



AI-102

Designing and Implementing  
a Microsoft Azure AI Solution



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# **Microsoft**

## **Exam AI-102**

### **Designing and Implementing a Microsoft Azure AI Solution**

**Version: 12.0**

**[ Total Questions: 213 ]**

**Topic break down**

<b>Topic</b>	<b>No. of Questions</b>
<b>Topic 1: Wide World Importers</b>	<b>7</b>
<b>Topic 2: Contoso, Ltd. Case Study</b>	<b>10</b>
<b>Topic 3: Misc. Questions</b>	<b>196</b>

## Topic 1, Wide World Importers

### Case study

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### 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
- ✍ An Azure Functions resource
- ✍ An Azure Cosmos DB account
- ✍ An Azure Storage account
- ✍ 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 No : 1 - (Topic 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.

**Answer: A,B,F**

**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 No : 2 HOTSPOT - (Topic 1)**

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.

Answer Area

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

Answer:

Answer Area

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

Explanation:

Box 1: api-nam.cognitive.microsofttranslator.com

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

Box 2: /translate

**Question No : 3 HOTSPOT - (Topic 1)**

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

You need to build the Adaptive Card for the chatbot.

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

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

### Answer Area

```

version": "1.3",
"body": [
  {
    "type": "TextBlock",
    "size": "Medium",
    "weight": "Bolder",
    "text": "${
  },
  {
    "type": "TextBlock",
    "$when": "${stockLevel != 'OK'}"
    "$when": "${stockLevel = 'OK'}"
    "$when": "${stockLevel.OK}"
    color : Attention
  },
  {
    "type": "Image",
    "url": "${image.uri}",
    "size": "Medium",
    "altText": "${
  }
]
}

```

if(language == 'en', 'en', name)  
name  
name.en  
name[language]

"\$when": "\${stockLevel != 'OK'}"  
"\$when": "\${stockLevel = 'OK'}"  
"\$when": "\${stockLevel.OK}"

image.altText.en  
image.altText.language  
image.altText["language"]  
image.altText[language]

**Answer:**

### Answer Area

```

version": "1.3",
"body": [
  {
    "type": "TextBlock",
    "size": "Medium",
    "weight": "Bolder",
    "text": "${
      if(language == 'en', 'en', name)
      name
      name.en
      name[language]
    }"
  },
  {
    "type": "TextBlock",
    "$when": "${stockLevel != 'OK'}"
    "$when": "${stockLevel == 'OK'}"
    "$when": "${stockLevel.OK}"
    color : Attention
  },
  {
    "type": "Image",
    "url": "${image.uri}",
    "size": "Medium",
    "altText": "${
      image.altText.en
      image.altText.language
      image.altText["language"]
      image.altText[language]
    }"
  }
]
}

```

Explanation:

```

version": "1.3",
"body": [
  {
    "type": "TextBlock",
    "size": "Medium",
    "weight": "Bolder",
    "text": "${
  },
  {
    "type": "TextBlock",
    "color : Attention

```

if(language == 'en', 'en', name)
name
name.en
name[language]

`\${stockLevel != 'OK'}`
`\${stockLevel == 'OK'}`
`\${stockLevel.OK}`

Text

Description automatically generated

```

    },
    {
      "type": "Image",
      "url": "${image.uri}",
      "size": "Medium",
      "altText": "${
    }
  ]
}

```

image.altText.en
image.altText.language
image.altText["language"]
image.altText[language]

Text

Description automatically generated

Box 1: name.en

Box 2: "\${when": "\${stockLevel != 'OK'}"

Product displays must include images and warnings when stock levels are low or out of stock.

Box 3: image.altText.en

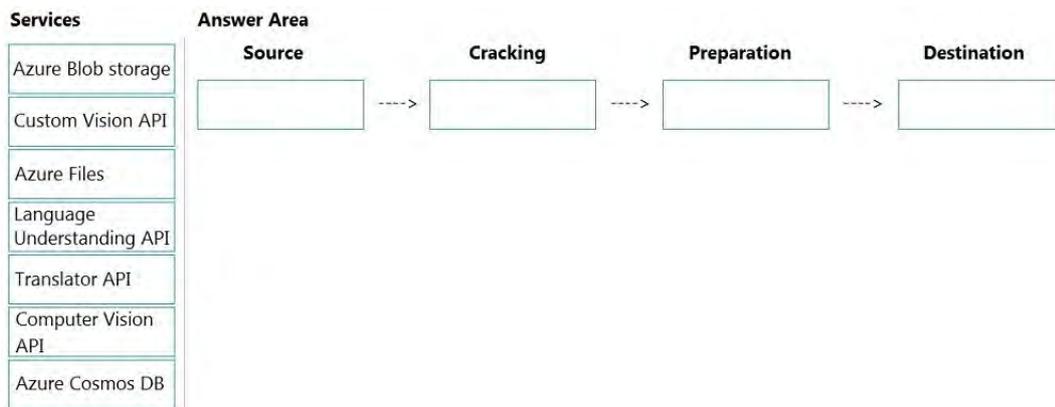
**Question No : 4 DRAG DROP - (Topic 1)**

You are developing the smart e-commerce project.

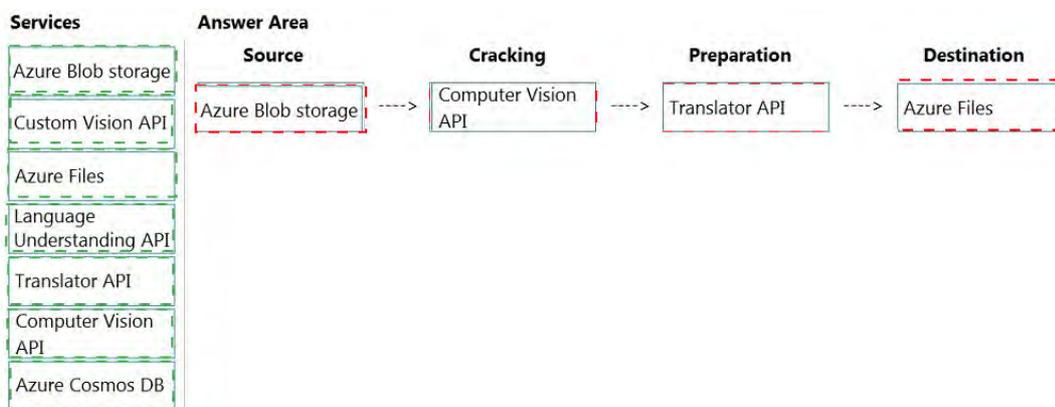
You need to design the skillset to include the contents of PDFs in searches.

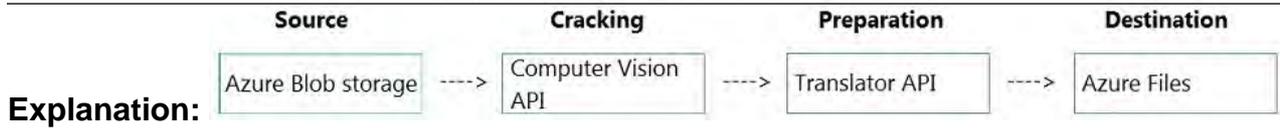
How should you complete the skillset design diagram? To answer, drag the appropriate services to the correct stages. Each service may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.



**Answer:**





**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.

**Question No : 5 DRAG DROP - (Topic 1)**

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.)

**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.

Actions	Answer Area
Index the video by using the Video Indexer API.	Upload the video to blob storage.
Upload the video to blob storage.	Index the video by using the Video Indexer API.
Analyze the video by using the Computer Vision API.	Extract the transcript from the Video Indexer API.
Extract the transcript from Microsoft Stream.	Translate the transcript by using the Translator API.
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.	

**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.

**Question No : 6 HOTSPOT - (Topic 1)**

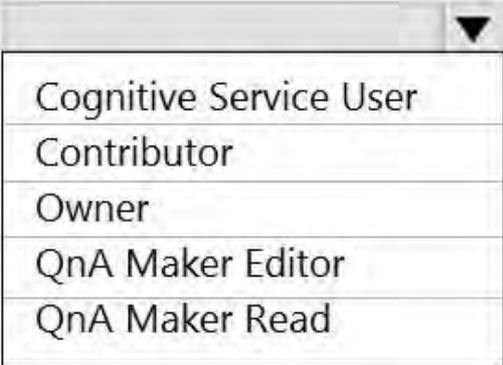
You are developing the shopping on-the-go project.

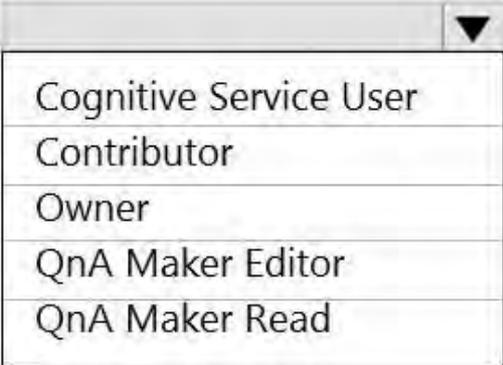
You are configuring access to the QnA Maker resources.

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.

**Answer Area**

AllUsers: 

LeadershipTeam: 

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

**Answer:**

**Answer Area**

AllUsers:  ▼

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

LeadershipTeam:  ▼

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

**Explanation:**  
**Answer Area**

AllUsers:  ▼

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

LeadershipTeam:  ▼

Cognitive Service User
Contributor
Owner
QnA Maker Editor
QnA Maker Read

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

**Question No : 7 HOTSPOT - (Topic 1)**

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.

## Microsoft AI-102 : Practice Test

```
public static async Task<string> SuggestAltText(ComputerVisionClient client, image)
{
    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:

```
public static async Task<string> SuggestAltText(ComputerVisionClient client, image)
{
    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);
}
```

### Explanation:

```
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);
}
```

Graphical user

interface, text, application, email

Description automatically generated

**Topic 2, Contoso, Ltd. Case Study**

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**General Overview**

Contoso, Ltd. is an international accounting company that has offices in France. Portugal, and the United Kingdom. Contoso has a professional services department that contains the

roles shown in the following table.

Name	Position	Office
Accountant	Manager	United Kingdom, France, Portugal
Accountant	Consultant	United Kingdom, France, Portugal
Customer Service	Manager	United Kingdom
Customer Service	Agent	United Kingdom
Bookkeeper	Manager	United Kingdom, France, Portugal
Bookkeeper	Consultant	United Kingdom, France, Portugal

### Infrastructure

Contoso has the following subscriptions:

- Azure
- Microsoft 365
- Microsoft Dynamics 365

### Azure Active (Azure AD) Directory

Contoso has Azure Active Directory groups for securing role-based access. The company uses the following group naming conventions:

- |CountryJ-[Level]-[Role]
- [Level]-[Role]

### Intellectual Property

Contoso has the intellectual property shown in the following table.

Content	Format	Language	Content store	Domain
Weekly webinars	Video	English	Azure Blob storage	Vid.contoso.com
Blogs	Text	English, French, Portuguese	WordPress	Pt-blog.contoso.com Blog.contoso.com Fr-blog.contoso.com
Wikis	Text	English, French, Portuguese	Azure Cosmos DB	Internal.contoso.com/wiki
Monthly conference recordings	Video	English	SharePoint Online	Contoso.sharepoint.com
Frequently asked questions (FAQs)	Text	English	SharePoint Online	Contoso.sharepoint.com

Text-based content is provided only in one language and is not translated.

### Planned Projects

Contoso plans to develop the following:

- A document processing workflow to extract information automatically from PDFs and images of financial documents
- A customer-support chatbot that will answer questions by using FAQs
- A searchable knowledgebase of all the intellectual property

### Technical Requirements

Contoso identifies the following technical requirements:

- All content must be approved before being published.
- All planned projects must support English, French, and Portuguese.

- All content must be secured by using role-based access control (RBAC).
- RBAC role assignments must use the principle of least privilege.
- RBAC roles must be assigned only to Azure Active Directory groups.
- AI solution responses must have a confidence score that is equal to or greater than 70 percent.
- When the response confidence score of an AI response is lower than 70 percent, the response must be improved by human input.

### **Chatbot Requirements**

Contoso identifies the following requirements for the chatbot:

- Provide customers with answers to the FAQs.
- Ensure that the customers can chat to a customer service agent.
- Ensure that the members of a group named Management-Accountants can approve the FAQs.
- Ensure that the members of a group named Consultant-Accountants can create and amend the FAQs.
- Ensure that the members of a group named the Agent-CustomerServices can browse the FAQs.
- Ensure that access to the customer service agents is managed by using Omnichannel for Customer Service.
- When the response confidence score is low, ensure that the chatbot can provide other response options to the customers.

### **Document Processing Requirements**

Contoso identifies the following requirements for document processing:

- The document processing solution must be able to process standardized financial documents that have the following characteristics:
  - Contain fewer than 20 pages.
  - Be formatted as PDF or JPEG files.
  - Have a distinct standard for each office.
- The document processing solution must be able to extract tables and text from the financial documents.
- The document processing solution must be able to extract information from receipt images.
- Members of a group named Management-Bookkeeper must define how to extract tables from the financial documents.
- Members of a group named Consultant-Bookkeeper must be able to process the financial documents.

### **Knowledgebase Requirements**

Contoso identifies the following requirements for the knowledgebase:

- Supports searches for equivalent terms
- Can transcribe jargon with high accuracy
- Can search content in different formats, including video
- Provides relevant links to external resources for further research

**Question No : 8 HOTSPOT - (Topic 2)**

You build a QnA Maker resource to meet the chatbot requirements.

Which RBAC role should you assign to each group? To answer, select the appropriate options in the answer area.

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

**Answer Area**

Management-Accountants	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>
Consultant-Accountants	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>
Agent-CustomerServices	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>

**Answer:**

**Answer Area**

Management-Accountants	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>
Consultant-Accountants	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>
Agent-CustomerServices	<ul style="list-style-type: none"><li>Owner</li><li>Contributor</li><li>Cognitive Services User</li><li>Cognitive Services QnA Maker Read</li><li>Cognitive Services QnA Maker Editor</li></ul>

**Explanation:**

Box 1: Cognitive Service User

Ensure that the members of a group named Management-Accountants can approve the FAQs.

Approve=publish.

Cognitive Service User (read/write/publish): API permissions: All access to Cognitive Services resource except for ability to:

1. Add new members to roles.
2. Create new resources.

Box 2: Cognitive Services QnA Maker Editor

Ensure that the members of a group named Consultant-Accountants can create and amend the FAQs.

QnA Maker Editor: API permissions:

1. Create KB API
2. Update KB API
3. Replace KB API
4. Replace Alterations
5. "Train API" [in new service model v5]

Box 3: Cognitive Services QnA Maker Read

Ensure that the members of a group named the Agent-CustomerServices can browse the FAQs.

QnA Maker Read: API Permissions:

1. Download KB API
  2. List KBs for user API
  3. Get Knowledge base details
  4. Download Alterations
- Generate Answer

**Question No : 9 - (Topic 2)**

You are developing the chatbot.

You create the following components:

- \* A QnA Maker resource
- \* A chatbot by using the Azure Bot Framework SDK.

You need to integrate the components to meet the chatbot requirements.

Which property should you use?

- A. QnADialogResponseOptions.CardNoMatchText
- B. Qna MakerOptions-ScoreThreshold
- C. Qna Maker Op t ions StrickFilters
- D. QnaMakerOptions.RankerType

**Answer: D**

**Explanation:**

Scenario: When the response confidence score is low, ensure that the chatbot can provide other response options to the customers.

When no good match is found by the ranker, the confidence score of 0.0 or "None" is returned and the default response is "No good match found in the KB". You can override this default response in the bot or application code calling the endpoint. Alternately, you can also set the override response in Azure and this changes the default for all knowledge bases deployed in a particular QnA Maker service.

Choosing Ranker type: By default, QnA Maker searches through questions and answers. If you want to search through questions only, to generate an answer, use the RankerType=QuestionOnly in the POST body of the GenerateAnswer request.

Reference:

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

**Question No : 10 - (Topic 2)**

You are developing the knowledgebase by using Azure Cognitive Search.

You need to meet the knowledgebase requirements for searching equivalent terms.

What should you include in the solution?

- A. synonym map
- B. a suggester
- C. a custom analyzer
- D. a built-in key phrase extraction skill

**Answer: A**

**Explanation:**

Within a search service, synonym maps are a global resource that associate equivalent terms, expanding the scope of a query without the user having to actually provide the term. For example, assuming "dog", "canine", and "puppy" are mapped synonyms, a query on "canine" will match on a document containing "dog".

Create synonyms: A synonym map is an asset that can be created once and used by many indexes.

Reference:

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

**Question No : 11 - (Topic 2)**

You need to develop an extract solution for the receipt images. The solution must meet the document processing requirements and the technical requirements.

You upload the receipt images to the From Recognizer API for analysis, and the API returns the following JSON.

```
"documentResults": [
  {
    "docType": "prebuilt:receipt",
    "pageRange": [
      1,
      1
    ],
    "fields": {
      "ReceiptType": {
        "type": "string",
        "valueString": "Itemized",
        "confidence": 0.672
      },
      "MerchantName": {
        "type": "string",
        "valueString": "Tailwind",
        "text": "Tailwind",
        "boundingBox": [],
        "page": 1,
        "confidence": 0.913,
        "elements": [
          "#/readResults/0/lines/0/words/0"
        ]
      }
    }
  },
  ...
]
```

Which expression should you use to trigger a manual review of the extracted information by a member of the Consultant-Bookkeeper group?

- A. `documentResults.docType == "prebuilt:receipt"`
- B. `documentResults.fields.confidence < 0.7`
- C. `documentResults.fields.ReceiptType.confidence > 0.7`
- D. `documentResults.fields.MerchantName.confidence < 0.7`

**Answer: C**

**Explanation:**

Need to specify the field name, and then use `< 0.7` to handle trigger if confidence score is less than 70%.

Reference:

<https://docs.microsoft.com/en-us/azure/applied-ai-services/form-recognizer/api-v2-0/reference-sdk-api-v2-0>

**Question No : 12 HOTSPOT - (Topic 2)**

You are developing the knowledgebase by using Azure Cognitive Search.

You need to build a skill that will be used by indexers.

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

NOTE: Each correct selection is worth one point.

Answer Area

```

{
  "@odata.type": "#Microsoft.Skills.Text.EntityRecognitionSkill",
  "categories": [],
  "categories": [ "Email", "Persons", "Organizations" ],
  "categories": [ "Locations", "Persons", "Organizations" ],
  "minimumPrecision": 0.7,
  "inputs": [
    { "name": "text",
      "source": "/document/content" }
  ],
  "outputs": [
    { "name": "persons", "targetName": "people" },
    { "name": "locations", "targetName": "locations" },
    { "name": "organizations", "targetName": "organizations" },
    { "name": "entities" },
    { "name": "categories" }
  ]
}
    
```

**Answer:**

Answer Area

```

{
  "@odata.type": "#Microsoft.Skills.Text.EntityRecognitionSkill",
  "categories": [],
  "categories": [ "Email", "Persons", "Organizations" ],
  "categories": [ "Locations", "Persons", "Organizations" ],
  "minimumPrecision": 0.7,
  "inputs": [
    { "name": "text",
      "source": "/document/content" }
  ],
  "outputs": [
    { "name": "persons", "targetName": "people" },
    { "name": "locations", "targetName": "locations" },
    { "name": "organizations", "targetName": "organizations" },
    { "name": "entities" },
    { "name": "categories" }
  ]
}
    
```

**Explanation:**

Box 1: "categories": ["Locations", "Persons", "Organizations"],  
Locations, Persons, Organizations are in the outputs.

Scenario: Contoso plans to develop a searchable knowledgebase of all the intellectual property

Note: The categories parameter is an array of categories that should be extracted. Possible category types: "Person", "Location", "Organization", "Quantity", "Datetime", "URL", "Email". If no category is provided, all types are returned.

Box 2: {"name": " entities"}

The include wikis, so should include entities in the outputs.

Note: entities is an array of complex types that contains rich information about the entities extracted from text, with the following fields

name (the actual entity name. This represents a "normalized" form)

wikipediaId

wikipediaLanguage

wikipediaUrl (a link to Wikipedia page for the entity)

etc.

### Question No : 13 - (Topic 2)

You are developing the knowledgebase.

You use Azure Video Analyzer for Media (previously Video indexer) to obtain transcripts of webinars.

You need to ensure that the solution meets the knowledgebase requirements.

What should you do?

- A. Create a custom language model
- B. Configure audio indexing for videos only
- C. Enable multi-language detection for videos
- D. Build a custom Person model for webinar presenters