Practice Test 2

Question 1

Unattempted
Domain: Describe AI workloads and considerations

Please select all options that are NOT the key elements of Artificial Intelligence.

- [ ] A.
Machine Learning

- [ ] B.
Anomaly Detection

- [ ] C.
Computer Vision

- [ ] D.
Object Detection

- [ ] E.
Natural Language Processing

- [ ] F.
Conversational AI

- [ ] G.
Automated Machine Learning

Explanation:

Correct Answers: D and G
There are five key elements of Microsoft Artificial Intelligence.

- **Machine Learning** - the foundation of AI systems.
- **Anomaly Detectio**n - tools and services for identification of unusual activities.
- **Computer Vision** - tools and services to understand and recognize objects in images, video, faces, and text.
- **Natural Language Processing** - tools and services for language understanding: text, speech, text analysis, and translation.
- **Conversational AI** - tools and services for intelligent conversation.
- **Option D is correct.** Object Detection is one of the common tasks of Computer Vision and is not the key element of Artificial Intelligence.
- **Options G is correct.** Automated Machine Learning is a feature of Machine Learning and is not the key element of Artificial Intelligence.

All other options are incorrect because they are the key elements of Artificial Intelligence.

For more information about the key elements of AI, please visit the following URL:

https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/1-introduction

Question 2
Unattempted
Domain: Describe AI workloads and considerations

You created an AI solution. Along with solution deployment, you provided information about the solution's possibilities and limitations. By providing this information, what principle for responsible AI did you comply with?

A.
Fairness

B.
Reliability and safety

C.
Privacy and security

D.
Transparency

E.
Inclusiveness

F.
Accountability

Explanation:

Correct Answer: D
Microsoft recognizes six principles of responsible AI.

Fairness, Reliability and safety, Privacy and security, Transparency, Inclusiveness Accountability.

The principle of Transparency helps people understand how to use AI solutions, their behavior, possibilities, and limitations.

All other options are incorrect.

For more information about guiding principles for responsible AI, please visit the following URLs:

- https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1:primaryr6
- https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 3
Unattempted

Domain: Describe fundamental principles of machine learning on Azure

You are working for a car dealership. Your boss asks you to provide information about how many blue cars he needs to order for the next quarter.
You decide to create an ML model and choose an unsupervised machine learning approach.
Will this help you achieve your goal?

- A.**Yes**
- B.**No**

Explanation

Correct Answer: B
Your task is to provide a numeric prediction. You can achieve this by creating a regression model based on blue cars' historical sales data from previous quarters. Regression and classification modeling types are two parts of supervised machine learning. Only clustering belongs to unsupervised machine learning. If you choose the unsupervised machine learning approach, you will not achieve your goal.

For more information about Supervised and Unsupervised ML, please visit the following URL:

https://azure.microsoft.com/en-us/overview/what-is-machine-learning-platform/#benefits.

Question 4
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You are working for a car dealership. Your boss asks you to provide forecast information. Will the new car model be successful or not? The new model has a variety of engine improvements, more comfortable seats, and a sunroof. You compiled the list of data about previous successful models with their characteristics and sales numbers.
What should you do in the pre-processing data stage that would help you predict the new model's success?

- A.
Data selection

- B.
Training set selection

- C.
Data for model evaluation selection

- D.
Feature selection

- E.
Data classification

Explanation:

Correct Answer: D
During pre-processing, you need to work with data to select features that influence the label prediction. In this problem, features are the engine characteristics (power or volume), seat comforts, and so on. They could help the ML model predict the success of the new car model. Maybe the sunroof is not essential for predicting the label, and we need to discard this feature from the final set of features that we will use for model training.

In short, feature selection helps us narrow down the features that are important for our label prediction and discard all features that don't play or play a minimal role in a label prediction. As a result, our trained model and prediction will be more efficient.

All other options are incorrect because they are parts of the different data processing events that are irrelevant to the pre-processing (training set selection or data for model evaluation selection) or too generic (data selection or data classification).

For more information about feature selection, please visit the following URL:

https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/select-features.

Question 5
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You created a classification model with four possible classes.
What will be the size of the confusion matrix?

A.
2x2

B.
3x3

C.
4x4

D.
6x6

E.
10x10

Explanation:

Correct Answer: C
The confusion matrix provides a tabulated view of predicted and actual values for each class. If we are predicting the classification for four classes, our confusion matrix will have a 4x4 size.

All other options are incorrect.

For more information about the Confusion matrix, please visit the following URL:

https://docs.microsoft.com/en-us/azure/machine-learning/how-to-understand-automated-ml#confusion-matrix

Question 6
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

When you prepare data for the model training, you have to use your domain knowledge to select the label (or labels), features, and scale and normalize them.
What is the generic name for the process that includes all the steps mentioned above?

A.
Feature selections

B.
Data normalization

C.
Model training

D.
Featurization

E.
Missing data handling

Explanation:

Correct Answer: D
Data pre-processing involves various techniques, such as scaling, normalization, or feature engineering, and so on, called **featurization.**

- **Option A is incorrect** because Feature selection is one of the elements of featurization.
- **Option B is incorrect** because Data normalization is also one of the elements of featurization.
- **Option C is incorrect** because Model Training is the next predictive modeling step after featurization.
- **Option E is incorrect** because Missing data handling is one of the elements of featurization.

For more information about Featurization, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/machine-learning/concept-automated-ml#feature-engineering
- https://docs.microsoft.com/en-us/azure/machine-learning/how-to-configure-auto-features#featurization

Question 7
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

What are the four types of Compute resources you can use in Azure Machine Learning Studio? Please select all that apply.

- [ ] A.
Compute Instances

- [ ] B.
Automated ML instances

- [ ] C.
Compute clusters

- [ ] D.
Inference clusters

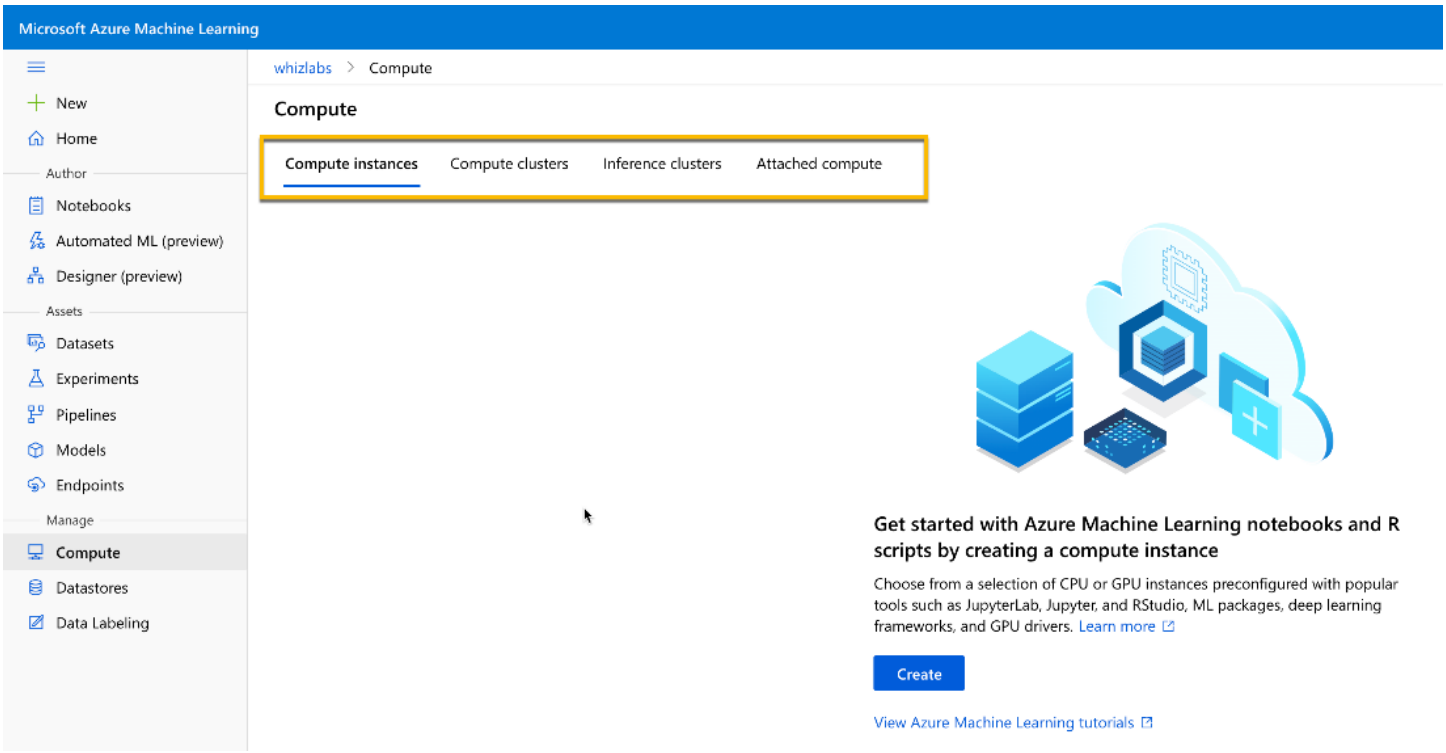
- [ ] E.
Classification clusters

- [ ] F.
Attached compute

- [ ] G.
AKS Cluster instances

Explanation:

Correct Answers: A, C, D, and F
When you open Compute blade in Microsoft Azure Machine Learning Studio, you can see all four compute resources.



- **Option B is incorrect** because Automated ML instances are the generic ML instance.
- **Option G is incorrect** because AKS Cluster Instance is the generic representation of the Azure Kubernetes cluster.

For more information about Azure ML Studio compute resources, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/machine-learning/how-to-create-attach-compute-studio#portal-create
- https://docs.microsoft.com/en-us/learn/modules/use-automated-machine-learning/create-compute

Question 8
Unattempted
Domain: Describe features of computer vision workloads on Azure

You created a Custom Vision model. You want your model to detect trained objects on the photos.
What information will you get about each object if you are using an object detection model?
Please select all that apply.

☐ A.
Image type

☐ B.
Bounding box

☐ C.
Image category

☐ D.
Class name

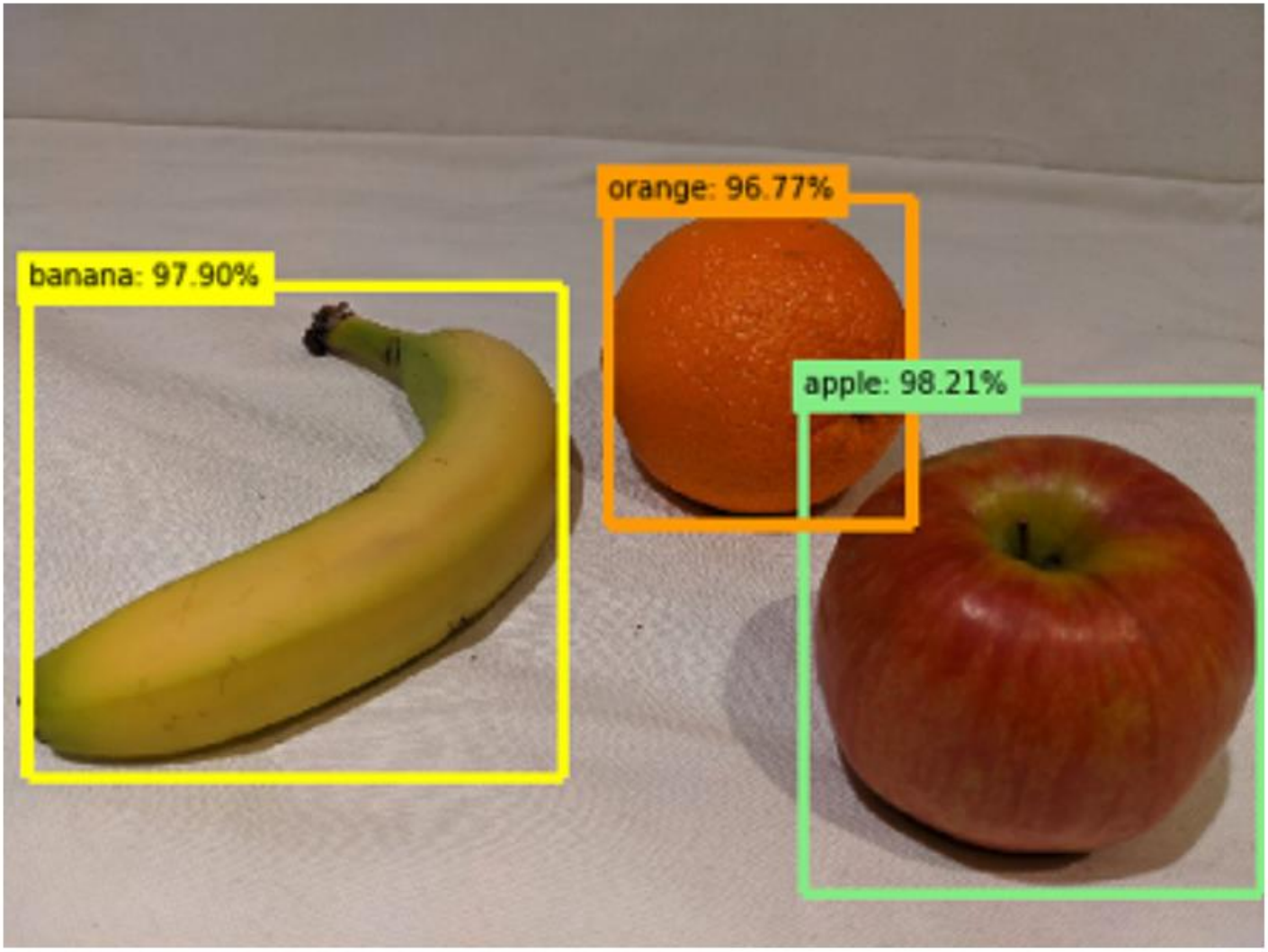
☐ E.
Probability score

☐ F.
Content name

Explanation:

Correct Answers: B, D, and E.
Object detection is the form of ML that helps you recognize objects on the images. Each recognizable object will be put in the bounding box with the class name and probability score.

Here is the Microsoft information about the object detection model.



All other options are incorrect because they are not part of the object detection model's return information.

For more information about Object detection, please visit the following URL:

https://docs.microsoft.com/en-us/learn/modules/detect-objects-images-custom-vision/1-introduction

Question 9
Unattempted
Domain: Describe features of computer vision workloads on Azure

The application scans a document with a lot of pages. It returns the following information for each page, such as page information, lines information, and words for each line with a confidence level.
What API does the application use to scan the document?

A.
OCR

B.
NLP

C.
Read

D.
Text Analytics

E.
LUIS

Explanation:

Correct Answer: C
Read API is part of Computer Vision services. It helps "read" texts within predominantly document images. Read API is an asynchronous service specially designed for the heavy on text images or documents with many distortions. It produces a result that includes page information for each page, including page size and orientation; information about each line on the page, and information about each word in each line, including the bounding box of each word as an indication of the word position in the image.

- **Option A is incorrect** since OCR API is an asynchronous service for recognizing small amounts of text in the images. It returns regions of the text in the image, lines of the text in the region, and words in each line.
- **Option B is incorrect** since Natural Language Processing (NLP) is one of the key elements of Artificial Intelligence and is not the part of Computer Vision that deals with text extraction from the images.
- **Option D is incorrect** since Text Analytics is part of Natural Processing Language (NLP) and is not the part of Computer Vision that deals with text extraction from the images.
- **Option E is incorrect** since Language Understanding Intelligent Service (LUIS) is the part of Natural Processing Language (NLP) and is not part of Computer Vision that deals with text extraction from the images.

For more information about Read API, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-recognizing-text
- https://docs.microsoft.com/en-us/learn/modules/read-text-computer-vision/2-ocr-azure

Question 10
Unattempted
Domain: Describe features of computer vision workloads on Azure

You created a Custom Vision model using the Custom Vision portal.
What information do you need to provide to the developers to use this model?
Please select all that apply.

A.
Project ID

B.
Security Key

☐ C.
Model name

☐ D.
Prediction key

☐ E.
Cognitive Service key

☐ F.
Prediction Endpoint

Explanation:

Correct Answers: A, C, D, and F.
If you create a Cognitive Service to train and publish the Custom Vision model, you can provide a Cognitive Service endpoint and Cognitive Service key to the developers for access to the model. But if you use the Custom Vision portal or create a Custom Vision resource within Cognitive Service, you will have two separate resources to train and publish a model. In this case, you need to provide the four pieces of information to the developers, such as Project ID, Model name, Prediction Key, and Prediction Endpoint.

- **Option B is incorrect** since Security Key is just a generic key that isn't applicable in this case.
- **Option E is incorrect** since we need to provide the pair: Cognitive Service endpoint and Cognitive Service key. Only one of them, a Cognitive Service key, will not work.

For more information about Custom Vision, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/home
- https://docs.microsoft.com/en-us/learn/modules/classify-images-custom-vision/2-azure-image-classification

Question 11
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

You are working at the hotel chain. You are planning to apply Natural Language Processing for the sentiment analysis of the customer reviews.
What sentiment score should you expect for the following review:" The prices were ridiculously high. We could stay at the palace for that price! The water in the shower was cold, no hot water whatsoever"?

○ A.
1

○ B.
0.5

○ C.

2

D.
0.9

E.
0.1

Explanation:

Correct Answer: E.
Sentiment analysis is producing the sentiment score between 0 and 1. A score close to 0 means a negative sentiment, and close to 1 - positive. And in cases with the neutral or undefined sentiment, the score is 0.5. In this problem, the review is negative, and we should expect a score of 0.1.

All other options are incorrect.

For more information about Sentiment Analysis, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/analyze-text-with-text-analytics-service/2-get-started-azure.

Question 12
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

What are the four types of entities that you can create during the authoring of the LUIS Application?

A.
Machine-Learned

B.
List

C.
FAQ document

D.
RegEx

E.
Chit-chat

F.
Pattern.any

☐ G.
Alternative phrasing

Explanation:

Correct Answers: A, B, D, and F
We need to create intents, entities, and train a model during an authoring phase for a Language Understanding application. There are four types of entities that we can create, such as Machine-Learned, List, RegEx, and Pattern.any.

All other options are incorrect because they are parts of creating a knowledge base for Q&A Maker and Azure Bot Service.

For more information about LUIS, please visit the following URLs:

- https://docs.microsoft.com/en-us/learn/modules/create-language-model-with-language-understanding/2-get-started
- https://www.luis.ai/

Question 13
Unattempted
Domain: Describe features of conversational AI workloads on Azure

What components do you need to create a simple Web Chat Bot?

☐ A.
Entities

☐ B.
Knowledge base

☐ C.
Utterances

☐ D.
Bot Service

☐ E.
LUIS

☐ F.
Text Analytics

Explanation:

Correct Answers: B and D
To create a simple Web Chat Bot, you need just two components, such as Knowledge Base and Bot Service.

We can create a knowledge base from website information or FAQ documents. Usually, the knowledge base is a list of question-and-answer pairs. Bot Service provides an interface to interact with a knowledge base from different channels.

- **Options A and C are incorrect** because Entities and Utterances are the parts of LUIS authoring and are not components of Web Chat Bot.
- **Option E is incorrect** since Language Understanding Intelligent Service (LUIS) is Natural Processing Language (NLP) service and is not a Web Chat Bot component.
- **Option F is incorrect** since Text Analytics is Natural Processing Language (NLP) service and is not a Web Chat Bot component.

For more information about Bot Service, please visit the following URLs:

- https://docs.microsoft.com/en-us/learn/modules/build-faq-chatbot-qna-maker-azure-bot-service/1-introduction
- https://azure.microsoft.com/en-us/services/bot-service/

Question 14
Unattempted
Domain: Describe features of conversational AI workloads on Azure

You want to build a personal virtual assistant. What service will you use to connect your assistant with various input channels and devices?

A.
Computer Vision

B.
Azure Bot Service

C.
QnA Maker

D.
LUIS

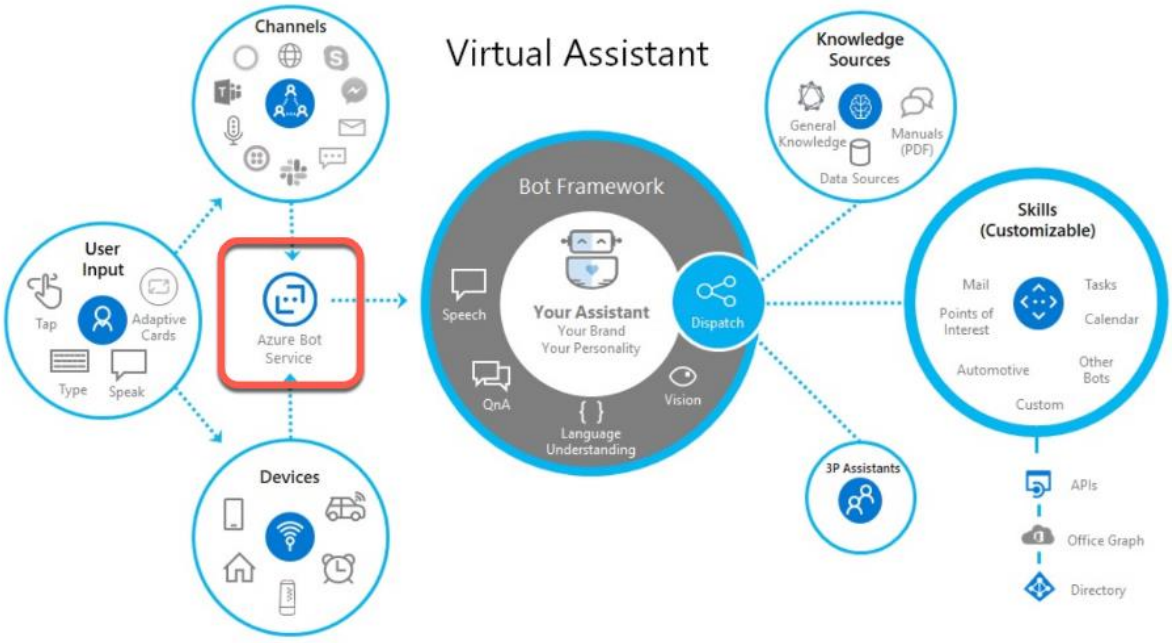
E.
Speech to Text

F.
Text Analytics

Explanation:

Correct Answer: B
Azure Bot Service connects various channels and devices that users can use for their inquiries.

The Microsoft documentation provides the following information about Virtual Assistant.



As you can see on the left side, Azure Bot Service serves as data input for Virtual Assistant.

All other options are incorrect.

For more information about Personal Assistant, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-virtual-assistant-introduction?view=azure-bot-service-4.0

Question 15
Unattempted
Domain: Describe features of conversational AI workloads on Azure

You build a Bot using the Bot Framework and Azure Bot Service. You want to extend the capabilities of your Bot.
What will you use to achieve your goal?

A.
Custom Vision

B.
Language Translation

C.
Chit-Chat

D.
Skills

E.
Text to Speech

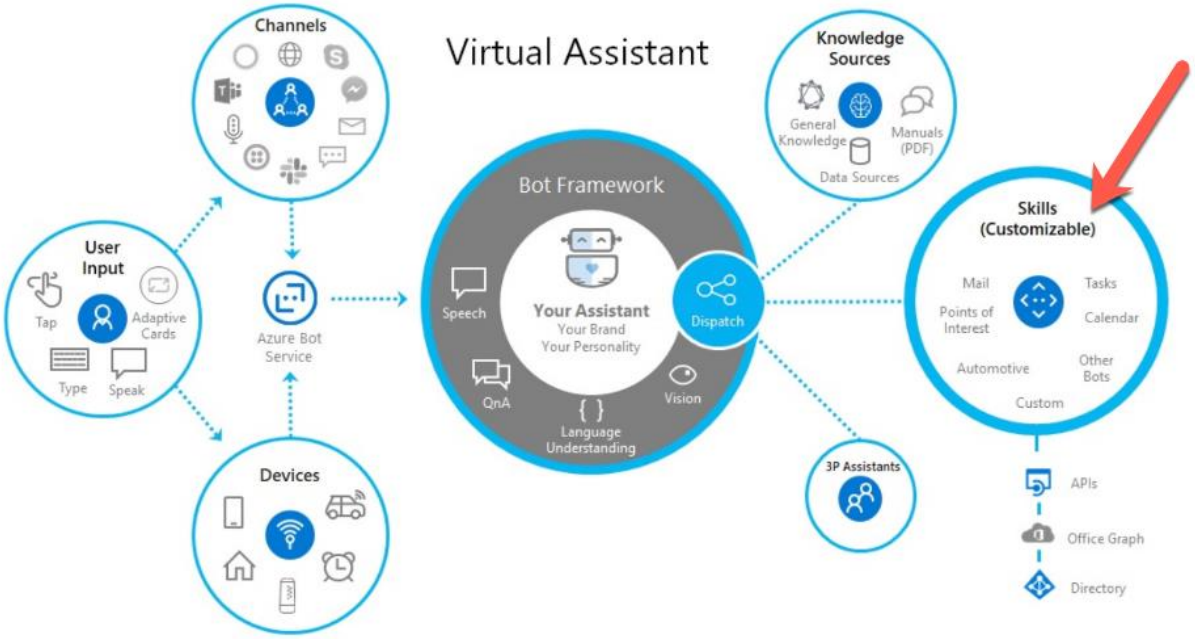
F.
FAQ Document

Explanation:

Correct Answer: D
Using Bot Framework Skills, you can easily extend the capabilities of your Bot. Skills are like standalone bots that focus on a specific function, such as Calendar, To-Do, Point of Interest, and so on.

In the Virtual Assistant design, Bot Framework dispatches actions to Skills.

Here is the Microsoft information about Bot Framework and Skills as parts of Virtual Assistant.



- **Option A is incorrect** because Custom Vision is one of the Computer Vision services and potentially can extend Bot functionality as part of the Skill.
- **Options B and E are incorrect** because Language Translation and Text to Speech are Natural Language Processing services and can potentially extend Bot functionality as part of the Skill.
- **Options C and F are incorrect** because Chit-Chat and FAQ documents are the parts for creating a knowledge base for Q&A Maker and Azure Bot Service.

For more information about Bot Framework Skills, please visit the following URLs:

- https://microsoft.github.io/botframework-solutions/overview/skills/
- https://microsoft.github.io/botframework-solutions/overview/virtual-assistant-solution/

Question 16
Unattempted
Domain: Describe AI workloads and considerations

What are the main features and capabilities of Azure Machine Learning?

Please select all options that apply.

- [ ] A.
Anomaly Detection

- [ ] B.
Pipelines

- [ ] C.
Object Detection

- [ ] D.
Automated machine learning

- [ ] E.
Azure Machine Learning designer

- [ ] F.
Text Analytics

- [ ] G.
Data and compute management

Explanation:

Correct Answers: B, D, E, and G
Azure Machine Learning is the foundation for Artificial Intelligence service. It includes four features and capabilities.

- **Automated machine learning** - automated creation of ML models based on your data; doesn't require any data science experience.
- **Azure Machine Learning designer** - a graphical interface for no-code creation of the ML solutions
- **Data and Compute managemen**t - cloud-based tools for data science professionals,
- **Pipelines** - visual designer for creating ML tasks workflow

Option A is incorrect. Anomaly Detection - is one of the key elements of Artificial Intelligence, and it is not a feature of Machine Learning.

Option C is incorrect. Object Detection is one of Computer Vision's common tasks and is not part of Machine Learning.

Options G is incorrect. Text Analytics - is a feature of Natural language processing and is not a part of Machine Learning.

For more information about the features and capabilities of Machine Learning, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/2-understand-machine-learn

Question 17
Unattempted
Domain: Describe AI workloads and considerations

Microsoft defines this Computer Vision technique in the following way.
"An advanced machine learning technique in which individual pixels in the image are classified according to the object to which they belong."
What is the name of this common Computer Vision task?

A.
Image Classification

B.
Semantic Segmentation

C.
Object Detection

D.
Image Analysis

E.
Face recognition

Explanation:

Correct Answer: B
According to Microsoft.

Semantic segmentation is an advanced machine learning technique in which individual pixels in the image are classified according to the object to which they belong.
All other options are also common Computer Vision tasks.

- **Option A is incorrect.** Image Classification classifies images based on their content.
- **Option C is incorrect.** Object Detection classifies individual objects within an image.
- **Option D is incorrect.** Image Analysis extracts information from the images.
- **Option F is incorrect**. Face detection is face detection, analysis, and recognition of the human faces in Images.

For more information about the common Computer Vision tasks, please visit the following URLs:

- https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/#features
- https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/2-understand-machine-learn

Question 18
Unattempted
Domain: Describe AI workloads and considerations

You created an AI solution that qualifies customers for a bank loan. The solution provides different results for the people living in cities and rural areas.
What responsible AI principle does your solution violate?

A.
Transparency

B.
Reliability and safety

C.
Privacy and security

D.
Inclusiveness

E.
Fairness

F.
Accountability

Explanation:

Correct Answer: E
Microsoft recognizes six principles of responsible AI.

Fairness, Reliability and safety, Privacy and security, Transparency, Inclusiveness and Accountability.

The principle of Fairness directs AI solutions to treat everybody fairly, independently from gender, race, or any bias.

All other options are incorrect.

For more information about guiding principles for responsible AI, please visit the following URLs:

- https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1:primaryr6
- https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 19
Unattempted
Domain: Describe AI workloads and considerations

You are building your AI solution within the framework of governance and organizational requirements that reflect defined legal and ethical standards.
What responsible AI principle are you following?

A.
Privacy and security

B.
Transparency

C.
Inclusiveness

D.
Accountability

E.
Reliability and safety

F.
Fairness

Explanation:

Correct Answer: D
Microsoft recognizes six principles of responsible AI.

Fairness, Reliability and safety, Privacy and security, Transparency, Inclusiveness and Accountability.

The principle of Accountability directs AI solutions to follow governance and organizational norms.

All other options are incorrect.

For more information about guiding principles for responsible AI, please visit the following URLs:

- https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1:primaryr6
- https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 20
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You work for a major airline. The airline is planning to implement new services for the premium cabin. You have been asked to predict whether elite members of a frequent flyer program favor these services or not.
You decided to implement Clustering modeling.
Does this decision help you achieve your goal?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
Your task is to provide a classification prediction, such as answer the binary Yes or No question. You can achieve this by creating a Classification model based on the data from historical reviews.

The Clustering is a Machine Learning form that groups items based on some common properties.

For more information about Classification ML, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-classification-model-azure-machine-learning-designer/introduction.

Question 21
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

When you are creating a Clustering Model, what common ML algorithm are you using?

A.
Multicast Logistic Regression

B.
K-means

C.
Linear Regression

D.
Two-Class Neural Network

E.
Decision Forest Regression

Explanation:

Correct Answer: B
Clustering is a machine learning form that groups items based on some common properties.

The most common Clustering algorithm is K-means Clustering.

- **Option A is incorrect** because the Multicast Logistic Regression is a Classification algorithm based on a decision forest algorithm.
- **Option C is incorrect** because the Linear Regression algorithm is a Regression algorithm based on a linear regression model.
- **Option D is incorrect** because the Two-Class Neural Network is a Classification algorithm based on a neural network algorithm.
- **Option E is incorrect** because the Decision Forest Regression algorithm is a Regression algorithm based on a decision forest algorithm.

For more information about K-means Clustering, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-clustering-model-azure-machine-learning-designer/create-training-pipeline.

Question 22
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You need to train and test your model. You prepared data for model training. You decided to use this data for the model training and then for the model validation.
Does this decision help you achieve your goal?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
You have to split your data into two sets: the first is for model training, and the second for model testing. If you are using automated machine learning, it does it for you automatically as part of data preparation and model training.

For more information about model training and testing, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-regression-model-azure-machine-learning-designer/create-training-pipeline.

Question 23
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You need to create a classification model using Azure ML. What types of algorithms will you use? Please select all that apply.

A.
Two-class logistic regression

B.
Linear Regression

C.
K-means clustering

D.
Multiclass logistic regression

E.
Decision forest regression

F.
Multiclass decision forest

Explanation:

Correct Answers: A, D, and F
All algorithms in the ML Classification family include the word "class" in their names, as follows:

Two-**class** logistic regression, Multi**class** logistic regression, or Multi**class** decision forest.
Regression Algorithm Family has the word "regression" in the names without class, such as Linear **Regression** or Decision forest **regression.**
And there is only one algorithm for Clustering: K-means clustering.

- **Options B and E are incorrect** because both Linear Regression and Decision Forest regression algorithms are Regression algorithms.
- **Option C is incorrect** because K-means clustering is a Clustering algorithm.

For more information about Azure ML algorithms, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/machine-learning/how-to-select-algorithms.

Question 24
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

What are the four typical steps of data transformation for model training?
Please select all that apply.

☐ A.
Feature selection

☐ B.
Finding and removing data outliers

☐ C.
Split data

☐ D.
Impute missing values

☐ E.
ML algorithm selection

☐ F.
Normalize numeric features

Explanation:

Correct Answers: A, B, D, and F
After we ingest the data, we need to do a data preparation or transformation before supplying it for model training. There are four typical steps for data transformation such as feature selection, finding and removing data outliers, impute missing values, and normalize numeric features.

- **Option C is incorrect** because Split data is coming after data transformation.

- **Option D is incorrect** because ML algorithm selection data is coming after data transformation and Split Data steps.

For more information about Azure ML algorithms, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-regression-model-azure-machine-learning-designer/explore-data.

Question 25
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

What steps are NOT part of the model training stage after data transformation?
Select all that apply.

☐ A.
Feature selection

☐ B.
Algorithm selection

☐ C.
Normalize numeric features

☐ D.
Provide a labeled dataset

☐ E.
Split data

☐ F.
Model Training

☐ G.
Scoring results

Explanation:

Correct Answers: A and C

- **Options A and C are correct** because Feature Selection and Normalize numeric features are steps from the data transformation stage. They are NOT part of the model training stage.

Here is a generic workflow for model training after the data pre-processing or transformation stage.

1. After we prepared and labeled data for the model training, we are ready to use this data set for the training.
2. We need to Split data before feeding it to a model training module.
3. We also need to select our ML algorithm to reflect our goals and be compatible with the provided data.
4. After that, we run the model training and produce a scoring result.

For more information about Azure ML model training, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/machine-learning/algorithm-module-reference/train-model.

Question 26
Unattempted
Domain: Describe features of computer vision workloads on Azure

You install a visual product search application on your mobile. The application searches products based on their images that you capture by mobile camera.
What Computer Vision common task does this application use for the product search?

A.
Object detection

B.
Semantic segmentation

C.
Image classification

D.
Face detection

E.
Image Analysis

Explanation:

Correct Answer: C
You use your camera to capture a picture of the product. An application identifies this product utilizing the image classification model and submits it for a search.

The image classification model helps classify images based on their content.

- **Option A is incorrect** because the Object detection model helps to identify objects and their boundaries within the image.
- **Options B is incorrect** because the Semantic segmentation model helps classify pixels to the objects they belong to.
- **Option D is incorrect** because the Face detection is a computer vision technique that helps detect and recognize people's faces.
- **Options E is incorrect** because the Image Analysis helps extract information from the images, tag them, and create a descriptive image summary.

For more information about image classification, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/classify-images-custom-vision/1-introduction.

Question 27
Unattempted
Domain: Describe features of computer vision workloads on Azure

You implement an aerial image processing application to identify the flooded areas.
What common Computer Vision task is this application using?

A.
Object detection

B.
Semantic segmentation

C.
Image classification

D.
Face detection

E.
Image Analysis

Explanation:

Correct Answer: B
When the application processes images, it uses semantic segmentation to classify pixels that belong to the particular object (in our case, flooded areas) and highlights them.

- **Option A is incorrect** because the Object detection model helps to identify objects and their boundaries within the image.
- **Options C is incorrect** because the Image classification model helps to classify images based on their content.
- **Option D is incorrect** because the Face detection is a computer vision technique that helps detect and recognize people's faces.
- **Options E is incorrect** because the Image Analysis helps extract information from the images, tag them, and create a descriptive image summary.

For more information about object detection, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/4-understand-computer-vision.

Question 28
Unattempted
Domain: Describe features of computer vision workloads on Azure

What tasks does Computer Vision Cognitive service include?
Please select all that apply.

A.
Translator text

☐ B.
Read the text in the image

☐ C.
Detects Objects

☐ D.
Processes forms

☐ E.
Identifies Landmarks

☐ F.
Find Similar Faces

☐ G.
Categorize image

Explanation:

Correct Answers: B, C, E, and G.
Computer Vision service is one of the main areas of Artificial Intelligence. It belongs to the group of Azure Computer Vision solutions such as computer vision service, custom vision service, face service, and form recognizer.

Computer Vision service works with images. This service brings sense to the image pixels by using them as features for ML models. These predefined models help categorize and classify images, detect, and recognize objects, tag, and identify them. Computer Vision can "read" a text in images in 25 languages and recognize landmarks.

- **Option A is incorrect** because the Translator Text is a Natural Language Processing service and is not a Computer Vision service.
- **Option D is incorrect** because the Process Forms service is part of Azure Computer vision solutions and is not a Computer Vision service.
- **Option F is incorrect** because the Find Similar Faces is the technique that is the part of Face service and is not a Computer Vision service.

For more information about custom vision, please visit the following URLs:

- https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/4-understand-computer-vision
- https://docs.microsoft.com/en-us/learn/modules/analyze-images-computer-vision/1-introduction

Question 29
Unattempted
Domain: Describe features of computer vision workloads on Azure

Please select three key fields that Form Recognizer service extracts from the common receipts.

☐ A.

Today's date

☐ B.
Time of transaction

☐ C.
Taxes paid

☐ D.
Source of payment

☐ E.
Merchant information

☐ F.
Promotion information

Explanation:

Correct Answers: B, C, and E.
Form Recognizer service is one of the Azure Computer vision solutions additional to Computer Vision service, custom vision service and face service.

Form Recognizer service uses pre-build receipt models to extract such information from receipts: date of transaction, time of the transaction, merchant information, taxes paid and receipt total. The service also recognizes all text on the receipt and returns it.

All other options are incorrect.

For more information about custom vision, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/analyze-receipts-form-recognizer/2-receipts-azure

Question 30
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

What are two common models that speech recognition service uses?

☐ A.
Language model

☐ B.
Image classification model

☐ C.
Object detection model

☐ D.
Acoustic Model

☐ E.
Speaker identification model

Explanation:

Correct Answers: A and D.
Speech recognition is a part of Speech Service. It uses many different models, but two of them are essential—Acoustic model and Language model.

The Acoustic model helps to convert audio into phonemes.

The Language model helps to match phonemes with words.

- **Options B is incorrect** because the Image classification model helps classify images based on their contents and is not the part of Speech recognition service.
- **Option C is incorrect** because the Object detection model helps to identify objects and their boundaries within the image and is not the part of Speech recognition service.
- **Options E is incorrect** because the Speaker Identification model helps identify a speaker based on the speaker identification profile. This service belongs to the same group of services as Speech recognition.

For more information about Speech recognition, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/recognize-synthesize-speech/1-introduction.

Question 31
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

You want to use Text Analytics to analyze your text.
What are the four services that Text Analytics provides?

☐ A.
Sentiment analysis

☐ B.
Authoring

☐ C.
Key phrase extraction

☐ D.
Translator Text

☐ E.
Entity recognition

☐ F.
Language Detection

☐ G.
Alternative phrasing

Explanation:

Correct Answers: A, C, E, and F
Text Analytics is a part of Natural Language Processing. It includes the following services.

Sentiment analysis, Key phrase extraction, Entity recognition, and Language detection.

- **Options B is incorrect** because the Authoring is the process of creating entities, intent, and model training for LUIS Applications. It is not part of the Text Analytics service.
- **Option D is incorrect** because the Translator Text is part of Natural Language Processing.

It is not part of the Text Analytics service.

- **Option G is incorrect** because the Alternative phrasing is used in creating Knowledge bases for QnA Maker service. It is not part of the Text Analytics service.

For more information about LUIS, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/analyze-text-with-text-analytics-service/2-get-started-azure.

Question 32
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

What services are involved in live speech translation?
Please select all that apply.

☐ A.
Speech Recognition

☐ B.
Speech-to-Text

☐ C.
Language Detection

☐ D.
Speech Correction

☐ E.
Text Analysis

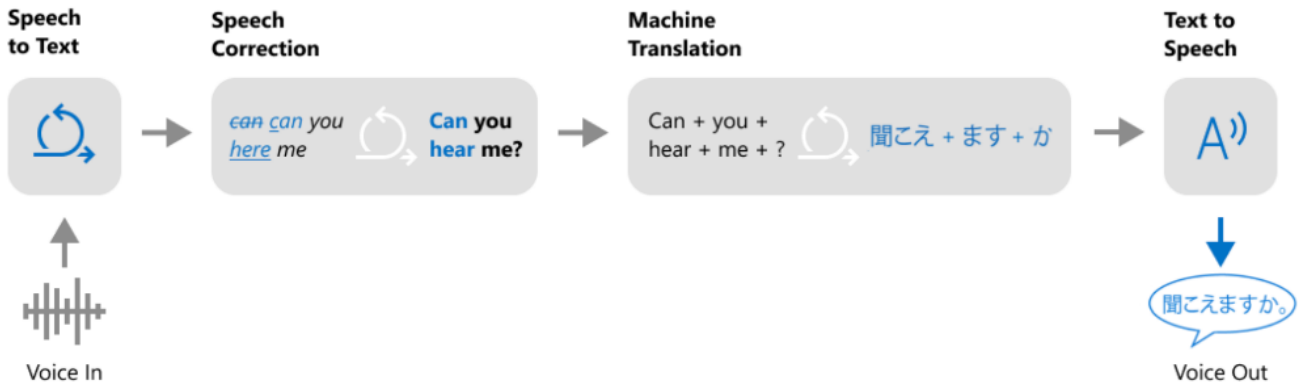
☐ F.
Machine Translation

☐ G.
Text-to-Speech

Explanation:

Correct Answers: B, D, F, and G
Live speech translation involves the following sequence of the services during the real-time audio stream: Speech-to-Text -> Speech Correction -> Machine Translation -> Text-to-Speech.

The Microsoft documentation has the following diagram for the speech translation process.



- **Options A is incorrect** because the Speech Recognition is not involved in this process. You can define from and to translation languages in Speech Translation service settings.
- **Option E is incorrect** because we are not using Text Analysis services in this case.

For more information about LUIS, please visit the following URLs:

- https://azure.microsoft.com/en-us/services/cognitive-services/speech-translation/#features
- https://docs.microsoft.com/en-us/learn/modules/translate-speech-speech-service/1-introduction-speech-translation

Question 33
Unattempted
Domain: Describe features of conversational AI workloads on Azure

The telephone voice menus are an example of…?

○ A.
Text Analytics

○ B.
Speech Synthesis

○ C.
Machine Translation

D.
Speech-to-Text

E.
Speech recognition

Explanation:

Correct Answer: B
The telephone voice menus functionality is a good example of a Speech Synthesis service.

- **Option A is incorrect** because the Text Analytics help analyze texts but not to produce speech.
- **Option C is incorrect** because the Machine translation helps translate text or speech but not to produce a speech.
- **Option D is incorrect** because the Speech-to-Text helps transcribe audio signals to text but not to produce a speech.
- **Option E is incorrect** because the Speech recognition helps recognize words in audio signals. This Service is the opposite of Speech Synthesis.

For more information about Bot Service, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/recognize-synthesize-speech/1-introduction.

Question 34
Unattempted
Domain: Describe features of conversational AI workloads on Azure

What Azure resource is common for Conversation AI software “agents”?

A.
Azure Storage Account

B.
Azure Virtual Network

C.
Azure Cognitive Search

D.
Azure Bot Service

E.
Azure Custom Vision

Explanation:

Correct Answer: D
Conversation AI software “agents” are using Azure Bot Service.

- **Option A is incorrect** because Azure Storage is not part of Conversation AI solutions.
- **Option B is incorrect** because Azure Virtual Network is not part of Conversation AI solutions.
- **Option C is incorrect** because Cognitive Search is not part of Conversation AI solutions.
- **Option E is incorrect** because Azure Custom Vision is not part of Conversation AI solutions.

For more information about Azure Bot Service, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/paths/explore-conversational-ai/

Question 35
Unattempted
Domain: Describe features of conversational AI workloads on Azure

You create a knowledge base for a QnA service.
What controls the size of the knowledge base?
Select all that apply.

☐ A.
Azure Storage account limits

☐ B.
Azure Bot Service limits

☐ C.
Cognitive search pricing tier limits

☐ D.
Cognitive services limits

☐ E.
QnA Maker limits

☐ F.
Resource sharing limits

Explanation:

Correct Answers: C and E.
The size of a knowledge base is controlled by QnA Maker limits and cognitive search pricing tier limits.

The size depends on the tier of both services, the number of indexes, the size of the indexes, and so on.

All other options are incorrect.

For more information about QnA Maker, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/concepts/plan.

Question 36
Unattempted
Domain: Describe AI workloads and considerations

What Azure Cognitive services can you use to build Natural Language Processing solutions? Please select all options that apply.

☐ A.
Text Analytics

☐ B.
Pipelines

☐ C.
LUIS

☐ D.
Object Detection

☐ E.
Translator Text

☐ F.
Automated machine learning

☐ G.
Speech

Explanation:

Correct Answers: A, C, E, and G
Natural Language Processing (NLP) is one of the key elements for Artificial Intelligence. It includes four services.

- **Text Analytics** help analyze text documents, detect document's language, extract key phrases, determine entities, and provide sentiment analysis.
- **Translator Text** helps translate texts between 60+ languages.
- **Speech** helps recognize and synthesize speech, recognize, and identify speakers, translate live or recorded speech.
- **Language Understanding Intelligent Service (LUIS)** helps to understand voice or text commands.
- **Options B is incorrect**. The Pipelines is a visual designer for creating ML tasks. This service is part of Machine Learning and is not an NLP service.
- **Option D is incorrect**. Object Detection is one of the common tasks of Computer Vision that helps to recognize objects on the images. It is not an NLP service.
- **Options F is incorrect**. Automated machine learning is a part of Machine Learning that provides automated creation of ML models based on your data. It is not an NLP service.

For more information about Natural Language Processing services, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/5-understand-natural-language-process

Question 37
Unattempted
Domain: Describe AI workloads and considerations

You created a Personal Virtual Assistant.
Select all responsible AI principles that your solution must follow.

☐ A.
Responsiveness

☐ B.
Privacy and security

☐ C.
Dependability

☐ D.
Inclusiveness

☐ E.
Answerability

☐ F.
Reliability and safety

Explanation:

Correct Answers: B, D, and F
Microsoft recognizes six principles of responsible AI—Fairness, Reliability and safety, Privacy and security, Transparency, Inclusiveness and Accountability.

All other options are incorrect.

For more information about guiding principles for responsible AI, please visit the following URLs:

- https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1:primaryr6
- https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 38
Unattempted
Domain: Describe AI workloads and considerations

Please select the three Inclusive Design Principles for AI solutions.

☐ A.
Recognize exclusion

☐ B.
Privacy and security

☐ C.
Solve for one, extend to many

☐ D.
Transparency

☐ E.
Learn from diversity

☐ F.
Fairness

Explanation:

Correct Answers: B, C, and E
Microsoft recognizes six principles of responsible AI—Fairness, Reliability and safety, Privacy and security, Transparency, Inclusiveness and Accountability.

The principle of inclusiveness directs AI solutions to provide their benefits to everybody without any barriers and limitations.

Microsoft defines the three Inclusive Design Principles: Recognize exclusion; Solve for one, extend to many; and learn from diversity.

All other options are incorrect.

For more information about guiding principles for responsible AI, please visit the following URLs:

- https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1:primaryr6
- https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 39
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You work for a major airline. The airline is planning to implement new services for the premium cabin. You have been asked to predict how much money elite members of a frequent flyer program would be willing to spend on these new services.
You decided to implement classification modeling.
Does this decision help you achieve your goal?

○ A.**Yes**

B.**No**

Explanation:

Correct Answer: B
Your task is to provide a regression prediction, that is, to supply a number value of the label. You can achieve this by creating a regression model based on historical data.

Classification is a machine learning form that predicts a label's probability to be a part of the class, or a category based on historical data.

For more information about Regression ML, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-regression-model-azure-machine-learning-designer/introduction.

Question 40
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You need to train and test your ML model. You prepare data for model training. Several of your numeric features have different scales. The first feature has a minimum value of 0.253 and a max of 0.987, the second one - from 12 to 124, and the last one - from 13545 to 56798. You need to bring them to a common scale.
You decide to use feature engineering to address this problem.
Does this decision help you to achieve your goal?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
You need to normalize your numeric features. The process of normalization brings numeric features to a common scale.

Feature engineering is the method of creating new features based on the existing ones.

For more information about data normalization, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/machine-learning/algorithm-module-reference/normalize-data

Question 41
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You create a regression model with low RMSE and review the best model metrics.
Where on the residual histogram should the most frequently occurring residual values cluster for your model?

A.
1

B.
0.5

C.
0

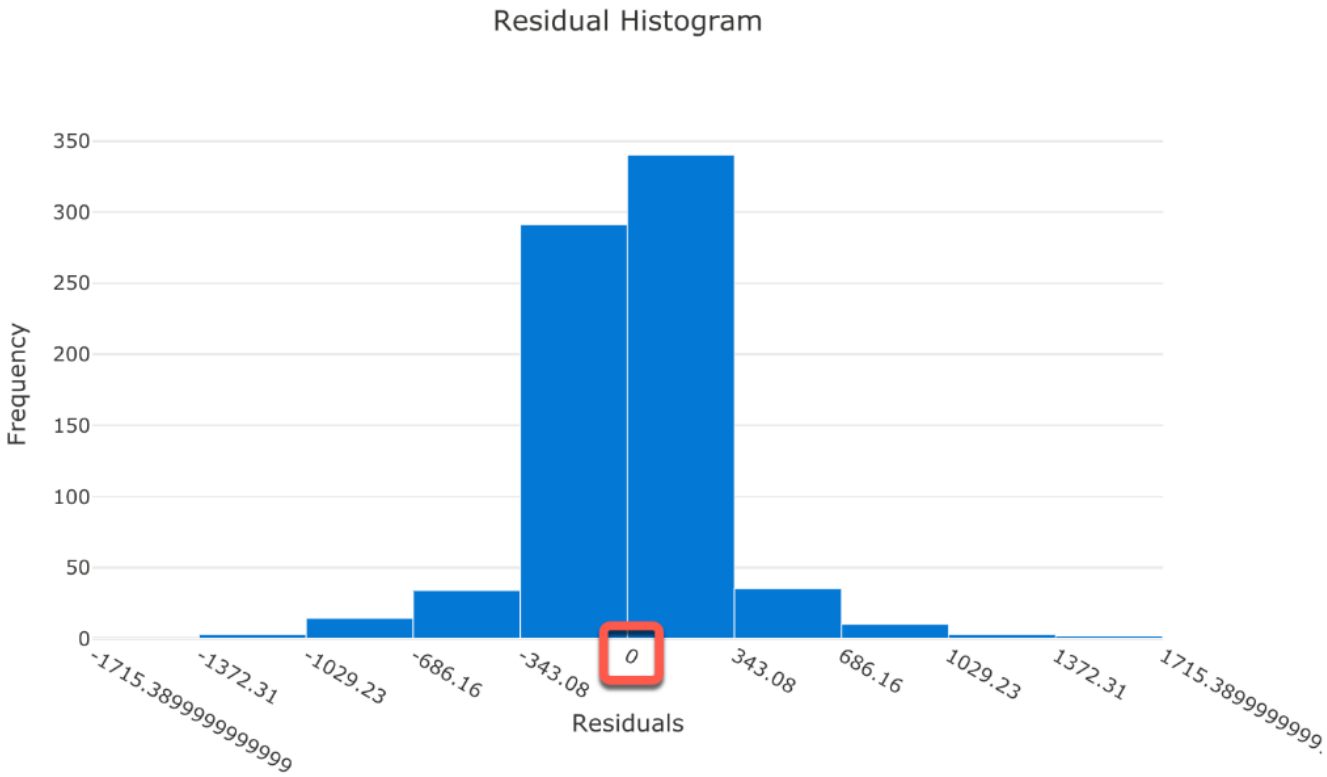
D.
-1

E.
2

F.
-0.5

Explanation:

Correct Answer: C
The residual histogram presents the frequency of residual values distribution. **Residual** is the difference between predicted and actual values. It represents the amount of error in the model. If we have a good model, we should expect that most of the errors are small. They will cluster around 0 on the residual histogram.



All other options are incorrect.

For more information about Azure ML Residual histogram, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/use-automated-machine-learning/use-auto-ml.

Question 42
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You need to create a new pipeline to train a regression model using Azure ML Designer. You ingest your data for the model and drop it on the canvas.
What module would you typically drag-and-drop next on the canvas?

A.
Train Model

B.
Normalize Data

C.
Select Columns in Dataset

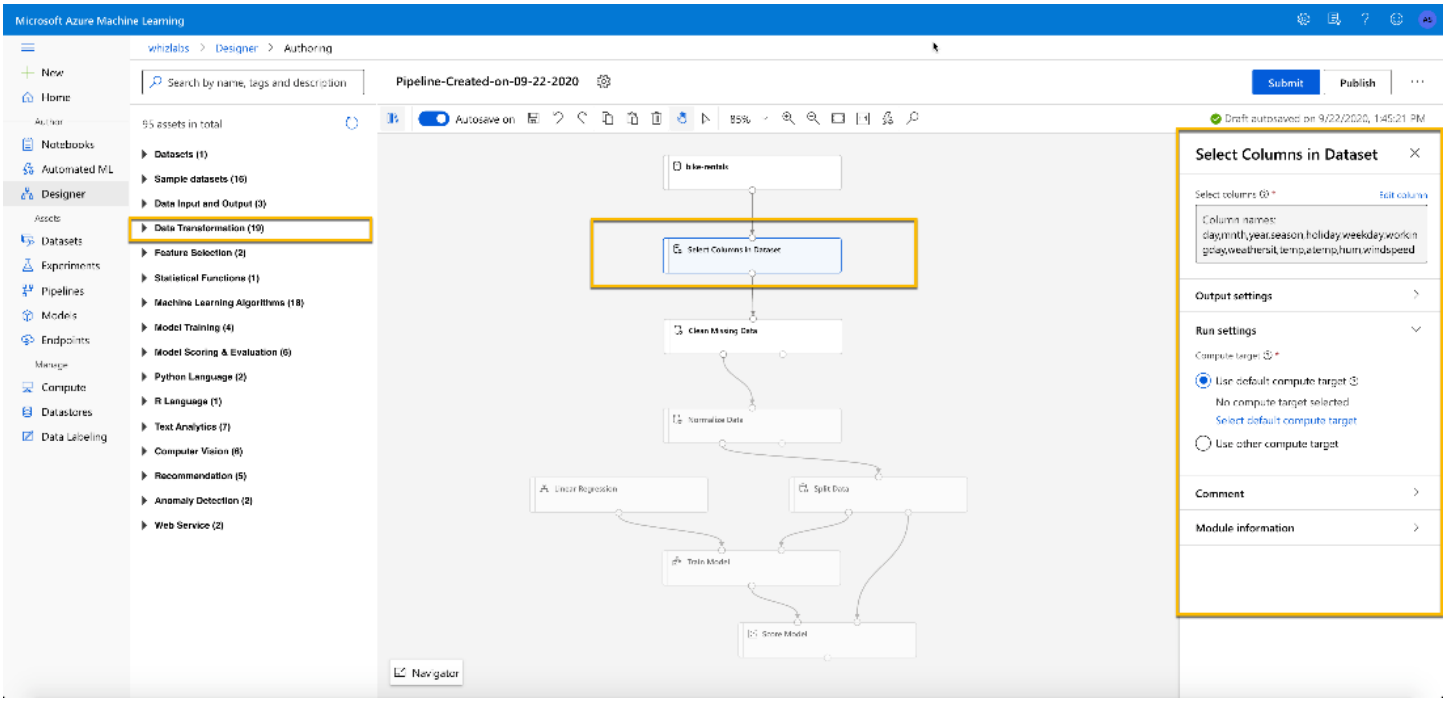
D.
Split Data

E.
Clean Missing data

Explanation:

Correct Answer: C
After we bring data for model training or ingest data, the next stage is data transformation. Data transformation or data pre-processing usually includes the following steps: feature selection, data cleaning, and data normalization.

In Azure ML Designer, we need to drag-and-drop the "Select Columns in Dataset" module from the Data Transformation section. Then, on the right-hand side panel, we can select all the features we want to use for the model training.



- **Option A is incorrect** because the Train Model module usually comes after the data transformation stage.
- **Option B is incorrect** because the Normalize Data module usually comes after features selection or Select columns in Dataset.
- **Option D is incorrect** because the Split Data module usually comes after the Normalize Data block.
- **Option E is incorrect** because the Clean Missing Data module usually comes after feature selection.

For more information about Azure ML data ingestion and preparation, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-regression-model-azure-machine-learning-designer/explore-data.

Question 43
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You trained your model and are ready to deploy. What steps do you need to execute for a model deployment?
Select all that apply.

☐ A.
Test the service

☐ B.
Deploy inference pipeline

☐ C.
Create compute clusters

☐ D.
Create and test inference pipeline

☐ E.
Create inference clusters

☐ F.
Deploy training pipeline

Explanation:

Correct Answers: A, B, D, and E
After we train the model, we need to create a new production pipeline—inference pipeline. We can do this by selecting the "Real-time inference pipeline" option from the "Create inference pipeline" dropdown in Azure ML Designer with the training pipeline open. After we create and test the inference pipeline, we need to deploy it to the created pipeline before inference AKC clusters. Finally, test the new service.

- **Option C is incorrect**. We are creating Compute clusters for the training model.
- **Option F is incorrect**. We need to deploy an inference model, not the training model.

For more information about Azure ML data model deployment, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/machine-learning/tutorial-designer-automobile-price-deploy.

Question 44
Unattempted
Domain: Describe fundamental principles of machine learning on Azure

You are creating a pipeline in Azure ML Designer. You need to add a module to execute the programming code. What languages can you use for code execution in Azure ML Designer?
Please select all that apply.

☐ A.
C++

☐ B.

Java

C.
Python

D.
TypeScript

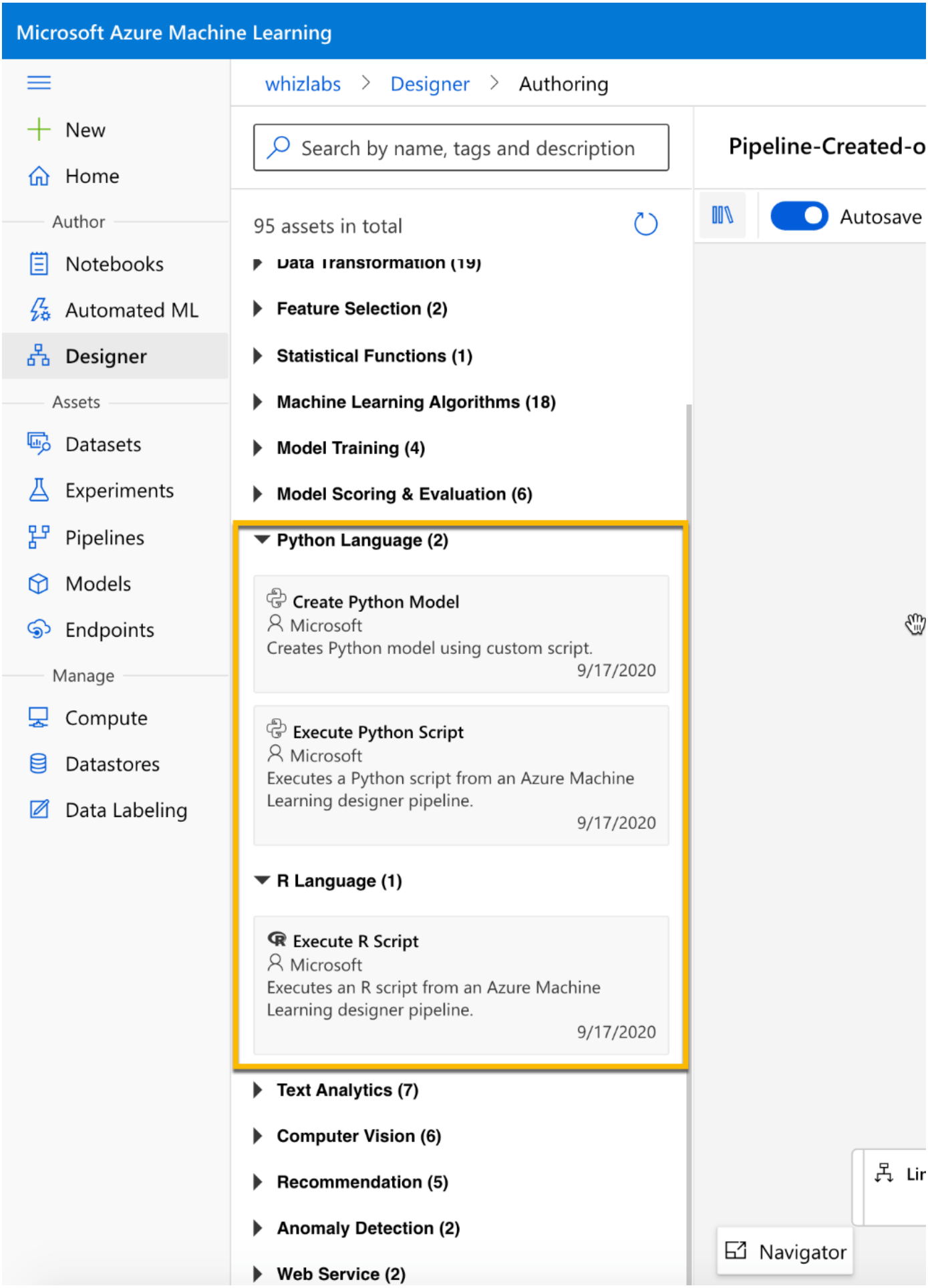
E.
C#

F.
R

G.
JavaScript

Explanation:

Correct Answers: C and F
Currently, you can use modules for two languages only—Python and R.


Microsoft Azure Machine Learning
whizlabs > Designer > Authoring
New
Home
Author
Notebooks
Automated ML
Designer
Assets
Datasets
Experiments
Pipelines
Models
Endpoints
Manage
Compute
Datastores
Data Labeling
Search by name, tags and description
Pipeline-Created-o
95 assets in total
Autosave
Data Transformation (19)
Feature Selection (2)
Statistical Functions (1)
Machine Learning Algorithms (18)
Model Training (4)
Model Scoring & Evaluation (6)
Python Language (2)
Create Python Model
Microsoft
Creates Python model using custom script.
9/17/2020
Execute Python Script
Microsoft
Executes a Python script from an Azure Machine Learning designer pipeline.
9/17/2020
R Language (1)
Execute R Script
Microsoft
Executes an R script from an Azure Machine Learning designer pipeline.
9/17/2020
Text Analytics (7)
Computer Vision (6)
Recommendation (5)
Anomaly Detection (2)
Web Service (2)
Navigator

All other options are incorrect.

For more information about Azure ML Designer, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/machine-learning/how-to-designer-python

Question 45
Unattempted
Domain: Describe features of computer vision workloads on Azure

Can you use the object detection model for product name identification?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
Object detection is one of the common tasks of Computer Vision. The object detection model helps to identify objects and their boundaries within the image. Unfortunately, there are several limitations to this service, as follows.

- It can't detect the small objects (less than 5% of the image).
- It can't detect objects that very close together, such as a stack of plates.
- It can't detect brands or product names. You can use Brand detection for this purpose. Brand detection is a specialized mode of the object detection service.

For more information about Object and Brand detection, please visit the following URLs:

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

Question 46
Unattempted
Domain: Describe features of computer vision workloads on Azure

You need to identify a person using 8 MB image files in PNG format.
Can you use the Person Identification function of Azure Face service for this purpose?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
Azure Face service has a limitation on the size of input images. The image shouldn't be larger than 6 MB in any of the following formats: JPEG, PNG, GIF, and BMP.

For more information about Azure Face service, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/cognitive-services/face/concepts/face-recognition.

Question 47
Unattempted
Domain: Describe features of computer vision workloads on Azure

Please select all Azure Cognitive Face service functions.

☐ A.
Face Detection

☐ B.
Objects Detection

☐ C.
Find similar faces

☐ D.
Person Identification

☐ E.
Brand Identification

☐ F.
Face Verification

☐ G.
Image Analysis

Explanation:

Correct Answers: A, C, D, and F.
Azure Cognitive Face service currently includes the following functionalities: Face detection, Face verification, find similar faces, Group faces on similarities, and Person identification.

- **Option B is incorrect** because Object detection is one of the common tasks of Computer Vision, and it is not a Face service.
- **Option E is incorrect** because the Brand Identification is a specialized mode of Object detection service. It is not a Face service.
- **Option G is incorrect** because the Image Analysis is one of the common tasks of Computer Vision, and it is not a Face service.

For more information about Azure Face services, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/cognitive-services/face/overview.

Question 48
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

You need to identify the key points of the document.
You decide to use LUIS.
Does this decision help you achieve your goal?

- A.**Yes**
- B.**No**

Explanation:

Correct Answer: B
Azure Text Analytics includes the Key Phrase Extraction service. This service helps to extract the key phrases from the text of the documents. This functionality is very useful when you need to create a summary or a catalogue from the document content or understand the customer reviews' key points.

Like Text Analytics, Language Understanding Intelligent Service (LUIS) is a Natural language processing service. LUIS helps you understand voice or text commands. But it doesn't provide a Key Phrase Extraction service.

For more information about the Key Phrase Extraction service, please visit the following URLs:

- https://docs.microsoft.com/en-us/learn/modules/analyze-text-with-text-analytics-service/2-get-started-azure
- https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-keyword-extraction

Question 49
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

You have a foreign text. You want to get a Wikipedia page for the place mentioned in one of the sentences.
What services will you use to achieve your goal?
Please select all that apply.

- A.
Key Phrase Extraction

- B.
Sentiment Analysis

- C.
Translator Text

- D.
Language Detection

- E.
LUIS

☐ F.
Entity Recognition

Explanation:

Correct Answers: C and F
First, we need to translate the sentence or the text into English using the Translator Text service. Translator Text service provides a text-to-text translation between 60+ languages. You must provide information about translation languages (from and to) when you use Translator Text service.

Then we need to submit translated output to the Text Analytics Entity Recognition service. Entity Recognition service returns the list of entities. As this service supports *entity linking*, it provides a link to Wikipedia for the identified locations.

- **Option A is incorrect** because the Key Phrase Extraction helps extract the key phrases from the documents' text. It doesn't provide text translation or entity extraction services.
- **Option B is incorrect** because the Sentiment Analysis helps analyze text and return sentiment scores. It doesn't provide text translation or entity extraction services.
- **Option D is incorrect** because the Language Detection helps detect the text's language. It doesn't provide text translation or entity extraction services.
- **Option E is incorrect** because the Language Understanding Intelligent Service (LUIS) helps understand voice or text commands. It doesn't provide text translation or entity extraction services.

For more information about Translator Text and Entity Recognition services, please visit the following URLs:

- https://docs.microsoft.com/en-us/azure/cognitive-services/translator/translator-info-overview
- https://docs.microsoft.com/en-us/learn/modules/analyze-text-with-text-analytics-service/2-get-started-azure

Question 50
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

You need to create a language model.
What are the essential elements that you need to supply as data for your language model training?
Please select all that apply.

☐ A.
Verbs

☐ B.
Utterances

☐ C.
Intents

☐ D.
Subjects

☐ E.
Entities

☐ F.
Knowledge domains

Explanation:

Correct Answers: B, C, and E.
For language model training, we need to provide the following key elements: **Entities**, **Intents,** and **Utterance**. We can achieve this by the Azure Cognitive service LUIS portal.
Entity is the word or phrase that is the focus of the utterance, as the word "light" in the utterance "Turn the lights on. "
Intent is the action or task that the user wants to execute. It reflects in utterance as a goal or purpose. We can define intent as "TurnOn" in the utterance "Turn the lights on."
Utterance is the user 's input that your model needs to interpret, such as "Turn the lights on" or "Turn on the lights."
All other options are incorrect.

For more information about language modelling, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/create-language-model-with-language-understanding/1-introduction

Question 51
Unattempted
Domain: Describe features of Natural Language Processing (NLP) workloads on Azure

What APIs does Azure Speech service provide?
Select all that apply.

☐ A.
Speech Synthesis

☐ B.
Language Detection

☐ C.
Text-to-Speech

☐ D.
Text translation

☐ E.
Speech Recognition

☐ F.
Speech-To-Text

Explanation:

Correct Answers: C and F
Azure Speech service provides only two APIs: Speech-to-Text and Text-to-Speech. These APIs also include speech recognition and speech synthesis functionalities.

All other options are incorrect.

For more information about Azure Speech APIs, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/recognize-synthesize-speech/2-get-started-azure.

Question 52
Unattempted
Domain: Describe features of conversational AI workloads on Azure

People in your organization want to use internal Bot by Web and Microsoft Teams.
The lead developer decided to create a Web bot and Microsoft Teams Bot.
Do you agree with this decision?

A.**Yes**
B.**No**

Explanation:

Correct Answer: B
A typical Bot consists of the knowledge base and Bot service as a user interface. You don't need to create separate bots per channel. Azure Bot Service provides various channels for users to interact with the knowledge base, such as web chat, Microsoft Teams, email, and other common channels.

For more information about Bot Service channels, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/bot-service/bot-service-manage-channels?view=azure-bot-service-4.0.

Question 53
Unattempted
Domain: Describe features of conversational AI workloads on Azure

What are the three main components you need to use in order to build a Personal Virtual Assistant?

A.
Azure Speech

B.
Bot Framework

C.

Text Analytics

☐ D.
Knowledge base

☐ E.
Computer Vision Service

☐ F.
Azure Bot Service

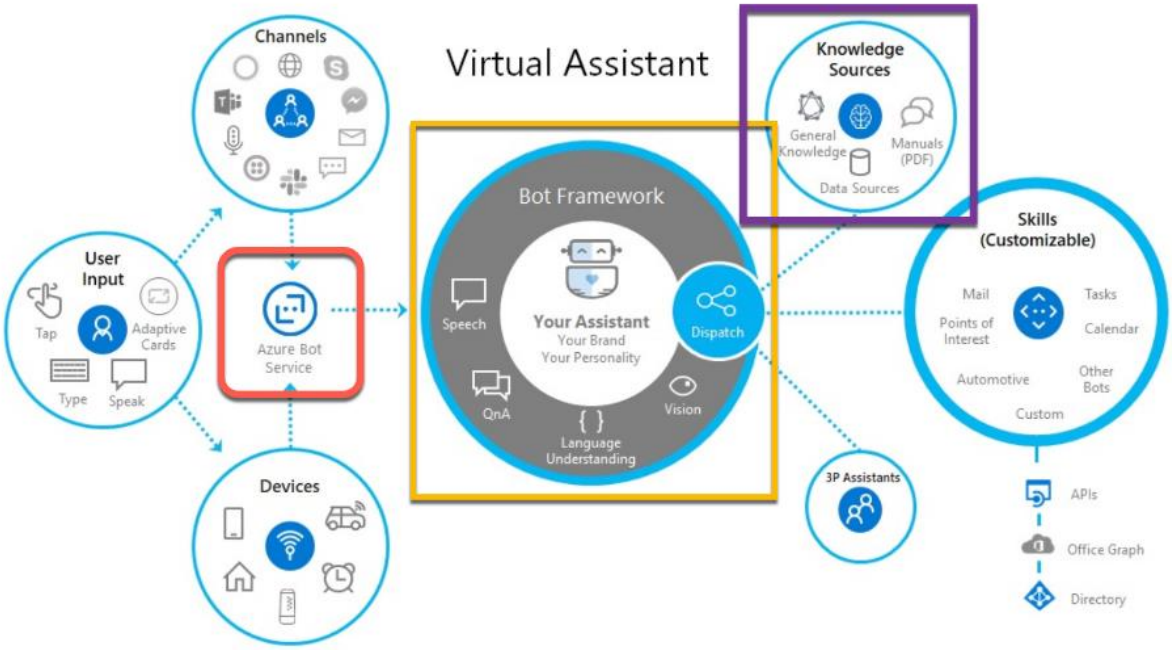
Explanation:

Correct Answers: B, D, and F
A Personal Virtual Assistant usually requires three main components: Azure Bot Service, Bot Framework, and Knowledge Base.

A typical Bot consists of the knowledge base and Bot service as a user interface. Azure Bot Service provides various channels for users to interact with the knowledge base, such as web chat, Microsoft Teams, email, and other common channels.

A Personal Virtual Assistant is a more advanced Bot, and it also uses Bot Framework for its functionality extension. In the case of Virtual Assistant, Bot Framework "sits" between Azure Bot Service and knowledge base or bases.

Microsoft documentation provides the following illustration of Virtual Assistant:



- **Options A is incorrect** because the Azure Speech helps recognize and synthesize speech, recognize, and identify speakers, translate live or recorded speech. It is not an essential bot component.

- **Option C is incorrect** because the Text Analytics helps analyze text documents, detect document's language, extract key phrases, determine entities, and provide sentiment analysis.

It is not an essential bot component.

- **Options D is incorrect** because the Computer Vision service works with images. It is not an essential bot component.

For more information about Personal Assistant, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-virtual-assistant-introduction?view=azure-bot-service-4.0

Question 54
Unattempted
Domain: Describe features of conversational AI workloads on Azure

What service provides a user interface for a Conversation AI agent?

A.
Azure Speech

B.
Bot Framework

C.
QnA Maker

D.
Azure Bot Service

E.
Computer Vision Service

Explanation:

Correct Answer: D
Azure Bot Service provides a user interface and connections to the different channels for Conversation AI agents or bots.

- **Options A is incorrect** because the Azure Speech helps recognize and synthesize speech, recognize, and identify speakers, translate live or recorded speech. It doesn't provide a user interface for bots.
- **Option B is incorrect** because the Bot Framework provides additional bots' capabilities, but it relies on Azure Bot Service to provide a user interface for bots.
- **Option C is incorrect** because the QnA Maker service provides knowledge base capabilities for bots, but it relies on Azure Bot Service to provide a user interface for bots.
- **Options E is incorrect** because the Computer Vision service works with images, and it doesn't provide a user interface for bots.

For more information about Conversation AI agents, please visit the following URL:

- https://docs.microsoft.com/en-us/learn/modules/build-faq-chatbot-qna-maker-azure-bot-service/1-introduction

Question 55
Unattempted
Domain: Describe features of conversational AI workloads on Azure

What are the two models of Bot integration with customer support service?

- A.
Bot as a Personal Assistant

- B.
Bot as an agent

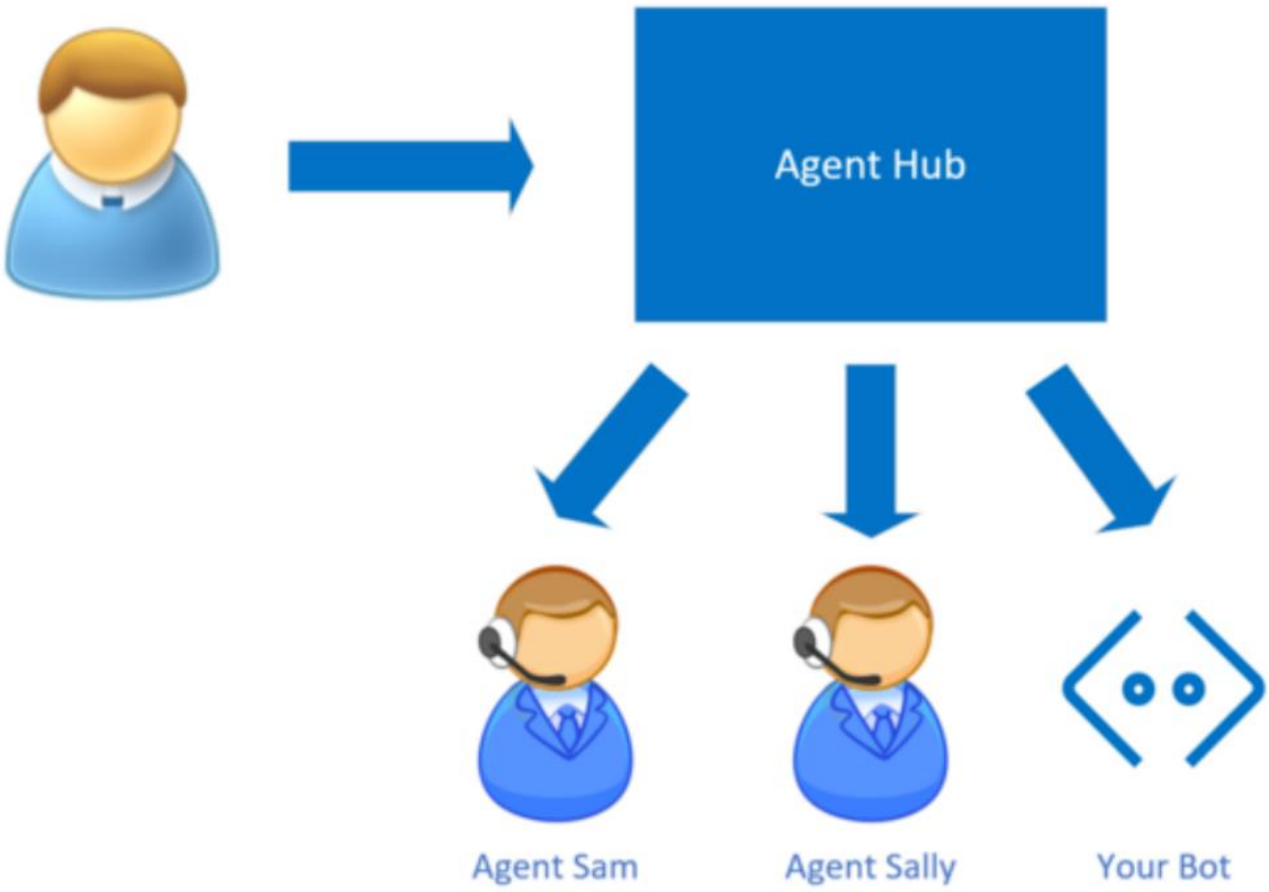
- C.
Integrated Bot

- D.
Bot as a proxy

- E.
Standalone Bot

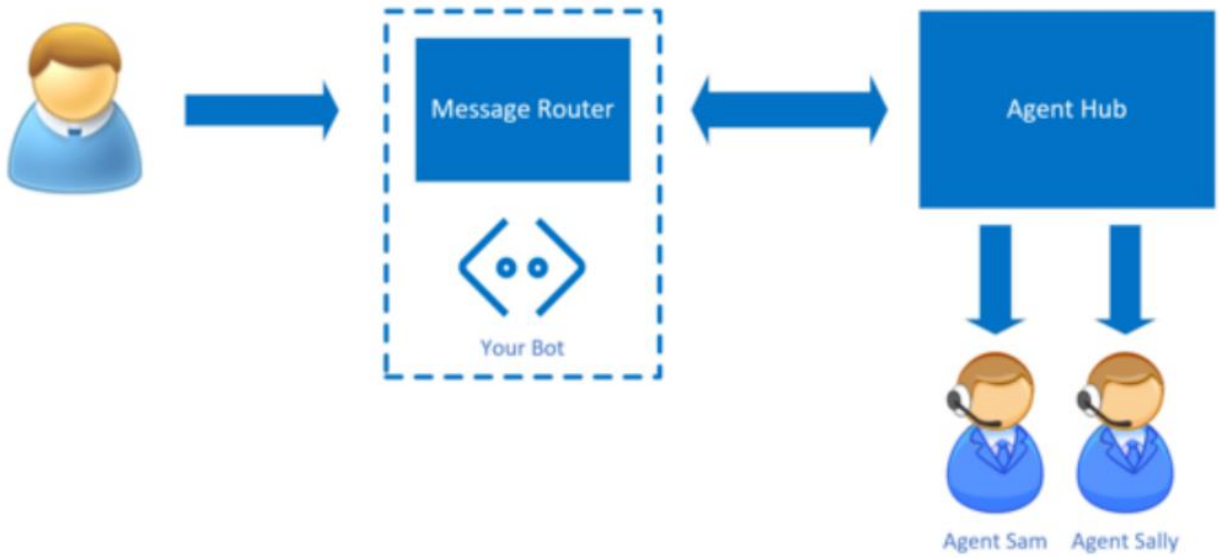
Explanation:

Correct Answers: B and D.
Microsoft Bot Framework supports two models of Bot integration with agent engagement platforms, such as customer support service. These two models are **Bot as agent** and **Bot as a proxy**.
Bot as agent model integrates bot on the same level as live agents. The bot is engaged in interactions the same way as customer support personnel. Handoff protocol regulates bot's disengagement and a transfer of user's communication to a live person. This is the most straightforward model to implement.
Microsoft documentation provides the following illustration of Bot as agent:



Bot as proxy model integrates bot as the primary filter before the user interacts with a live agent. Bot's logic decides when to transfer a conversation and where to route it. This model is more complicated to implement.

Microsoft documentation provides the following illustration of Bot as proxy:



All other options are incorrect.

For more information about Microsoft Bot Framework, please visit the following URL:

- https://docs.microsoft.com/en-us/azure/bot-service/bot-service-design-pattern-handoff-human?view=azure-bot-service-4.0