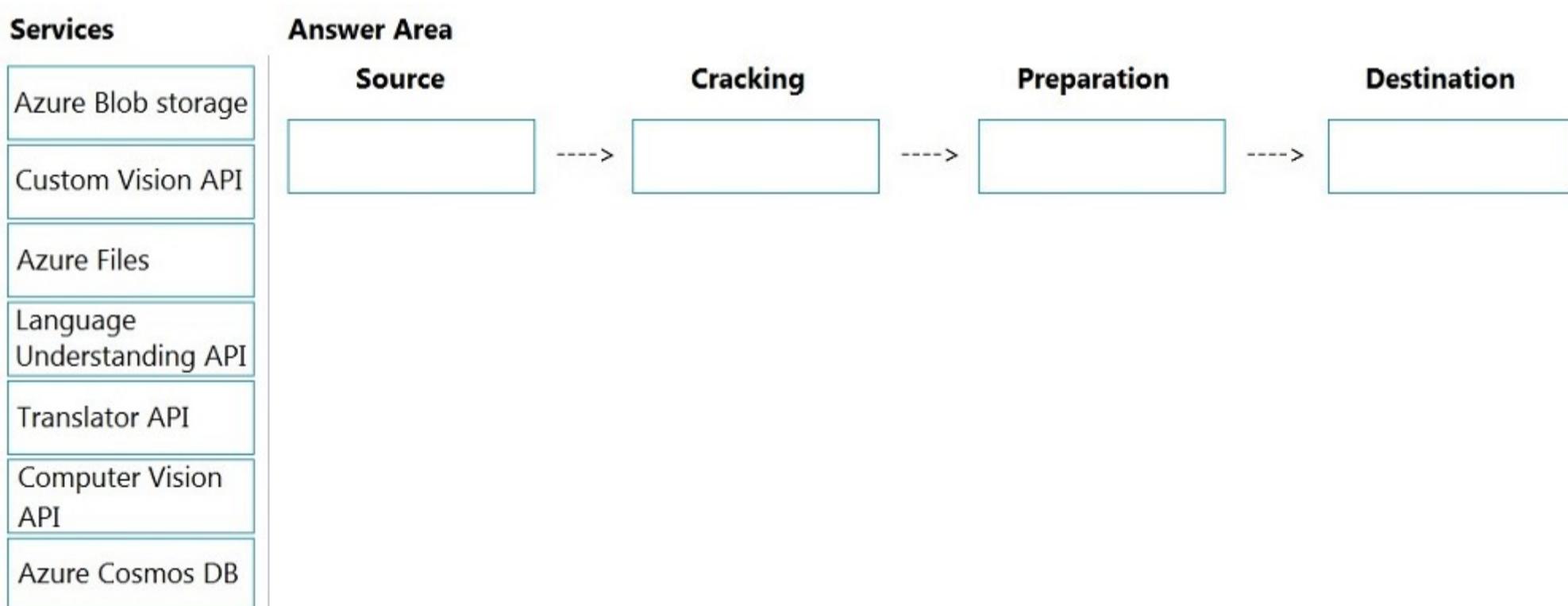
You are developing the smart e-commerce project.

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

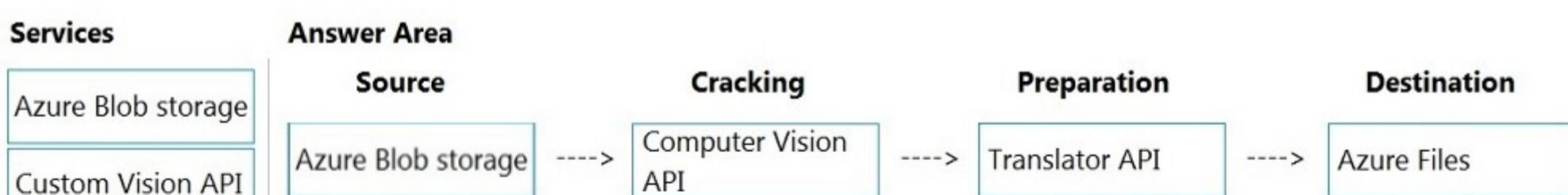
How should you complete the skillset design diagram? To answer, drag the appropriate services to the correct stages. Each service may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:



Answer :



Azure Files

Language  
Understanding API

Translator API

Computer Vision  
API

Azure Cosmos DB

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 alt 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-intro> <https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr>

### Question 23 ( Question Set 2 )



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.

Answer : A

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 24 ( Question Set 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)

Answer : AD

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 25 ( Question Set 2 )



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.

[https://www.itexams.com/exam/AI-102?qpp\\_select=100](https://www.itexams.com/exam/AI-102?qpp_select=100)

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": [ ]
}
```

Answer :

### Values

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

### Answer Area

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

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 26 ( Question Set 2 )



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
findsimilar
group
identify
matchFace
matchPerson
verify
```

### Answer Area

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

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

Answer :

### Values

### Answer Area

**detect**  
**findsimilar**  
**group**  
**identify**  
**matchFace**  
**matchPerson**  
**verify**

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

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

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 27 ( Question Set 2 )



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.



The code will return coordinates for the top-left corner of the rectangle that contains the brand logo of the displayed brands.



The code will return coordinates for the bottom-right corner of the rectangle that contains the brand logo of the displayed brands.



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.



The code will return coordinates for the top-left corner of the rectangle that contains the brand logo of the displayed brands.



The code will return coordinates for the bottom-right corner of the



Question 28 ( Question Set 2 )



## 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:

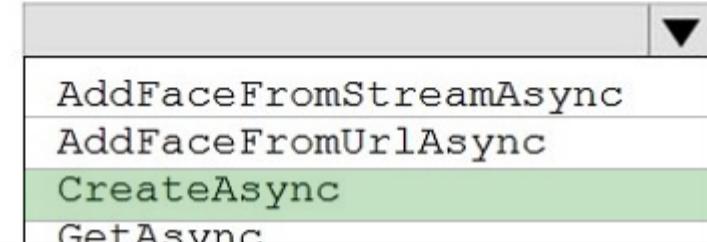
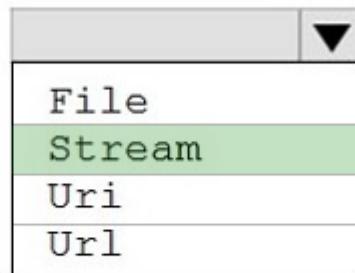
**Answer Area**

```
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 (File t = File.OpenRead(imagePath))
{
            await faceClient.PersonGroupPerson.
                AddFaceFromStreamAsync
                AddFaceFromUrlAsync
                CreateAsync
                GetAsync
                (personGroupId, personId, t);
}
    }
});
```

Answer :

**Answer Area**

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



Question 29 ( Question Set 2 )



## 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**

<b>Statements</b>	<b>Yes</b>	<b>No</b>
-------------------	------------	-----------

The code will perform face recognition.

The code will list tags and their associated confidence.

The code will read a file from the local file system.

Answer :

**Answer Area**

<b>Statements</b>	<b>Yes</b>	<b>No</b>
-------------------	------------	-----------

The code will perform face recognition.

The code will list tags and their associated confidence.

The code will read a file from the local file system.

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 30 ( Question Set 2 )



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.

Answer : BD

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>

#### Question 31 ( Question Set 2 )



HOTSPOT -

You have a Computer Vision resource named contoso1 that is hosted in the West US Azure region.

You need to use contoso1 to make a different size of a product photo by using the smart cropping feature.

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

NOTE: Each correct selection is worth one point.

Hot Area:

#### Answer Area

```
curl -H "Ocp-Apim-Subscription-Key: xxx" /
-o "sample.png" -H "Content-Type: application/json" /
```

"https://api.projectoxford.ai"
"https://contoso1.cognitiveservices.azure.com"
"https://westus.api.cognitive.microsoft.com"

/vision/v3.1/

areaOfInterest
detect
generateThumbnail

?width=100&amp;height=100&amp;smartCropping=true" /

```
-d "{\"url\":\"https://upload.litwareinc.org/litware/bicycle.jpg\"}"
```

Answer :

**Answer Area**

```
curl -H "Ocp-Apim-Subscription-Key: xxx" /
```

```
-o "sample.png" -H "Content-Type: application/json" /
```

"https://api.projectoxford.ai"
"https://contoso1.cognitiveservices.azure.com"
"https://westus.api.cognitive.microsoft.com"

/vision/v3.1/

areaOfInterest
detect
generateThumbnail

?width=100&amp;height=100&amp;smartCropping=true" /

```
-d "{\"url\":\"https://upload.litwareinc.org/litware/bicycle.jpg\"}"
```

Reference:  
<https://westus.dev.cognitive.microsoft.com/docs/services/computer-vision-v3-2/operations/56f91f2e778daf14a499f21b> <https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-video-indexer>

Question 32 ( Question Set 2 )

**DRAG DROP -**

You are developing a webpage that will use the Video Indexer service to display videos of internal company meetings.

You embed the Player widget and the Cognitive Insights widget into the page.

You need to configure the widgets to meet the following requirements:

- ⇒ Ensure that users can search for keywords.
- ⇒ Display the names and faces of people in the video.
- ⇒ Show captions in the video in English (United States).

How should you complete the URL for each widget? 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
en-US
false
people,keywords
people,search
search
true

**Answer Area****Cognitive Insights Widget**

<https://www.videoindexer.ai/embed/insights/<accountId>/<videoId>/?widgets=>

Value
-------

controls=
-----------

Value

**Player Widget**

<https://www.videoindexer.ai/embed/player/<accountId>/<videoId>/?showcaptions=>

Value
-------

captions=
-----------

Value

Answer :

Values

**Answer Area**

false**Cognitive Insights Widget**<https://www.videoindexer.ai/embed/insights/<accountId>/<videoId>/?widgets=people,keywords>

controls=search

Question 33 ( Question Set 2 )



DRAG DROP -

You train a Custom Vision model to identify a company's products by using the Retail domain.

You plan to deploy the model as part of an app for Android phones.

You need to prepare the model for deployment.

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.

Select and Place:

**Actions** Change the model domain. Retrain the model. Test the model. Export the model.**Answer Area**

Answer :

**Actions**
  
  
  

**Answer Area** Change the model domain. Retrain the model. Test the model. Export the model.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/export-your-model>

Question 34 ( Question Set 2 )



HOTSPOT -

You are developing an application to recognize employees' faces by using the Face Recognition API. Images of the faces will be accessible from a URI endpoint.

The application has the following code.

```
static async void AddFace(string subscription_key, string personGroupId, string personId, string imageURI)
{
    var client = new HttpClient();
```

```

client.DefaultRequestHeaders.Add("Ocp-Apim-Subscription-Key", subscription_key);
var endpointURI = $"https://westus.api.cognitive.microsoft.com/face/v1.0/persongroups/{personGroupId}/persons/{personId}/persistedFaces";
HttpResponseMessage response;
var body = "{ \"url\": \"\" + imageURI + \"\"}";
var content = new StringContent(body, Encoding.UTF8, "application/json");
var response = await client.PutAsync(endpointURI, content);
}

```

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 add a face image to a person object in a person group.	<input type="radio"/>	<input type="radio"/>
The code will work for a group of 10,000 people.	<input type="radio"/>	<input type="radio"/>
AddFace can be called multiple times to add multiple face images to a person object.	<input type="radio"/>	<input type="radio"/>

Answer :

### Answer Area

Statements	Yes	No
The code will add a face image to a person object in a person group.	<input checked="" type="radio"/>	<input type="radio"/>
The code will work for a group of 10,000 people.	<input type="radio"/>	<input checked="" type="radio"/>
AddFace can be called multiple times to add multiple face images to a person object.	<input checked="" type="radio"/>	<input type="radio"/>

Reference:

Question 35 ( Question Set 2 )



#### DRAG DROP -

You have a Custom Vision resource named acvdev in a development environment.  
You have a Custom Vision resource named acvprod in a production environment.  
In acvdev, you build an object detection model named obj1 in a project named proj1.

You need to move obj1 to acvprod.

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.

Select and Place:

#### Actions

- Use the ExportProject endpoint on acvdev.
- Use the GetProjects endpoint on acvdev.
- Use the ImportProject endpoint on acvprod.
- Use the ExportIteration endpoint on acvdev.
- Use the GetIterations endpoint on acvdev.
- Use the UpdateProject endpoint on acvprod.

#### Answer Area



Answer :

**Actions**

- 
- 
- 
- Use the ExportIteration endpoint on acvdev.
- Use the GetIterations endpoint on acvdev.
- Use the UpdateProject endpoint on acvprod.

**Answer Area**

- Use the GetProjects endpoint on acvdev.
- Use the ExportProject endpoint on acvdev.
- Use the ImportProject endpoint on acvprod.
- 
- 

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/copy-move-projects>**Question 36 ( 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 -**

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**Overview -**

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.

**Existing Environment -****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.

An Azure Cosmos DB account

#### ■ Azure Cosmos DB account

- 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 alt 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 autocomplete 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"
}
```

}

**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****Answer Area**

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 :

**ACTIONS****Answer Area**

**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.**

**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.**

**Explanation:**

Scenario: All videos must have transcripts that are associated to the video and included in product descriptions.

Product descriptions, transcripts, and alt 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 37 ( 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.

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        "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"
}

```

**HOTSPOT -**

You need to develop code to upload images for the product creation project. The solution must meet the accessibility requirements.

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

NOTE: Each correct selection is worth one point.

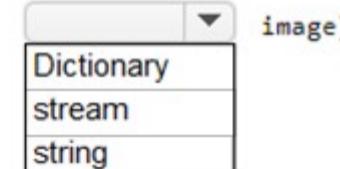
Hot Area:

**Answer Area**

```

public static async Task<string> SuggestAltText(ComputerVisionClient client,
{
    List<VisualFeatureTypes?> features = new List<VisualFeatureTypes?>()
    {

```



VisualFeatureTypes.Description
VisualFeatureTypes.ImageType
VisualFeatureTypes.Objects
VisualFeatureTypes.Tags

```

    };
    ImageAnalysis results = await client.AnalyzeImageAsync(image, features);

```

var c = results.Brands.DetectedBrands[0]
var c = results.Description.Captions[0]
var c = results.Metadata[0]
var c = results.Objects[0]

```

if(c.Confidence>0.5) return(c.Text);
}

```

Answer :

**Answer Area**

**ANSWER AREA**

```

public static async Task<string> SuggestAltText(ComputerVisionClient client,
{
    List<VisualFeatureTypes?> features = new List<VisualFeatureTypes?>()
    {
        VisualFeatureTypes.Description
        VisualFeatureTypes.ImageType
        VisualFeatureTypes.Objects
        VisualFeatureTypes.Tags
    };
    ImageAnalysis results = await client.AnalyzeImageAsync(image, features);
}

var c = results.Brands.DetectedBrands[0]
var c = results.Description.Captions[0]
var c = results.Metadata[0]
var c = results.Objects[0]

if(c.Confidence>0.5) return(c.Text);
}

```

image)
Dictionary
stream
string

Reference:  
<https://github.com/Azure-Samples/cognitive-services-dotnet-sdk-samples/blob/master/documentation-samples/quickstarts/ComputerVision/Program.cs>

**Question 38 ( Question Set 3 )**

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

Answer : B

**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

**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****Question 39 ( Question Set 3 )**

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.

Answer : B

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:

<b>Property</b>	<b>Value</b>
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

Reference:

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

**Question 40 ( Question Set 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=Cyril
- B. from=el
- C. textType=html
- D. to=el
- E. textType=plain

Answer : CDF

**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-o-translate>

**Question 41 ( Question Set 3 )**

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

Answer : CE

**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 42 ( Question Set 3 )****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****Answer Area**

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 :

**Actions****Answer Area**