Microsoft AI-900 Exam Actual Questions

Question 1

A company employs a team of customer service agents to provide telephone and email support to customers.

The company develops a webchat bot to provide automated answers to common customer queries.

Which business benefit should the company expect as a result of creating the webchat bot solution?

- A. increased sales
- B. a reduced workload for the customer service agents
- C. improved product reliability

Correct Answer: *B*

Question 2

For a machine learning progress, how should you split data for training and evaluation?

- A. Use features for training and labels for evaluation.
- B. Randomly split the data into rows for training and rows for evaluation.
- C. Use labels for training and features for evaluation.
- D. Randomly split the data into columns for training and columns for evaluation.

Correct Answer: *B*

The Split Data module is particularly useful when you need to separate data into training and testing sets. Use the Split Rows option if you want to divide the data into two parts. You can specify the percentage of data to put in each split, but by default, the data is divided 50-50. You can also randomize the selection of rows in each group, and use stratified sampling.

Reference:

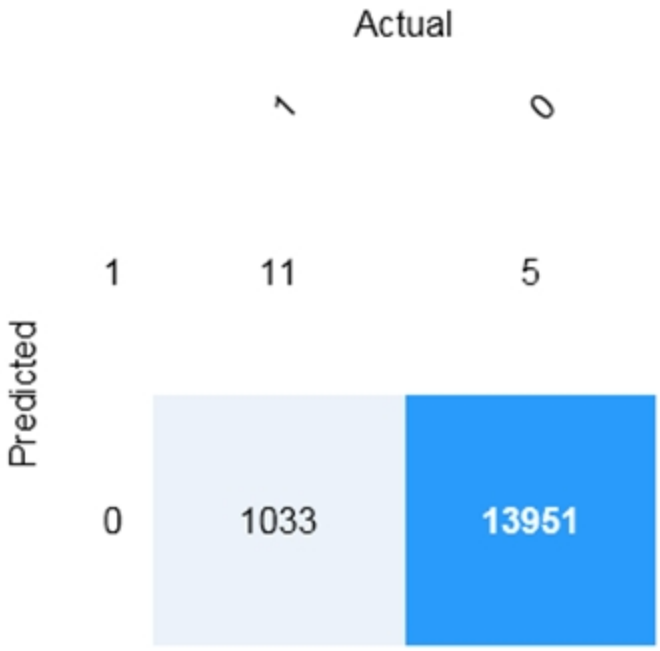
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/split-data

Question 3

HOTSPOT -

You are developing a model to predict events by using classification.

You have a confusion matrix for the model scored on test data as shown in the following exhibit.



Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

There are **[answer choice]** correctly predicted positives.

- 5
- 11
- 1,033
- 13,951

There are **[answer choice]** false negatives.

- 5
- 11
- 1,033
- 13,951

Correct

Answer Area

There are **[answer choice]** correctly predicted positives.

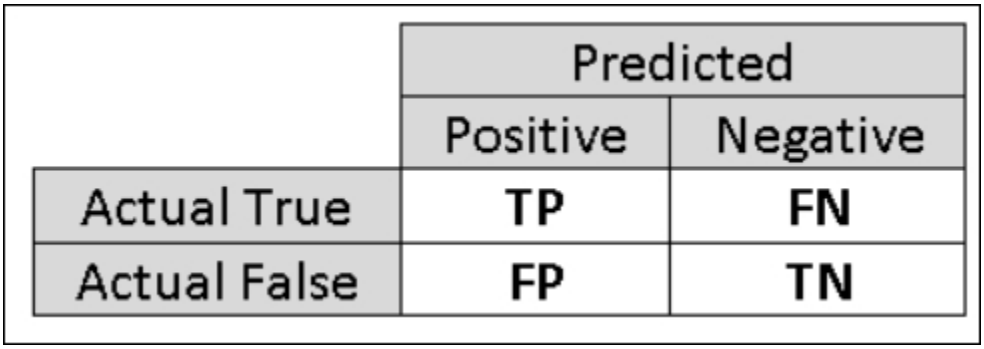
- 5
- 11
- 1,033
- 13,951

There are **[answer choice]** false negatives.

- 5
- 11
- 1,033
- 13,951

Answer:

Box 1: 11 -



	Predicted	
	Positive	Negative
Actual True	TP	FN
Actual False	FP	TN

TP = True Positive.

The class labels in the training set can take on only two possible values, which we usually refer to as positive or negative. The positive and negative instances that a classifier predicts correctly are called true positives (TP) and true negatives (TN), respectively. Similarly, the incorrectly classified instances are called false positives (FP) and false negatives (FN).

Box 2: 1,033 -

FN = False Negative -

Reference:

https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance

Question 4
You build a machine learning model by using the automated machine learning user interface (UI).
You need to ensure that the model meets the Microsoft transparency principle for responsible AI.
What should you do?

- A. Set Validation type to Auto.
- B. Enable Explain best model.
- C. Set Primary metric to accuracy.
- D. Set Max concurrent iterations to 0.

Correct Answer: *B*
Model Explain Ability.
Most businesses run on trust and being able to open the ML ג€black boxג€ helps build transparency and trust. In heavily regulated industries like healthcare and banking, it is critical to comply with regulations and best practices. One key aspect of this is understanding the relationship between input variables (features) and model output. Knowing both the magnitude and direction of the impact each feature (feature importance) has on the predicted value helps better understand and explain the model. With model explain ability, we enable you to understand feature importance as part of automated ML runs.
Reference:
https://azure.microsoft.com/en-us/blog/new-automated-machine-learning-capabilities-in-azure-machine-learning-service/

Question 5
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Forecasting housing prices based on historical data is an example of anomaly detection.	○	○
Identifying suspicious sign-ins by looking for deviations from usual patterns is an example of anomaly detection.	○	○
Predicting whether a patient will develop diabetes based on the patient's medical history is an example of anomaly detection.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Forecasting housing prices based on historical data is an example of anomaly detection.	○	●
Identifying suspicious sign-ins by looking for deviations from usual patterns is an example of anomaly detection.	●	○
Predicting whether a patient will develop diabetes based on the patient's medical history is an example of anomaly detection.	○	●

Anomaly detection encompasses many important tasks in machine learning:
Identifying transactions that are potentially fraudulent.
Learning patterns that indicate that a network intrusion has occurred.
Finding abnormal clusters of patients.
Checking values entered into a system.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/anomaly-detection

Question 6
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

The handling of unusual or missing values provided to an AI system is a consideration for the Microsoft [▼] principle for responsible AI.

- inclusiveness
- privacy and security
- reliability and safety
- transparency

Correct Answer:

Answer Area

The handling of unusual or missing values provided to an AI system is a consideration for the Microsoft [ ] principle for responsible AI.

- inclusiveness
- privacy and security
- reliability and safety
- transparency

Reliability and safety:
AI systems need to be reliable and safe in order to be trusted. It is important for a system to perform as it was originally designed and for it to respond safely to new situations. Its inherent resilience should resist intended or unintended manipulation. Rigorous testing and validation should be established for operating conditions to ensure that the system responds safely to edge cases, and A/B testing and champion/challenger methods should be integrated into the evaluation process.
An AI system's performance can degrade over time, so a robust monitoring and model tracking process needs to be established to reactively and proactively measure the model's performance and retrain it, as necessary, to modernize it.
Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai

Question 7
DRAG DROP -
Match the types of AI workloads to the appropriate scenarios.
To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:

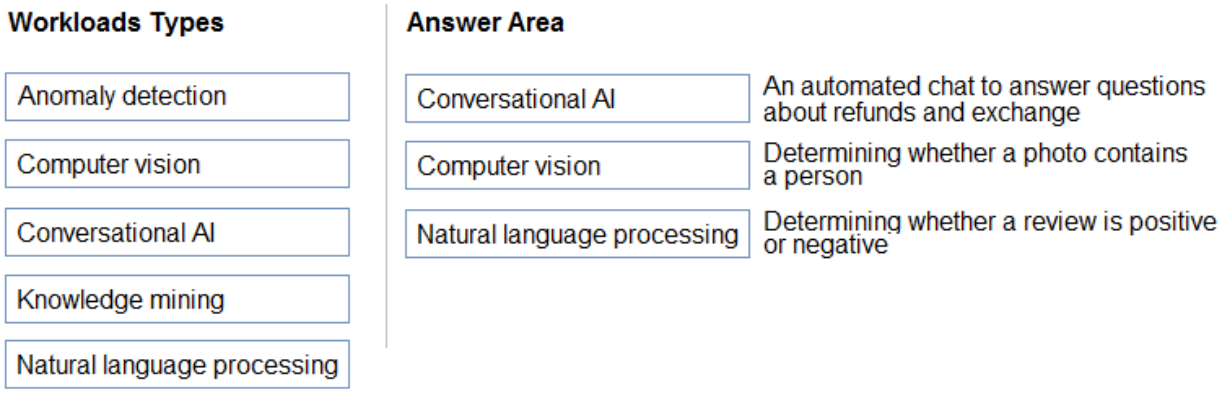
Workloads Types

- Anomaly detection
- Computer vision
- Conversational AI
- Knowledge mining
- Natural language processing

Answer Area

Workload Type	An automated chat to answer questions about refunds and exchange
Workload Type	Determining whether a photo contains a person
Workload Type	Determining whether a review is positive or negative

Correct Answer:



Box 3: Natural language processing
Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

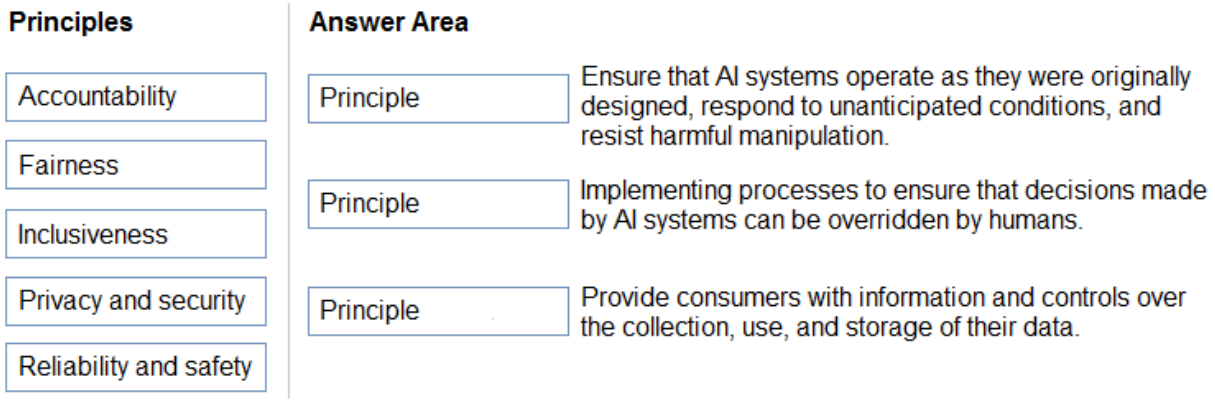
Question 8
You are designing an AI system that empowers everyone, including people who have hearing, visual, and other impairments.
This is an example of which Microsoft guiding principle for responsible AI?

- A. fairness
- B. inclusiveness
- C. reliability and safety
- D. accountability

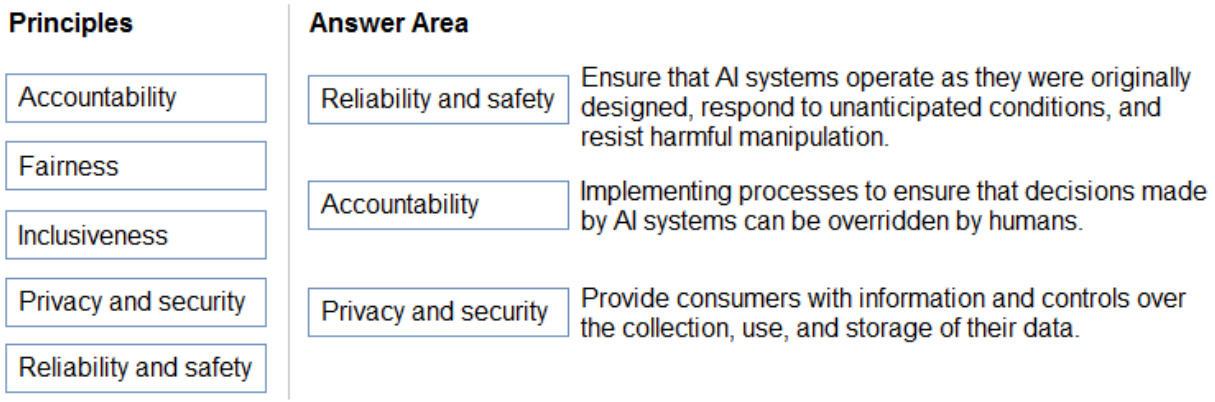
Correct Answer: *B*
Inclusiveness: At Microsoft, we firmly believe everyone should benefit from intelligent technology, meaning it must incorporate and address a broad range of human needs and experiences. For the 1 billion people with disabilities around the world, AI technologies can be a game-changer.
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 9
DRAG DROP -
Match the Microsoft guiding principles for responsible AI to the appropriate descriptions.
To answer, drag the appropriate principle from the column on the left to its description on the right. Each principle may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Box 1: Reliability and safety -
To build trust, it's critical that AI systems operate reliably, safely, and consistently under normal circumstances and in unexpected conditions. These systems should be able to operate as they were originally designed, respond safely to unanticipated conditions, and resist harmful manipulation.

Box 2: Accountability -
The people who design and deploy AI systems must be accountable for how their systems operate. Organizations should draw upon industry standards to develop accountability norms. These norms can ensure that AI systems are not the final authority on any decision that impacts people's lives and that humans maintain meaningful control over otherwise highly autonomous AI systems.

Box 3: Privacy and security -
As AI becomes more prevalent, protecting privacy and securing important personal and business information is becoming more critical and complex. With AI, privacy and data security issues require especially close attention because access to data is essential for AI systems to make accurate and informed predictions and decisions about people. AI systems must comply with

privacy laws that require transparency about the collection, use, and storage of data and mandate that consumers have appropriate controls to choose how their data is used
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 10
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

When developing an AI system for self-driving cars, the Microsoft [ ] principle for responsible AI should be applied to ensure consistent operation of the system during unexpected circumstances.

- inclusiveness
- accountability
- reliability and safety
- fairness

Correct Answer:

When developing an AI system for self-driving cars, the Microsoft [reliability and safety] principle for responsible AI should be applied to ensure consistent operation of the system during unexpected circumstances.

Reliability and safety: To build trust, it's critical that AI systems operate reliably, safely, and consistently under normal circumstances and in unexpected conditions.
These systems should be able to operate as they were originally designed, respond safely to unanticipated conditions, and resist harmful manipulation.
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 11
You are building an AI system.
Which task should you include to ensure that the service meets the Microsoft transparency principle for responsible AI?

- A. Ensure that all visuals have an associated text that can be read by a screen reader.
- B. Enable autoscaling to ensure that a service scales based on demand.
- C. Provide documentation to help developers debug code.
- D. Ensure that a training dataset is representative of the population.

Correct Answer: *C*
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 12
DRAG DROP -
Match the types of AI workloads to the appropriate scenarios.
To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:

Workload Types	Answer Area	
Anomaly detection	Workload Type	Identify handwritten letters.
Computer vision	Workload Type	Predict the sentiment of a social media post.
Machine Learning (Regression)	Workload Type	Identify a fraudulent credit card payment.
Natural language processing	Workload Type	Predict next month's toy sales.

Correct Answer:

Workload Types	Answer Area	
Anomaly detection	Computer vision	Identify handwritten letters.
Computer vision	Natural language processing	Predict the sentiment of a social media post.
Machine Learning (Regression)	Anomaly detection	Identify a fraudulent credit card payment.
Natural language processing	Machine Learning (Regression)	Predict next month's toy sales.

Reference:
https://docs.microsoft.com/en-us/learn/paths/get-started-with-artificial-intelligence-on-azure/

Question 13
Your company is exploring the use of voice recognition technologies in its smart home devices. The company wants to identify any barriers that might unintentionally leave out specific user groups.
This an example of which Microsoft guiding principle for responsible AI?

- A. accountability
- B. fairness
- C. inclusiveness
- D. privacy and security

Correct Answer: *C*
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 14
What are three Microsoft guiding principles for responsible AI? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. knowledgeability
- B. decisiveness
- C. inclusiveness
- D. fairness
- E. opinionatedness
- F. reliability and safety

Correct Answer: *CDF*
Reference:
https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 15
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:
Answer Area

Returning a bounding box that indicates the location of a vehicle in an image is an example of

image classification.
object detection.
optical character recognizer (OCR).
semantic segmentation.

Answer Area

Returning a bounding box that indicates the location of a vehicle in an image is an example of [ ]

- image classification.
- object detection.
- optical character recognizer (OCR).
- semantic segmentation.

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

Question 16
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

[ ] is used to generate additional features.

- Feature engineering
- Feature selection
- Model evaluation
- Model training

Answer Area

[ ] is used to generate additional features.

- Feature engineering
- Feature selection
- Model evaluation
- Model training

Correct Answer:
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/create-features

Question 17
You run a charity event that involves posting photos of people wearing sunglasses on Twitter.
You need to ensure that you only retweet photos that meet the following requirements:
☞ Include one or more faces.
☞ Contain at least one person wearing sunglasses.
What should you use to analyze the images?

- A. the Verify operation in the Face service
- B. the Detect operation in the Face service
- C. the Describe Image operation in the Computer Vision service
- D. the Analyze Image operation in the Computer Vision service

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/face/overview

Question 18
When you design an AI system to assess whether loans should be approved, the factors used to make the decision should be explainable.
This is an example of which Microsoft guiding principle for responsible AI?

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

Correct Answer: *A*
Achieving transparency helps the team to understand the data and algorithms used to train the model, what transformation logic was applied to the data, the final model generated, and its associated assets. This information offers insights about how the model was created, which allows it to be reproduced in a transparent way.
Incorrect Answers:
B: Inclusiveness mandates that AI should consider all human races and experiences, and inclusive design practices can help developers to understand and address potential barriers that could unintentionally exclude people. Where possible, speech-to-text, text-to-speech, and visual recognition technology should be used to empower people with hearing, visual, and other impairments.

C: Fairness is a core ethical principle that all humans aim to understand and apply. This principle is even more important when AI systems are being developed.
Key checks and balances need to make sure that the system's decisions don't discriminate or run a gender, race, sexual orientation, or religion bias toward a group or individual.
D: A data holder is obligated to protect the data in an AI system, and privacy and security are an integral part of this system. Personal needs to be secured, and it should be accessed in a way that doesn't compromise an individual's privacy.
Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/strategy/responsible-ai

Question 19
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Providing an explanation of the outcome of a credit loan application is an example of the Microsoft transparency principle for responsible AI.	○	○
A triage bot that prioritizes insurance claims based on injuries is an example of the Microsoft reliability and safety principle for responsible AI.	○	○
An AI solution that is offered at different prices for different sales territories is an example of the Microsoft inclusiveness principle for responsible AI.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Providing an explanation of the outcome of a credit loan application is an example of the Microsoft transparency principle for responsible AI.	○	○
A triage bot that prioritizes insurance claims based on injuries is an example of the Microsoft reliability and safety principle for responsible AI.	○	○
An AI solution that is offered at different prices for different sales territories is an example of the Microsoft inclusiveness principle for responsible AI.	○	○

Box 1: Yes -
Achieving transparency helps the team to understand the data and algorithms used to train the

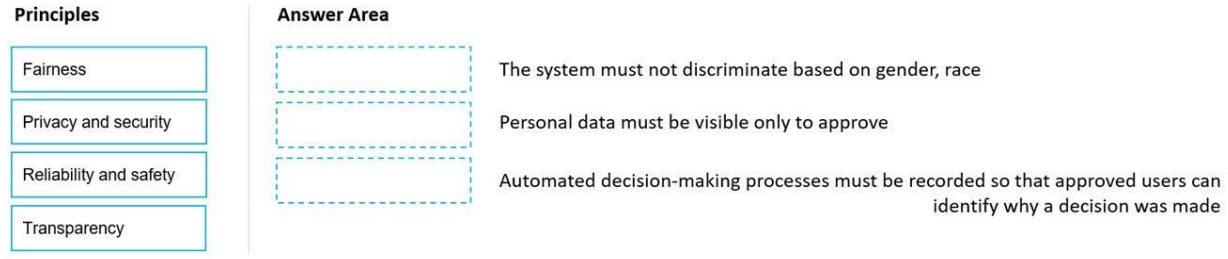
model, what transformation logic was applied to the data, the final model generated, and its associated assets. This information offers insights about how the model was created, which allows it to be reproduced in a transparent way.

Box 2: No -
A data holder is obligated to protect the data in an AI system, and privacy and security are an integral part of this system. Personal needs to be secured, and it should be accessed in a way that doesn't compromise an individual's privacy.

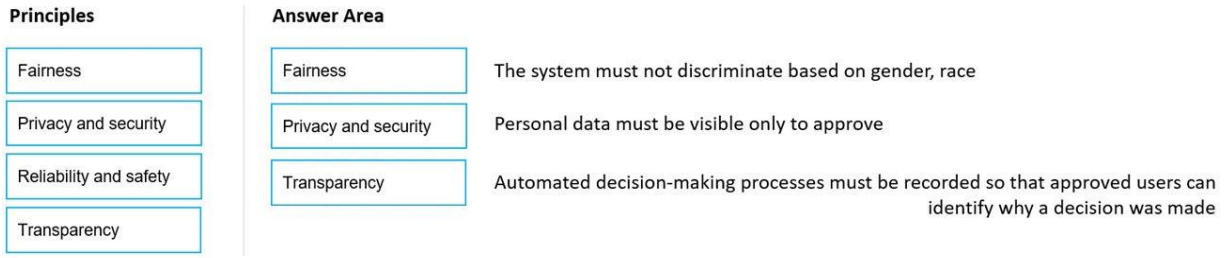
Box 3: No -
Inclusiveness mandates that AI should consider all human races and experiences, and inclusive design practices can help developers to understand and address potential barriers that could unintentionally exclude people. Where possible, speech-to-text, text-to-speech, and visual recognition technology should be used to empower people with hearing, visual, and other impairments.
Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai

Question 20

DRAG DROP -
Match the principles of responsible AI to appropriate requirements.
To answer, drag the appropriate principles from the column on the left to its requirement on the right. Each principle may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.
Select and Place:

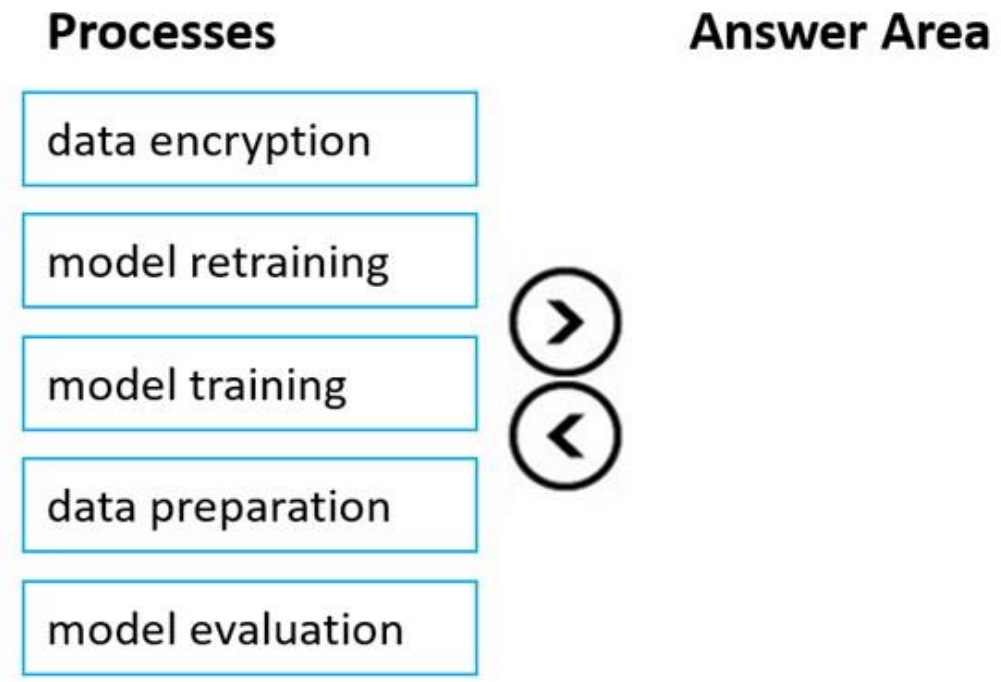


Correct Answer:

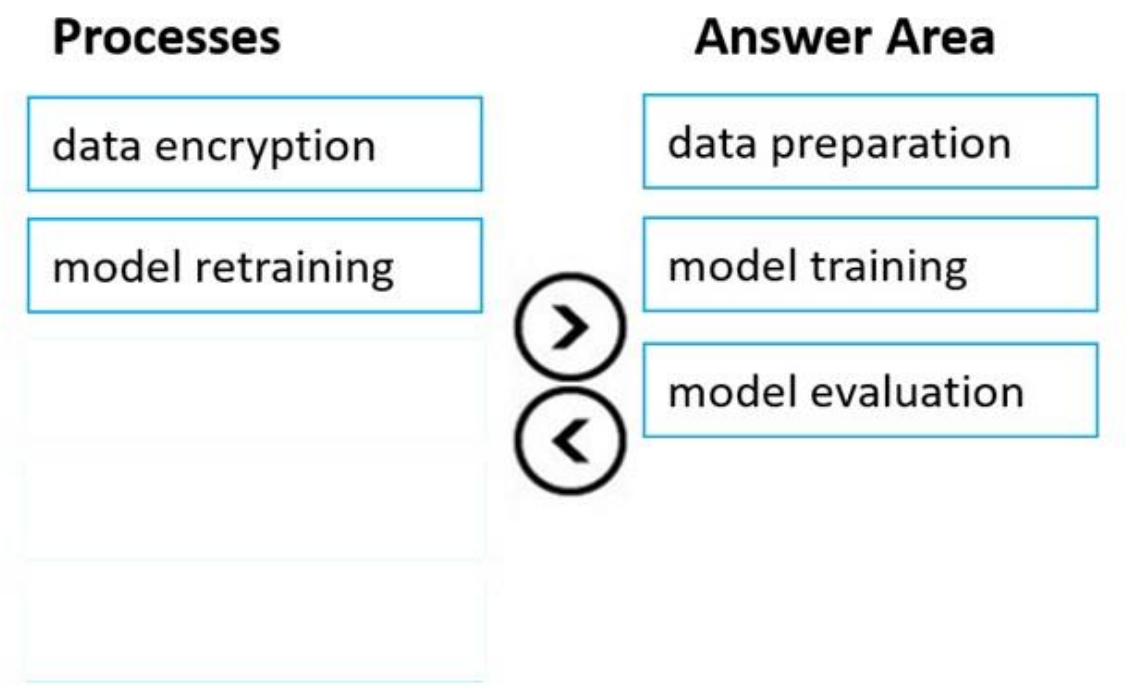


Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

Question 21
DRAG DROP -
You plan to deploy an Azure Machine Learning model as a service that will be used by client applications.
Which three processes should you perform in sequence before you deploy the model? To answer, move the appropriate processes from the list of processes to the answer area and arrange them in the correct order.
Select and Place:



Correct Answer:



Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-ml-pipelines

Question 22
You are building an AI-based app.
You need to ensure that the app uses the principles for responsible AI.
Which two principles should you follow? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

- A. Implement an Agile software development methodology
- B. Implement a process of AI model validation as part of the software review process
- C. Establish a risk governance committee that includes members of the legal team, members of the risk management team, and a privacy officer
- D. Prevent the disclosure of the use of AI-based algorithms for automated decision making

Correct Answer: *BC*
Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/3-implications-responsible-ai-practical

Question 23
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

According to Microsoft's [▼] principle of responsible AI,

- accountability
- fairness
- inclusiveness
- transparency

AI systems should **NOT** reflect biases from the data sets that are used to train the systems.

Correct Answer:

Answer Area

According to Microsoft's [▼] principle of responsible AI,

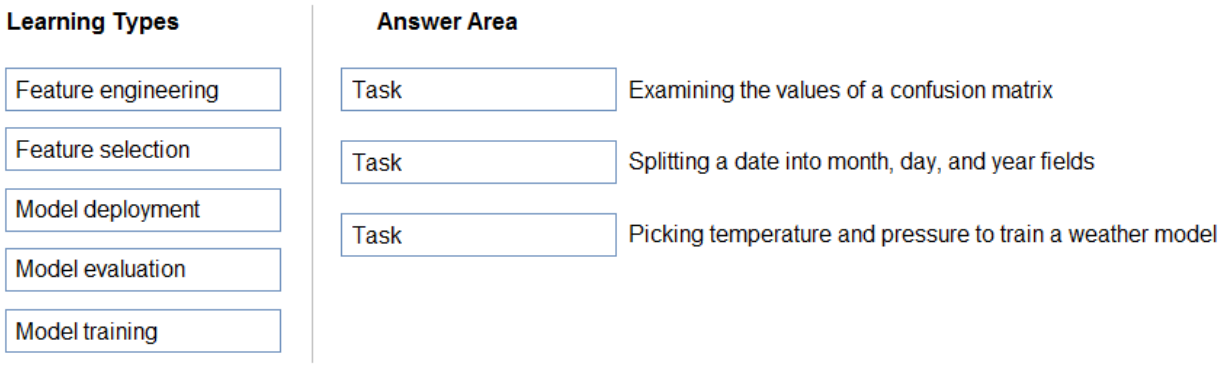
- accountability
- fairness
- inclusiveness
- transparency

AI systems should **NOT** reflect biases from the data sets that are used to train the systems.

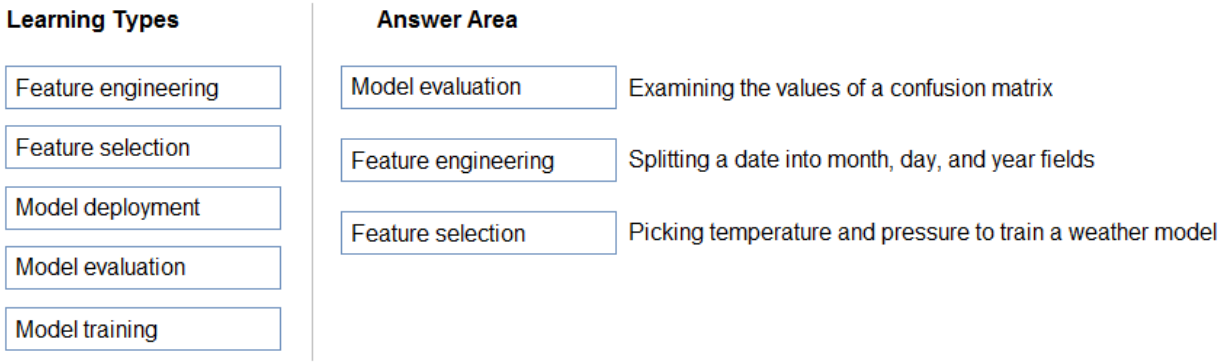
Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai

Question 24
DRAG DROP -
Match the machine learning tasks to the appropriate scenarios.
To answer, drag the appropriate task from the column on the left to its scenario on the right. Each task may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Box 1: Model evaluation -
The Model evaluation module outputs a confusion matrix showing the number of true positives, false negatives, false positives, and true negatives, as well as
ROC, Precision/Recall, and Lift curves.

Box 2: Feature engineering -
Feature engineering is the process of using domain knowledge of the data to create features that help ML algorithms learn better. In Azure Machine Learning, scaling and normalization techniques are applied to facilitate feature engineering. Collectively, these techniques and feature engineering are referred to as featurization.
Note: Often, features are created from raw data through a process of feature engineering. For example, a time stamp in itself might not be useful for modeling until the information is transformed into units of days, months, or categories that are relevant to the problem, such as holiday versus working day.

Box 3: Feature selection -
In machine learning and statistics, feature selection is the process of selecting a subset of relevant, useful features to use in building an analytical model. Feature selection helps narrow the field of data to the most valuable inputs. Narrowing the field of data helps reduce noise and

improve training performance.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance
https://docs.microsoft.com/en-us/azure/machine-learning/concept-automated-ml

Question 25
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Data values that influence the prediction of a model are called [ ]
- dependant variables.
- features.
- identifiers.
- labels.

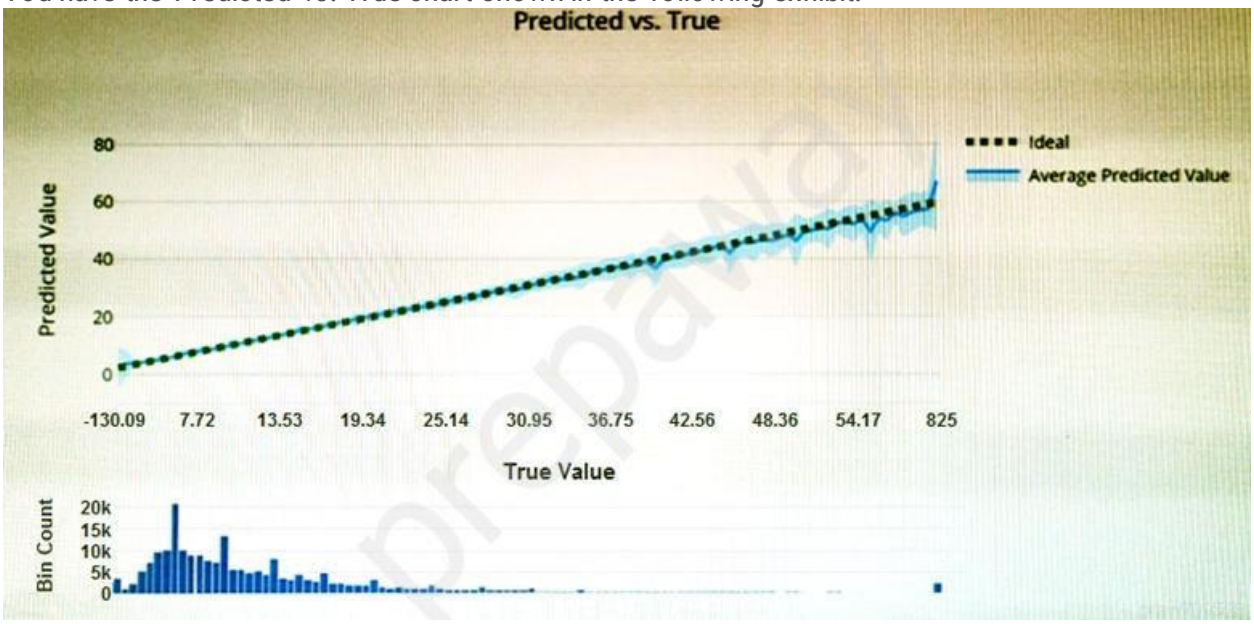
Correct Answer:

Answer Area

Data values that influence the prediction of a model are called [features.]
- dependant variables.
- features.
- identifiers.
- labels.

Reference:
https://www.baeldung.com/cs/feature-vs-label
https://machinelearningmastery.com/discover-feature-engineering-how-to-engineer-features-and-how-to-get-good-at-it/

Question 26
You have the Predicted vs. True chart shown in the following exhibit.



Which type of model is the chart used to evaluate?

- A. classification
- B. regression
- C. clustering

Correct Answer: *B*
What is a Predicted vs. True chart?
Predicted vs. True shows the relationship between a predicted value and its correlating true value for a regression problem. This graph can be used to measure performance of a model as the closer to the y=x line the predicted values are, the better the accuracy of a predictive model.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-understand-automated-m

Question 27
Which type of machine learning should you use to predict the number of gift cards that will be sold next month?

- A. classification
- B. regression
- C. clustering

Correct Answer: *B*
In the most basic sense, regression refers to prediction of a numeric target.
Linear regression attempts to establish a linear relationship between one or more independent

variables and a numeric outcome, or dependent variable.
You use this module to define a linear regression method, and then train a model using a labeled dataset. The trained model can then be used to make predictions.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/linear-regression

Question 28
You have a dataset that contains information about taxi journeys that occurred during a given period.
You need to train a model to predict the fare of a taxi journey.
What should you use as a feature?

- A. the number of taxi journeys in the dataset
- B. the trip distance of individual taxi journeys
- C. the fare of individual taxi journeys
- D. the trip ID of individual taxi journeys

Correct Answer: *B*
The label is the column you want to predict. The identified Featuresare the inputs you give the model to predict the Label.
Example:
The provided data set contains the following columns:
vendor_id: The ID of the taxi vendor is a feature.
rate_code: The rate type of the taxi trip is a feature.
passenger_count: The number of passengers on the trip is a feature. trip_time_in_secs: The amount of time the trip took. You want to predict the fare of the trip before the trip is completed. At that moment, you don't know how long the trip would take. Thus, the trip time is not a feature and you'll exclude this column from the model. trip_distance: The distance of the trip is a feature. payment_type: The payment method (cash or credit card) is a feature. fare_amount: The total taxi fare paid is the label.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/tutorials/predict-prices

Question 29
You need to predict the sea level in meters for the next 10 years.
Which type of machine learning should you use?

- A. classification
- B. regression
- C. clustering

Correct Answer: *B*
In the most basic sense, regression refers to prediction of a numeric target.
Linear regression attempts to establish a linear relationship between one or more independent variables and a numeric outcome, or dependent variable.
You use this module to define a linear regression method, and then train a model using a labeled dataset. The trained model can then be used to make predictions.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/linear-regression

Question 30
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Automated machine learning is the process of automating the time-consuming, iterative tasks of machine learning model development.	○	○
Automated machine learning can automatically infer the training data from the use case provided.	○	○
Automated machine learning works by running multiple training iterations that are scored and ranked by the metrics you specify.	○	○
Automated machine learning enables you to specify a dataset and will automatically understand which label to predict.	○	○

Correct

Answer Area

Statements	Yes	No
Automated machine learning is the process of automating the time-consuming, iterative tasks of machine learning model development.	○	○
Automated machine learning can automatically infer the training data from the use case provided.	○	○
Automated machine learning works by running multiple training iterations that are scored and ranked by the metrics you specify.	○	○
Automated machine learning enables you to specify a dataset and will automatically understand which label to predict.	○	○

Answer:

Box 1: Yes -
Automated machine learning, also referred to as automated ML or AutoML, is the process of automating the time consuming, iterative tasks of machine learning model development. It allows data scientists, analysts, and developers to build ML models with high scale, efficiency, and productivity all while sustaining model quality.

Box 2: No -

Box 3: Yes -
During training, Azure Machine Learning creates a number of pipelines in parallel that try different algorithms and parameters for you. The service iterates through
ML algorithms paired with feature selections, where each iteration produces a model with a training score. The higher the score, the better the model is considered to "fit" your data. It will stop once it hits the exit criteria defined in the experiment.

Box 4: No -
Apply automated ML when you want Azure Machine Learning to train and tune a model for you using the target metric you specify.
The label is the column you want to predict.
Reference:
https://azure.microsoft.com/en-us/services/machine-learning/automatedml/#features

Question 31
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A banking system that predicts whether a loan will be repaid is an example of the [ ] type of machine learning.

- classification
- regression
- clustering

Correct Answer:

Answer Area

A banking system that predicts whether a loan will be repaid is an example of the [ ] type of machine learning.

- classification
- regression
- clustering

Two-class classification provides the answer to simple two-choice questions such as Yes/No or True/False.

Question 32
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Labelling is the process of tagging training data with known values.	○	○
You should evaluate a model by using the same data used to train the model.	○	○
Accuracy is always the primary metric used to measure a model's performance.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Labelling is the process of tagging training data with known values.	○	○
You should evaluate a model by using the same data used to train the model.	○	○
Accuracy is always the primary metric used to measure a model's performance.	○	○

Box 1: Yes -
In machine learning, if you have labeled data, that means your data is marked up, or annotated, to show the target, which is the answer you want your machine learning model to predict.
In general, data labeling can refer to tasks that include data tagging, annotation, classification, moderation, transcription, or processing.

Box 2: No -

Box 3: No -
Accuracy is simply the proportion of correctly classified instances. It is usually the first metric you look at when evaluating a classifier. However, when the test data is unbalanced (where most of the instances belong to one of the classes), or you are more interested in the performance on either one of the classes, accuracy doesn't really capture the effectiveness of a classifier.
Reference:
https://www.cloudfactory.com/data-labeling-guide
https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance

Question 33
Which service should you use to extract text, key/value pairs, and table data automatically from scanned documents?

- A. Form Recognizer
- B. Text Analytics
- C. Language Understanding
- D. Custom Vision

Correct Answer: *A*
Accelerate your business processes by automating information extraction. Form Recognizer applies advanced machine learning to accurately extract text, key/ value pairs, and tables from documents. With just a few samples, Form Recognizer tailors its understanding to your documents, both on-premises and in the cloud. Turn forms into usable data at a fraction of the time and cost,

so you can focus more time acting on the information rather than compiling it.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/form-recognizer/

Question 34
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

The ability to extract subtotals and totals from a receipt is a capability of the [ ] service.

- Custom Vision
- Form Recognizer
- Ink Recognizer
- Text Analytics

Correct Answer:

Answer Area

The ability to extract subtotals and totals from a receipt is a capability of the [Form Recognizer] service.

- Custom Vision
- **Form Recognizer**
- Ink Recognizer
- Text Analytics

Accelerate your business processes by automating information extraction. Form Recognizer applies advanced machine learning to accurately extract text, key/ value pairs, and tables from documents. With just a few samples, Form Recognizer tailors its understanding to your documents, both on-premises and in the cloud. Turn forms into usable data at a fraction of the time and cost, so you can focus more time acting on the information rather than compiling it.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/form-recognizer/

Question 35
You use Azure Machine Learning designer to publish an inference pipeline.
Which two parameters should you use to consume the pipeline? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

- A. the model name
- B. the training endpoint
- C. the authentication key
- D. the REST endpoint

Correct Answer: *CD*
You can consume a published pipeline in the Published pipelines page. Select a published pipeline and find the REST endpoint of it.
To consume the pipeline, you need:
☞ The REST endpoint for your service
☞ The Primary Key for your service
Reference:
https://docs.microsoft.com/en-in/learn/modules/create-regression-model-azure-machine-learning-designer/deploy-service

Question 36
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

From Azure Machine Learning designer, to deploy a real-time inference pipeline as a service for others to consume, you must deploy the model to

a local web service.
Azure Container Instances.
Azure Kubernetes Service (AKS).
Azure Machine Learning compute.

Correct Answer:

Answer Area

From Azure Machine Learning designer, to deploy a real-time inference pipeline as a service for others to consume, you must deploy the model to

- a local web service.
- Azure Container Instances.
- Azure Kubernetes Service (AKS).
- Azure Machine Learning compute.

To perform real-time inferencing, you must deploy a pipeline as a real-time endpoint.
Real-time endpoints must be deployed to an Azure Kubernetes Service cluster.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-designer#deploy

Question 37
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Predicting how many hours of overtime a delivery person will work based on the number of order received is an example of

- classification.
- clustering.
- regression.

Correct

Answer Area

Predicting how many hours of overtime a delivery person will work based on the number of order received is an example of

- classification.
- clustering.
- regression.

Answer:
In the most basic sense, regression refers to prediction of a numeric target.

Linear regression attempts to establish a linear relationship between one or more independent variables and a numeric outcome, or dependent variable.
You use this module to define a linear regression method, and then train a model using a labeled dataset. The trained model can then be used to make predictions.
Incorrect Answers:
☞ Classification is a machine learning method that uses data to determine the category, type, or class of an item or row of data.
☞ Clustering, in machine learning, is a method of grouping data points into similar clusters. It is also called segmentation.
Over the years, many clustering algorithms have been developed. Almost all clustering algorithms use the features of individual items to find similar items. For example, you might apply clustering to find similar people by demographics. You might use clustering with text analysis to group sentences with similar topics or sentiment.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/algorithm-module-reference/linear-regression https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/machine-learning-initialize-model-clustering

Question 38
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Azure Machine Learning designer provides a drag-and-drop visual canvas to build, test, and deploy machine learning models.	○	○
Azure Machine Learning designer enables you to save your progress as a pipeline draft.	○	○
Azure Machine Learning designer enables you to include custom JavaScript functions.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Azure Machine Learning designer provides a drag-and-drop visual canvas to build, test, and deploy machine learning models.	○	○
Azure Machine Learning designer enables you to save your progress as a pipeline draft.	○	○
Azure Machine Learning designer enables you to include custom JavaScript functions.	○	○

Box 1: Yes -
Azure Machine Learning designer lets you visually connect datasets and modules on an interactive canvas to create machine learning models.

Box 2: Yes -
With the designer you can connect the modules to create a pipeline draft.
As you edit a pipeline in the designer, your progress is saved as a pipeline draft.

Box 3: No -
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-designer

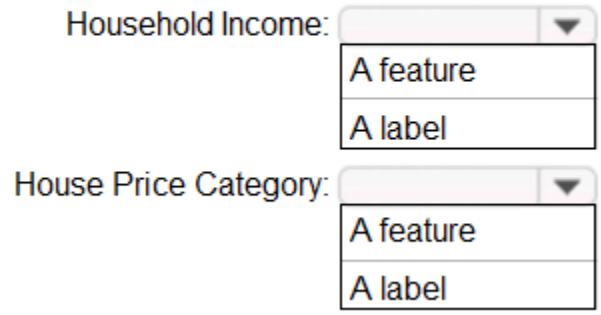
Question 39
HOTSPOT -
You have the following dataset.

Household Income	Postal Code	House Price Category
20,000	55555	Low
23,000	20541	Middle
80,000	87960	High

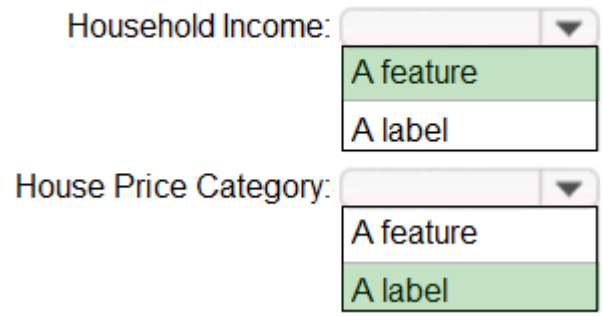
You plan to use the dataset to train a model that will predict the house price categories of houses.
What are Household Income and House Price Category? To answer, select the appropriate option in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area



Answer Area



Correct Answer:
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio/interpret-model-results

Question 40
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.

Hot Area:

Answer Area

Azure Machine Learning designer lets you create machine learning models by

adding and connecting modules on a visual canvas.
automatically performing common data preparation tasks.
automatically selecting an algorithm to build the most accurate model.
using a code-first notebook experience.

Correct

Answer Area

Azure Machine Learning designer lets you create machine learning models by

adding and connecting modules on a visual canvas.
automatically performing common data preparation tasks.
automatically selecting an algorithm to build the most accurate model.
using a code-first notebook experience.

Answer:

Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-designer

Question 41

HOTSPOT -

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Automated machine learning provides you with the ability to include custom Python scripts in a training pipeline.	○	○
Automated machine learning implements machine learning solutions without the need for programming experience.	○	○
Automated machine learning provides you with the ability to visually connect datasets and modules on an interactive canvas.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Automated machine learning provides you with the ability to include custom Python scripts in a training pipeline.	○	○
Automated machine learning implements machine learning solutions without the need for programming experience.	○	○
Automated machine learning provides you with the ability to visually connect datasets and modules on an interactive canvas.	○	○

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

Question 42

A medical research project uses a large anonymized dataset of brain scan images that are categorized into predefined brain haemorrhage types.
You need to use machine learning to support early detection of the different brain haemorrhage types in the images before the images are reviewed by a person.
This is an example of which type of machine learning?

- A. clustering
- B. regression
- C. classification

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

Question 43
When training a model, why should you randomly split the rows into separate subsets?

- A. to train the model twice to attain better accuracy
- B. to train multiple models simultaneously to attain better performance
- C. to test the model by using data that was not used to train the model

Correct Answer: *C*

Question 44
You are evaluating whether to use a basic workspace or an enterprise workspace in Azure Machine Learning.
What are two tasks that require an enterprise workspace? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Use a graphical user interface (GUI) to run automated machine learning experiments.
- B. Create a compute instance to use as a workstation.
- C. Use a graphical user interface (GUI) to define and run machine learning experiments from Azure Machine Learning designer.
- D. Create a dataset from a comma-separated value (CSV) file.

Correct Answer: *AC*
Note: Enterprise workspaces are no longer available as of September 2020. The basic workspace now has all the functionality of the enterprise workspace.
Reference:
https://www.azure.cn/en-us/pricing/details/machine-learning/
https://docs.microsoft.com/en-us/azure/machine-learning/concept-workspace

Question 45
You need to predict the income range of a given customer by using the following dataset.

First Name	Last Name	Age	Education Level	Income Range
Orlando	Gee	45	University	25,000-50,000
Keith	Harris	36	High school	25,000-50,000
Donna	Carreras	52	University	50,000-75,000
Janet	Gates	21	University	75,000-100,000
Lucy	Harrington	68	High school	50,000-75,000

Which two fields should you use as features? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Education Level
- B. Last Name
- C. Age
- D. Income Range
- E. First Name

Correct Answer: *AC*
First Name, Last Name, Age and Education Level are features. Income range is a label (what you want to predict). First Name and Last Name are irrelevant in that they have no bearing on income. Age and Education level are the features you should use.

Question 46
You are building a tool that will process images from retail stores and identify the products of competitors.
The solution will use a custom model.
Which Azure Cognitive Services service should you use?

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

Correct Answer: *A*
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/overview

Question 47
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Organizing documents into groups based on similarities of the text contained in the documents is an example of clustering.	○	○
Grouping similar patients based on symptoms and diagnostic test results is an example of clustering.	○	○
Predicting whether a person will develop mild, moderate, or severe allergy symptoms based on pollen count is an example of clustering.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Organizing documents into groups based on similarities of the text contained in the documents is an example of clustering.	○	○
Grouping similar patients based on symptoms and diagnostic test results is an example of clustering.	○	○
Predicting whether a person will develop mild, moderate, or severe allergy symptoms based on pollen count is an example of clustering.	○	○

Clustering is a machine learning task that is used to group instances of data into clusters that contain similar characteristics. Clustering can also be used to identify relationships in a dataset
Regression is a machine learning task that is used to predict the value of the label from a set of related features.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/tasks

Question 48
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
A validation set includes the set of input examples that will be used to train a mode.	○	○
A validation set can be used to determine how well a model predicts labels.	○	○
A validation set can be used to verify that all the training data was used to train the model.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
A validation set includes the set of input examples that will be used to train a mode.	○	○
A validation set can be used to determine how well a model predicts labels.	○	○
A validation set can be used to verify that all the training data was used to train the model.	○	○

Box 1: No -
The validation dataset is different from the test dataset that is held back from the training of the model.

Box 2: Yes -
A validation dataset is a sample of data that is used to give an estimate of model skill while tuning model's hyperparameters.

Box 3: No -
The Test Dataset, not the validation set, used for this. The Test Dataset is a sample of data used to

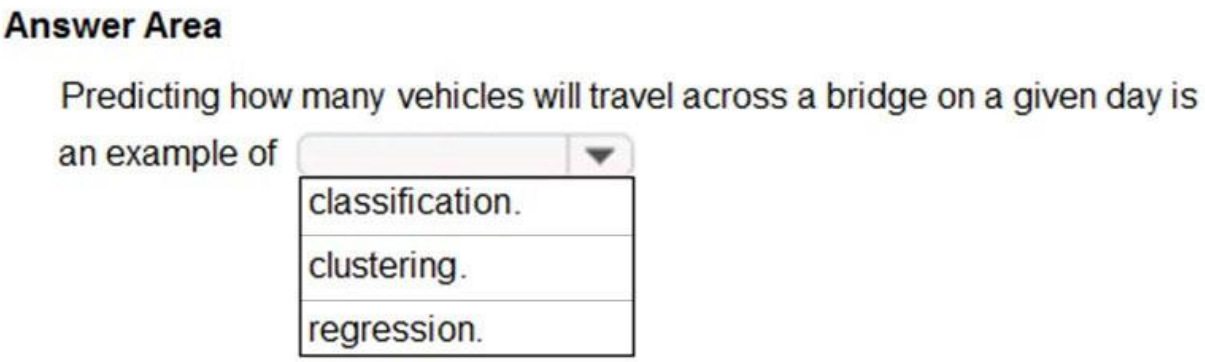
provide an unbiased evaluation of a final model fit on the training dataset.
Reference:
https://machinelearningmastery.com/difference-test-validation-datasets/

Question 49
What are two metrics that you can use to evaluate a regression model? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. coefficient of determination (R2)
- B. F1 score
- C. root mean squared error (RMSE)
- D. area under curve (AUC)
- E. balanced accuracy

Correct Answer: *AC*
A: R-squared (R2), or Coefficient of determination represents the predictive power of the model as a value between -inf and 1.00. 1.00 means there is a perfect fit, and the fit can be arbitrarily poor so the scores can be negative.
C: RMS-loss or Root Mean Squared Error (RMSE) (also called Root Mean Square Deviation, RMSD), measures the difference between values predicted by a model and the values observed from the environment that is being modeled.
Incorrect Answers:
B: F1 score also known as balanced F-score or F-measure is used to evaluate a classification model.
D: aucROC or area under the curve (AUC) is used to evaluate a classification model.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/metrics

Question 50
HOTSPOT - To complete the sentence, select the appropriate option in the answer area.
Hot Area:



Correct Answer:

Answer Area

Predicting how many vehicles will travel across a bridge on a given day is an example of

- classification.
- clustering.
- regression.

Regression is a machine learning task that is used to predict the value of the label from a set of related features.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/tasks

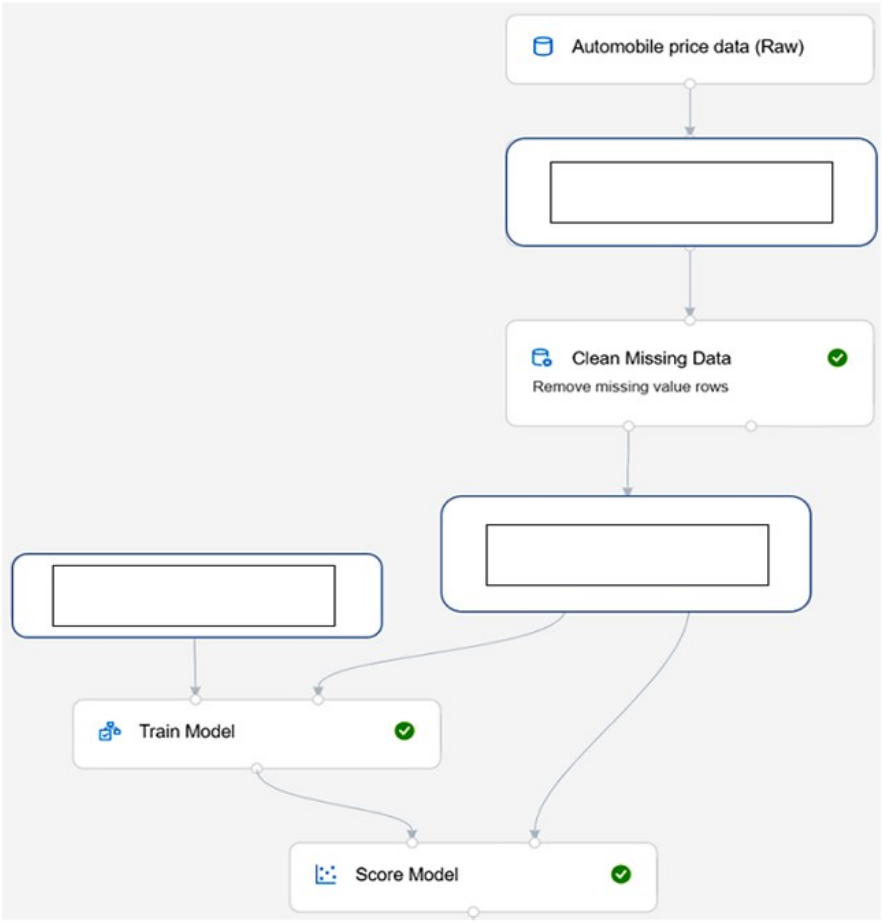
Question 51
DRAG DROP -
You need to use Azure Machine Learning designer to build a model that will predict automobile prices.
Which type of modules should you use to complete the model? To answer, drag the appropriate modules to the correct locations. Each module may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Select and Place:

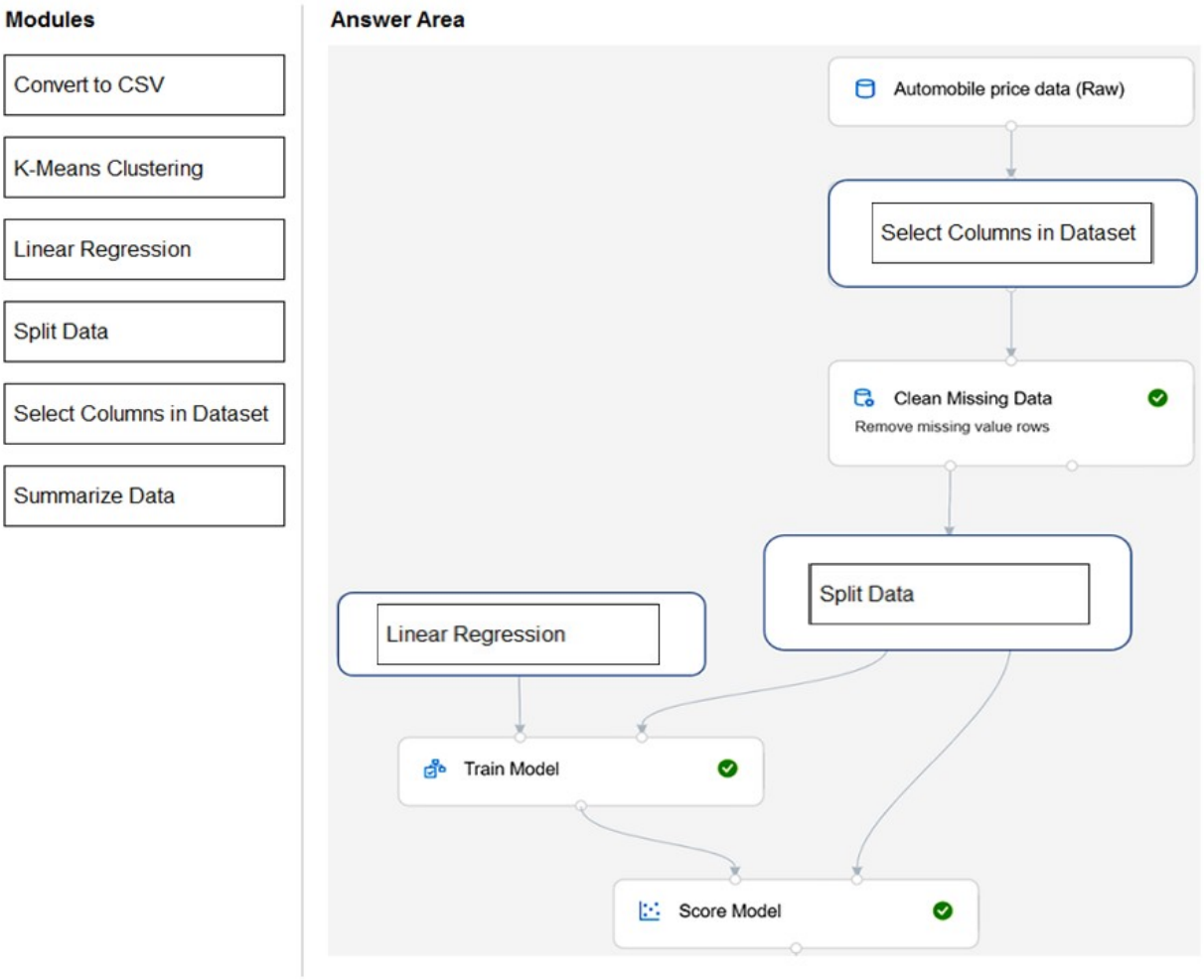
Modules

- Convert to CSV
- K-Means Clustering
- Linear Regression
- Split Data
- Select Columns in Dataset
- Summarize Data

Answer Area



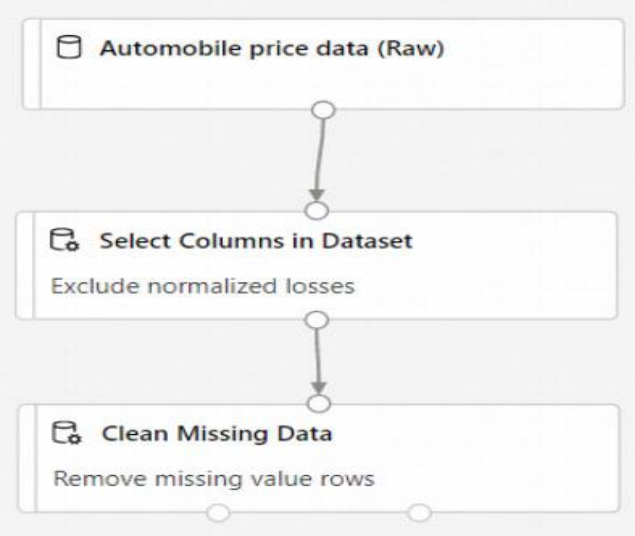
Correct Answer:



Box 1: Select Columns in Dataset

For Columns to be cleaned, choose the columns that contain the missing values you want to change. You can choose multiple columns, but you must use the same replacement method in all selected columns.

Example:



Box 2: Split data -
Splitting data is a common task in machine learning. You will split your data into two separate datasets. One dataset will train the model and the other will test how well the model performed.

Box 3: Linear regression -
Because you want to predict price, which is a number, you can use a regression algorithm. For this example, you use a linear regression model.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/tutorial-designer-automobile-price-train-score

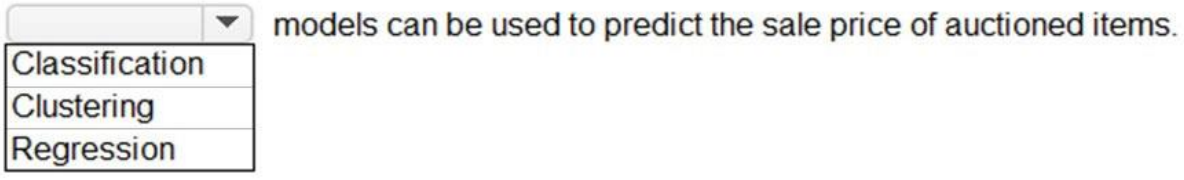
Question 52
Which type of machine learning should you use to identify groups of people who have similar purchasing habits?

- A. classification
- B. regression
- C. clustering

Correct Answer: *C*
Clustering is a machine learning task that is used to group instances of data into clusters that contain similar characteristics. Clustering can also be used to identify relationships in a dataset
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/tasks

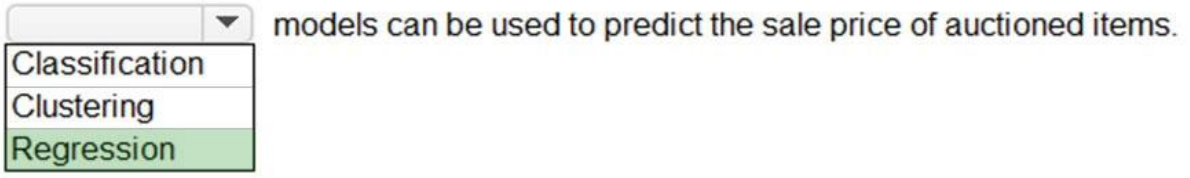
Question 53
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area



Correct Answer:

Answer Area



Regression is a machine learning task that is used to predict the value of the label from a set of related features.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/tasks

Question 54
Which metric can you use to evaluate a classification model?

- A. true positive rate
- B. mean absolute error (MAE)
- C. coefficient of determination (R2)
- D. root mean squared error (RMSE)

Correct Answer: *A*
What does a good model look like?
An ROC curve that approaches the top left corner with 100% true positive rate and 0% false positive rate will be the best model. A random model would display as a flat line from the bottom left to the top right corner. Worse than random would dip below the y=x line.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-understand-automated-ml#classification

Question 55
Which two components can you drag onto a canvas in Azure Machine Learning designer? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. dataset
- B. compute
- C. pipeline
- D. module

Correct Answer: *AD*
You can drag-and-drop datasets and modules onto the canvas.

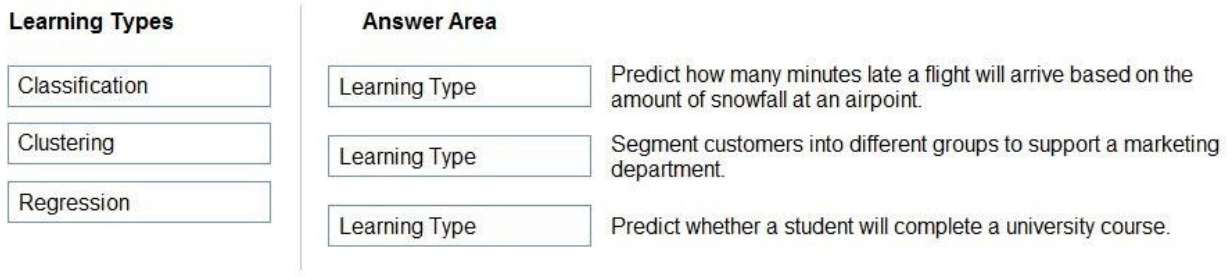
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-designer

Question 56
You need to create a training dataset and validation dataset from an existing dataset.
Which module in the Azure Machine Learning designer should you use?

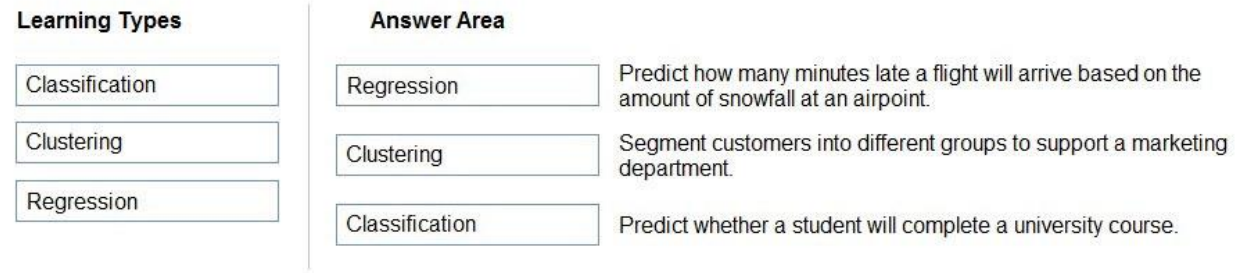
- A. Select Columns in Dataset
- B. Add Rows
- C. Split Data
- D. Join Data

Correct Answer: *C*
A common way of evaluating a model is to divide the data into a training and test set by using Split Data, and then validate the model on the training data.
Use the Split Data module to divide a dataset into two distinct sets.
The studio currently supports training/validation data splits
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-configure-cross-validation-data-splits

Question 57
DRAG DROP -
Match the types of machine learning to the appropriate scenarios.
To answer, drag the appropriate machine learning type from the column on the left to its scenario on the right. Each machine learning type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:



Correct Answer:



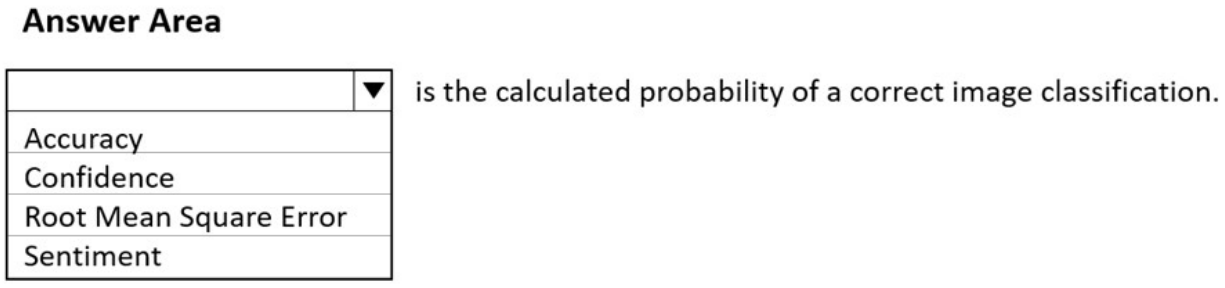
Box 1: Regression -
In the most basic sense, regression refers to prediction of a numeric target.
Linear regression attempts to establish a linear relationship between one or more independent variables and a numeric outcome, or dependent variable.
You use this module to define a linear regression method, and then train a model using a labeled dataset. The trained model can then be used to make predictions.

Box 2: Clustering -
Clustering, in machine learning, is a method of grouping data points into similar clusters. It is also called segmentation.
Over the years, many clustering algorithms have been developed. Almost all clustering algorithms use the features of individual items to find similar items. For example, you might apply clustering to find similar people by demographics. You might use clustering with text analysis to group sentences with similar topics or sentiment.

Box 3: Classification -
Two-class classification provides the answer to simple two-choice questions such as Yes/No or True/False.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/linear-regression

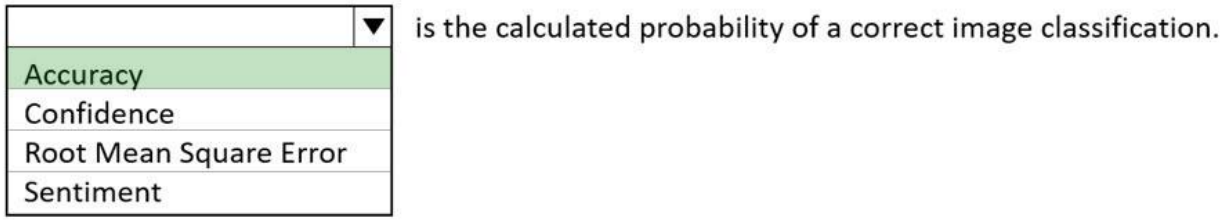
Question 58

HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:



Correct
Answer:

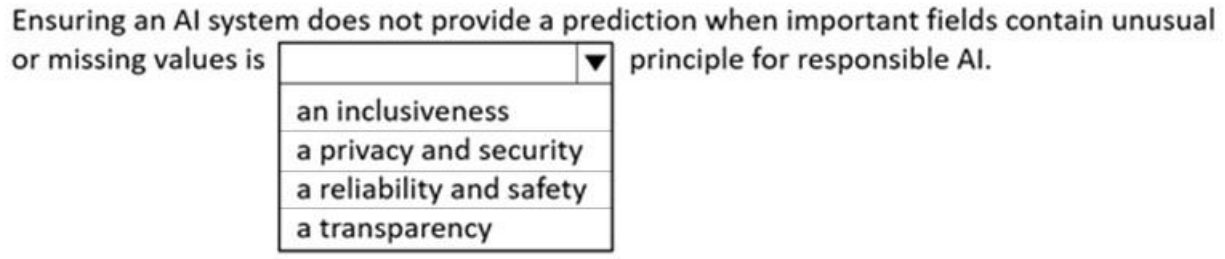
Answer Area



Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/getting-started-build-a-classifier

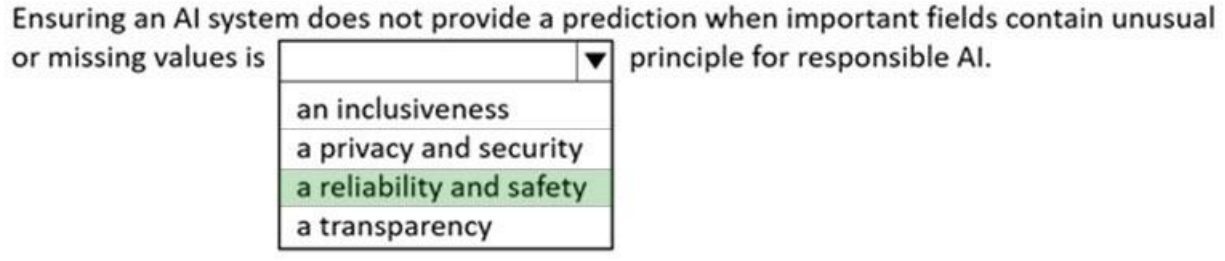
Question 59
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area



Correct
Answer:

Answer Area



Reference:
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/innovate/best-practices/trusted-ai

Question 60
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Ensuring that the numeric variables in training data are on a similar scale is an example of [▼]
- data ingestion.
- feature engineering.
- feature selection.
- model training.

Correct Answer:

Answer Area

Ensuring that the numeric variables in training data are on a similar scale is an example of [▼]
- data ingestion.
- feature engineering.
- feature selection. (highlighted)
- model training.

Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-science-process/create-features

Question 61
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Assigning classes to images before training a classification model is an example of [▼]
- evaluation.
- feature engineering
- hyperparameter tuning.
- labeling.

Correct Answer:

Answer Area

Assigning classes to images before training a classification model is an example of

evaluation.
feature engineering
hyperparameter tuning.
labeling.

Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-label-data

Question 62
Your company wants to build a recycling machine for bottles. The recycling machine must automatically identify bottles of the correct shape and reject all other items.
Which type of AI workload should the company use?

- A. anomaly detection
- B. conversational AI
- C. computer vision
- D. natural language processing

Correct Answer: *C*
Azure's Computer Vision service gives you access to advanced algorithms that process images and return information based on the visual features you're interested in. For example, Computer Vision can determine whether an image contains adult content, find specific brands or objects, or find human faces.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview

Question 63
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
When creating an object detection model in the Custom Vision service, you must choose a classification type of either **Multilabel** or **Multiclass**.	○	○
You can create an object detection model in the Custom Vision service to find the location of content within an image.	○	○
When creating an object detection model in the Custom Vision service, you can select from a set of predefined domains.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
When creating an object detection model in the Custom Vision service, you must choose a classification type of either **Multilabel** or **Multiclass**.	○	○
You can create an object detection model in the Custom Vision service to find the location of content within an image.	○	○
When creating an object detection model in the Custom Vision service, you can select from a set of predefined domains.	○	○

Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/get-started-build-detector

Question 64

In which two scenarios can you use the Form Recognizer service? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Extract the invoice number from an invoice.
- B. Translate a form from French to English.

- C. Find image of product in a catalog.
- D. Identify the retailer from a receipt.

Correct Answer: *AD*
Reference:
https://azure.microsoft.com/en-gb/services/cognitive-services/form-recognizer/#features

Question 65
HOTSPOT -
You have a database that contains a list of employees and their photos.
You are tagging new photos of the employees.
For each of the following statements select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
The Face service can be used to perform facial recognition for employees	○	○
The Face service will be more accurate if you provide more sample photos of each employee from different angles.	○	○
If an employee is wearing sunglasses, the Face service will always fail to recognize the employee.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
The Face service can be used to perform facial recognition for employees	○	○
The Face service will be more accurate if you provide more sample photos of each employee from different angles.	○	○
If an employee is wearing sunglasses, the Face service will always fail to recognize the employee.	○	○

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

Question 66
You need to develop a mobile app for employees to scan and store their expenses while travelling. Which type of computer vision should you use?

- A. semantic segmentation
- B. image classification
- C. object detection
- D. optical character recognition (OCR)

Correct Answer: *D*
Azure's Computer Vision API includes Optical Character Recognition (OCR) capabilities that extract printed or handwritten text from images. You can extract text from images, such as photos of license plates or containers with serial numbers, as well as from documents - invoices, bills, financial reports, articles, and more.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-recognizing-text

Question 67
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
The Custom Vision service can be used to detect objects in an image.	○	○
The Custom Vision service requires that you provide your own data to train the model.	○	○
The Custom Vision service can be used to analyze video files.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
The Custom Vision service can be used to detect objects in an image.	○	○
The Custom Vision service requires that you provide your own data to train the model.	○	○
The Custom Vision service can be used to analyze video files.	○	○

Box 1: Yes -
Custom Vision functionality can be divided into two features. Image classification applies one or more labels to an image. Object detection is similar, but it also returns the coordinates in the image where the applied label(s) can be found.

Box 2: Yes -
The Custom Vision service uses a machine learning algorithm to analyze images. You, the developer, submit groups of images that feature and lack the characteristics in question. You label the images yourself at the time of submission. Then, the algorithm trains to this data and calculates its own accuracy by testing itself on those same images.

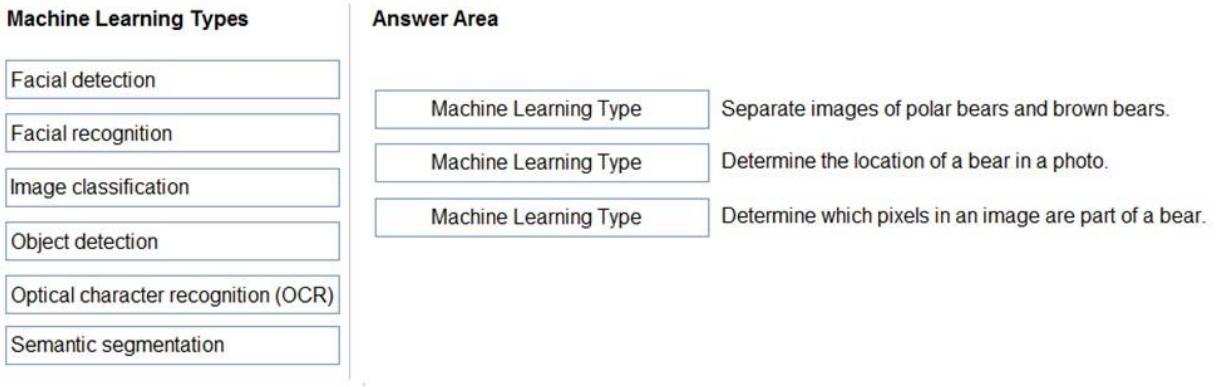
Box 3: No -
Custom Vision service can be used only on graphic files.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/Custom-Vision-Service/overview

Question 68
You are processing photos of runners in a race.
You need to read the numbers on the runners' shirts to identity the runners in the photos.
Which type of computer vision should you use?

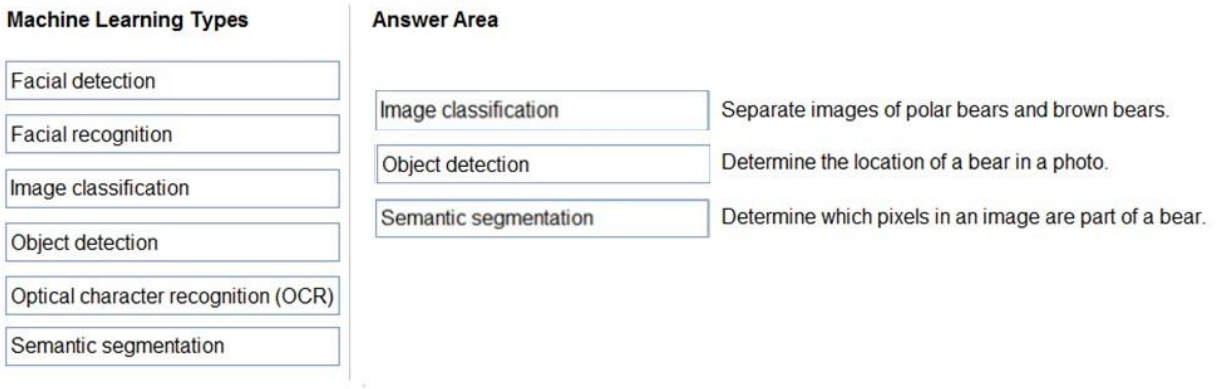
- A. facial recognition
- B. optical character recognition (OCR)
- C. semantic segmentation
- D. object detection

Correct Answer: *B*
Optical character recognition (OCR) allows you to extract printed or handwritten text from images and documents.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr

Question 69
DRAG DROP -
Match the types of machine learning to the appropriate scenarios.
To answer, drag the appropriate machine learning type from the column on the left to its scenario on the right. Each machine learning type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:



Correct Answer:



Box 1: Image classification -
Image classification is a supervised learning problem: define a set of target classes (objects to identify in images), and train a model to recognize them using labeled example photos.

Box 2: Object detection -
Object detection is a computer vision problem. While closely related to image classification, object detection performs image classification at a more granular scale. Object detection both locates and categorizes entities within images.

Box 3: Semantic Segmentation -
Semantic segmentation achieves fine-grained inference by making dense predictions inferring labels for every pixel, so that each pixel is labeled with the class of its enclosing object ore region.
Reference:
https://developers.google.com/machine-learning/practica/image-classification
https://docs.microsoft.com/en-us/dotnet/machine-learning/tutorials/object-detection-model-builder https://nanonets.com/blog/how-to-do-semantic-segmentation-using-deep-learning/

Question 70
You use drones to identify where weeds grow between rows of crops to send an instruction for the removal of the weeds.
This is an example of which type of computer vision?

- A. object detection
- B. optical character recognition (OCR)
- C. scene segmentation

Correct Answer: *A*
Object detection is similar to tagging, but the API returns the bounding box coordinates for each tag applied. For example, if an image contains a dog, cat and person, the Detect operation will list those objects together with their coordinates in the image.
Incorrect Answers:
B: Optical character recognition (OCR) allows you to extract printed or handwritten text from

images and documents.
C: Scene segmentation determines when a scene changes in video based on visual cues. A scene depicts a single event and it's composed by a series of consecutive shots, which are semantically related.
Reference:
https://docs.microsoft.com/en-us/ai-builder/object-detection-overview
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr
https://docs.microsoft.com/en-us/azure/azure-video-analyzer/video-analyzer-for-media-docs/video-indexer-overview

Question 7
DRAG DROP -
Match the facial recognition tasks to the appropriate questions.
To answer, drag the appropriate task from the column on the left to its question on the right. Each task may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:

Tasks	Answer Area	
grouping	Task	Do two images of a face belong to the same person?
identification	Task	Does this person look like other people?
similarity	Task	Do all the faces belong together?
verification	Task	Who is this person in this group of people?

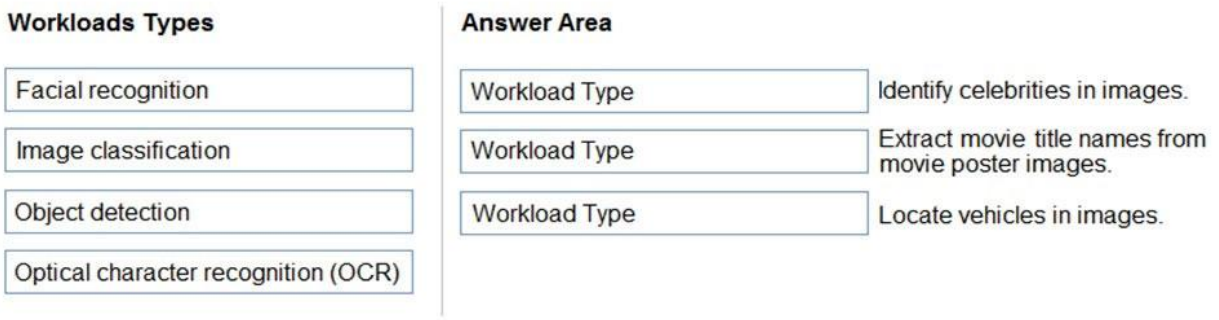
Correct Answer:

Tasks	Answer Area	
grouping	verification	Do two images of a face belong to the same person?
identification	similarity	Does this person look like other people?
similarity	grouping	Do all the faces belong together?
verification	identification	Who is this person in this group of people?

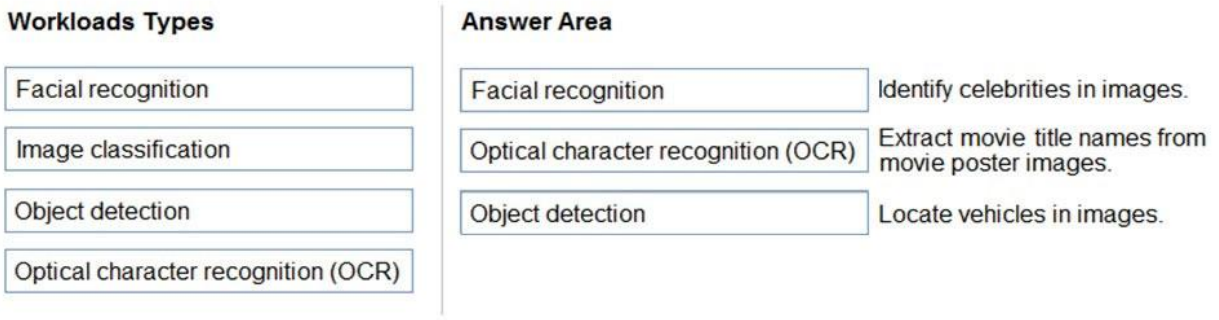
Box 1: verification -
Face verification: Check the likelihood that two faces belong to the same person and receive a confidence score.

Box 2: similarity -
Box 3: Grouping -
Box 4: identification -
Face detection: Detect one or more human faces along with attributes such as: age, emotion, pose, smile, and facial hair, including 27 landmarks for each face in the image.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/face/#features

Question 72
DRAG DROP -
Match the types of computer vision workloads to the appropriate scenarios.
To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:



Correct Answer:



Box 1: Facial recognition -
Face detection that perceives faces and attributes in an image; person identification that matches an individual in your private repository of up to 1 million people; perceived emotion recognition that detects a range of facial expressions like happiness, contempt, neutrality, and fear; and recognition and grouping of similar faces in images.

Box 2: OCR -

Box 3: Objection detection -
Object detection is similar to tagging, but the API returns the bounding box coordinates (in pixels) for each object found. For example, if an image contains a dog, cat and person, the Detect operation will list those objects together with their coordinates in the image. You can use this functionality to process the relationships between the objects in an image. It also lets you determine whether there are multiple instances of the same tag in an image.
The Detect API applies tags based on the objects or living things identified in the image. There is currently no formal relationship between the tagging taxonomy and the object detection taxonomy. At a conceptual level, the Detect API only finds objects and living things, while the Tag API can also include contextual terms like "indoor", which can't be localized with bounding boxes.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/face/
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-object-detection

Question 73
You need to determine the location of cars in an image so that you can estimate the distance between the cars.
Which type of computer vision should you use?

- A. optical character recognition (OCR)
- B. object detection
- C. image classification
- D. face detection

Correct Answer: *B*
Object detection is similar to tagging, but the API returns the bounding box coordinates (in pixels) for each object found. For example, if an image contains a dog, cat and person, the Detect operation will list those objects together with their coordinates in the image. You can use this functionality to process the relationships between the objects in an image. It also lets you determine whether there are multiple instances of the same tag in an image.
The Detect API applies tags based on the objects or living things identified in the image. There is currently no formal relationship between the tagging taxonomy and the object detection taxonomy. At a conceptual level, the Detect API only finds objects and living things, while the Tag API can also include contextual terms like "indoor", which can't be localized with bounding boxes.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-object-detection

Question 74
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

You can use the [ ] service to train an object detection model by using your own images.

- Computer Vision
- Custom Vision
- Form Recognizer
- Video Indexer

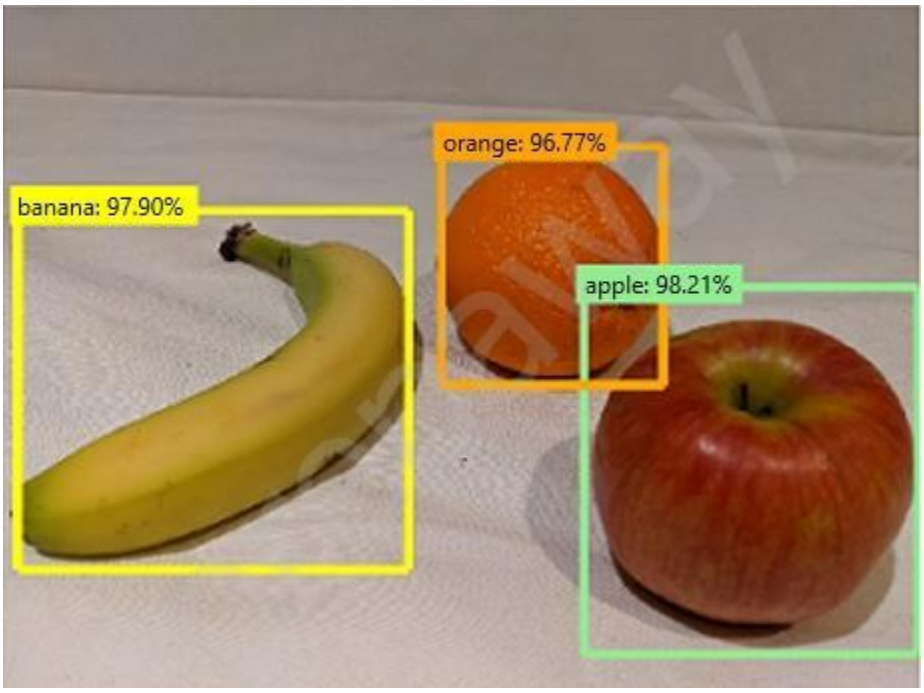
Correct Answer:

Answer Area

You can use the [Custom Vision] service to train an object detection model by using your own images.

Azure Custom Vision is a cognitive service that lets you build, deploy, and improve your own image classifiers. An image classifier is an AI service that applies labels (which represent classes) to images, according to their visual characteristics. Unlike the Computer Vision service, Custom Vision allows you to specify the labels to apply.
Note: The Custom Vision service uses a machine learning algorithm to apply labels to images. You, the developer, must submit groups of images that feature and lack the characteristics in question. You label the images yourself at the time of submission. Then the algorithm trains to this data and calculates its own accuracy by testing itself on those same images. Once the algorithm is trained, you can test, retrain, and eventually use it to classify new images according to the needs of your app. You can also export the model itself for offline use.
Incorrect Answers:
Computer Vision:
Azure's Computer Vision service provides developers with access to advanced algorithms that process images and return information based on the visual features you're interested in. For example, Computer Vision can determine whether an image contains adult content, find specific brands or objects, or find human faces.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/home

Question 75
You send an image to a Computer Vision API and receive back the annotated image shown in the exhibit.



Which type of computer vision was used?

- A. object detection
- B. semantic segmentation
- C. optical character recognition (OCR)
- D. image classification

Correct Answer: *A*
Object detection is similar to tagging, but the API returns the bounding box coordinates (in pixels) for each object found. For example, if an image contains a dog, cat and person, the Detect operation will list those objects together with their coordinates in the image. You can use this functionality to process the relationships between the objects in an image. It also lets you determine whether there are multiple instances of the same tag in an image.
The Detect API applies tags based on the objects or living things identified in the image. There is currently no formal relationship between the tagging taxonomy and the object detection taxonomy. At a conceptual level, the Detect API only finds objects and living things, while the Tag API can also include contextual terms like "indoor", which can't be localized with bounding boxes.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-object-detection

Question 76
What are two tasks that can be performed by using the Computer Vision service? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Train a custom image classification model.
- B. Detect faces in an image.
- C. Recognize handwritten text.
- D. Translate the text in an image between languages.

Correct Answer: *BC*
B: Azure's Computer Vision service provides developers with access to advanced algorithms that process images and return information based on the visual features you're interested in. For example, Computer Vision can determine whether an image contains adult content, find specific brands or objects, or find human faces.
C: Computer Vision includes Optical Character Recognition (OCR) capabilities. You can use the new Read API to extract printed and handwritten text from images and documents.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/home

Question 77
What is a use case for classification?

- A. predicting how many cups of coffee a person will drink based on how many hours the person slept the previous night.
- B. analyzing the contents of images and grouping images that have similar colors
- C. predicting whether someone uses a bicycle to travel to work based on the distance from home to work
- D. predicting how many minutes it will take someone to run a race based on past race times

Correct Answer: *C*
Two-class classification provides the answer to simple two-choice questions such as Yes/No or True/False.
Incorrect Answers:
A: This is Regression.
B: This is Clustering.
D: This is Regression.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/algorithm-module-reference/linear-regression https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/machine-learning-initialize-model-clustering

Question 78
What are two tasks that can be performed by using computer vision? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Predict stock prices.
- B. Detect brands in an image.
- C. Detect the color scheme in an image
- D. Translate text between languages.
- E. Extract key phrases.

Correct Answer: *BC*
B: Identify commercial brands in images or videos from a database of thousands of global logos. You can use this feature, for example, to discover which brands are most popular on social media or most prevalent in media product placement.
C: Analyze color usage within an image. Computer Vision can determine whether an image is black & white or color and, for color images, identify the dominant and accent colors.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview

Question 79
You need to build an image tagging solution for social media that tags images of your friends automatically.
Which Azure Cognitive Services service should you use?

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

Correct Answer: *A*
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/face/overview
https://docs.microsoft.com/en-us/azure/cognitive-services/face/face-api-how-to-topics/howtodetectfacesinimage

Question 80
In which two scenarios can you use the Form Recognizer service? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Identify the retailer from a receipt
- B. Translate from French to English
- C. Extract the invoice number from an invoice
- D. Find images of products in a catalog

Correct Answer: *AC*
Reference:
https://docs.microsoft.com/en-us/azure/applied-ai-services/form-recognizer/overview?tabs=v2-1

Question 81
You are developing a solution that uses the Text Analytics service.
You need to identify the main talking points in a collection of documents.
Which type of natural language processing should you use?

- A. entity recognition
- B. key phrase extraction
- C. sentiment analysis
- D. language detection

Correct Answer: *B*
Broad entity extraction: Identify important concepts in text, including key
Key phrase extraction/ Broad entity extraction: Identify important concepts in text, including key phrases and named entities such as people, places, and organizations.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

Question #82

In which two scenarios can you use speech recognition? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. an in-car system that reads text messages aloud
- B. providing closed captions for recorded or live videos
- C. creating an automated public address system for a train station
- D. creating a transcript of a telephone call or meeting

Correct Answer: *BD*
Reference:
https://azure.microsoft.com/en-gb/services/cognitive-services/speech-to-text/#features

Question 83
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

While presenting at a conference, your session is transcribed into subtitles for the audience. This is an example of [ ]

- sentiment analysis.
- speech recognition.
- speech synthesis.
- translation.

Correct

Answer Area

While presenting at a conference, your session is transcribed into subtitles for the audience. This is an example of [ ]

- sentiment analysis.
- speech recognition.
- speech synthesis.
- translation.

Answer:
Reference:
https://azure.microsoft.com/en-gb/services/cognitive-services/speech-to-text/#features

Question 84
You need to build an app that will read recipe instructions aloud to support users who have reduced vision.
Which version service should you use?

- A. Text Analytics
- B. Translator
- C. Speech
- D. Language Understanding (LUIS)

Correct Answer: *C*
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/text-to-speech/#features

Question 85
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
You can use the Speech service to transcribe a call to text.	○	○
You can use the Text Analytics service to extract key entities from a call transcript.	○	○
You can use the Speech service to translate the audio of a call to a different language.	○	○

CorrectAnswer:

Answer Area

Statements	Yes	No
You can use the Speech service to transcribe a call to text.	○	○
You can use the Text Analytics service to extract key entities from a call transcript.	○	○
You can use the Speech service to translate the audio of a call to a different language.	○	○

Reference: https://docs.microsoft.com/en-gb/azure/cognitive-services/text-analytics/overview
https://azure.microsoft.com/en-gb/services/cognitive-services/speech-services/

Question 86
Your website has a chatbot to assist customers.
You need to detect when a customer is upset based on what the customer types in the chatbot.
Which type of AI workload should you use?

- A. anomaly detection
- B. computer vision
- C. regression
- D. natural language processing

Correct Answer: *D*
Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.
Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

Question 87
You plan to develop a bot that will enable users to query a knowledge base by using natural language processing.
Which two services should you include in the solution? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

- A. QnA Maker
- B. Azure Bot Service
- C. Form Recognizer
- D. Anomaly Detector

Correct Answer: *AB*
Reference:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction?view=azure-bot-service-4.0 https://docs.microsoft.com/en-us/azure/cognitive-services/luis/choose-natural-language-processing-service

Question 88
In which two scenarios can you use a speech synthesis solution? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. an automated voice that reads back a credit card number entered into a telephone by using a numeric keypad
- B. generating live captions for a news broadcast
- C. extracting key phrases from the audio recording of a meeting
- D. an AI character in a computer game that speaks audibly to a player

Correct Answer: *AD*
Azure Text to Speech is a Speech service feature that converts text to lifelike speech.
Incorrect Answers:
C: Extracting key phrases is not speech synthesis.
Reference:
https://azure.microsoft.com/en-in/services/cognitive-services/text-to-speech/

Question 89
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
You can use the Translator service to translate text between languages.	○	○
You can use the Translator service to detect the language of a given text.	○	○
You can use the Translator service to transcribe audible speech into text.	○	○

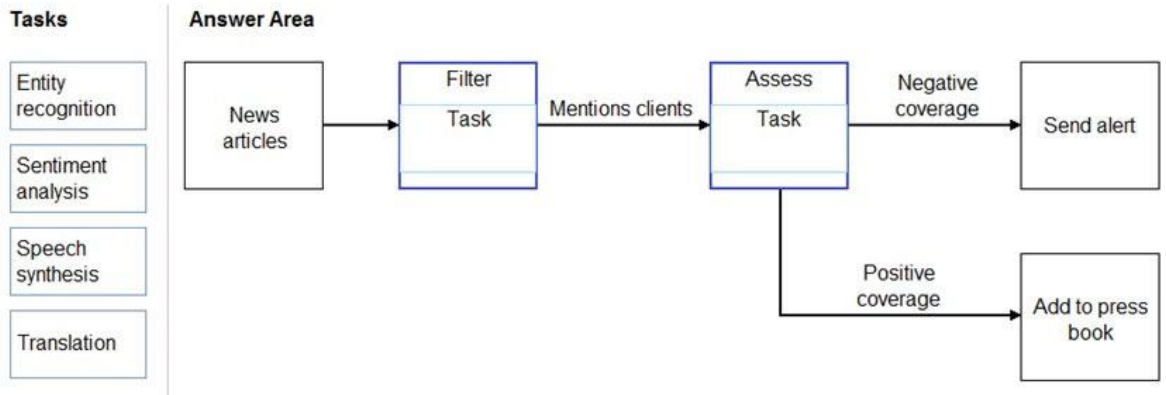
Correct Answer:

Answer Area

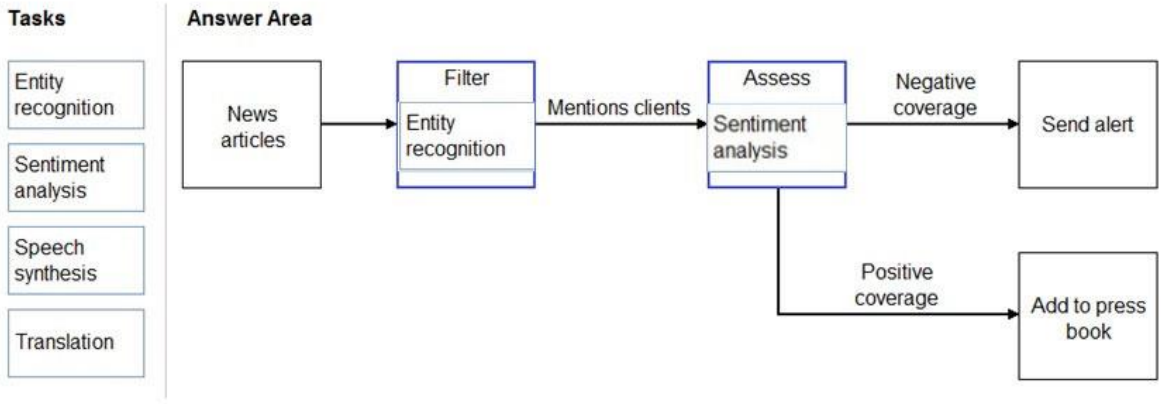
Statements	Yes	No
You can use the Translator service to translate text between languages.	○	○
You can use the Translator service to detect the language of a given text.	○	○
You can use the Translator service to transcribe audible speech into text.	○	○

The translator service provides multi-language support for text translation, transliteration, language detection, and dictionaries.
Speech-to-Text, also known as automatic speech recognition (ASR), is a feature of Speech Services that provides transcription.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/Translator/translator-info-overview
https://docs.microsoft.com/en-us/legal/cognitive-services/speech-service/speech-to-text/transparency-note

Question 90
DRAG DROP -
You need to scan the news for articles about your customers and alert employees when there is a negative article. Positive articles must be added to a press book.
Which natural language processing tasks should you use to complete the process? To answer, drag the appropriate tasks to the correct locations. Each task may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.
Select and Place:



Correct Answer:



Box 1: Entity recognition -
the Named Entity Recognition module in Machine Learning Studio (classic), to identify the names of things, such as people, companies, or locations in a column of text.
Named entity recognition is an important area of research in machine learning and natural language processing (NLP), because it can be used to answer many real-world questions, such as:
☞ Which companies were mentioned in a news article?
☞ Does a tweet contain the name of a person? Does the tweet also provide his current location?
☞ Were specified products mentioned in complaints or reviews?

Box 2: Sentiment Analysis -
The Text Analytics API's Sentiment Analysis feature provides two ways for detecting positive and negative sentiment. If you send a Sentiment Analysis request, the API will return sentiment labels (such as "negative", "neutral" and "positive") and confidence scores at the sentence and document-level.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/named-entity-recognition https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-sentiment-analysis

Question 91
You are building a knowledge base by using QnA Maker.
Which file format can you use to populate the knowledge base?

- A. PPTX
- B. XML
- C. ZIP
- D. PDF

Correct Answer: *D*
D: Content types of documents you can add to a knowledge base:
Content types include many standard structured documents such as PDF, DOC, and TXT.
Note: The tool supports the following file formats for ingestion:
☞ .tsv: QnA contained in the format Question(tab)Answer.
☞ .txt, .docx, .pdf: QnA contained as regular FAQ content--that is, a sequence of questions and answers.
Incorrect Answers:
A: PPTX is the default presentation file format for new PowerPoint presentations.
B: It is not possible to ingest xml file directly.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/concepts/data-sources-and-content

Question 92
In which scenario should you use key phrase extraction?

- A. identifying whether reviews of a restaurant are positive or negative
- B. generating captions for a video based on the audio track
- C. identifying which documents provide information about the same topics
- D. translating a set of documents from English to German

Correct Answer: *C*

Question 93
You have insurance claim reports that are stored as text.
You need to extract key terms from the reports to generate summaries.
Which type of AI workload should you use?

- A. natural language processing
- B. conversational AI
- C. anomaly detection
- D. computer vision

Correct Answer: *A*
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

Question 94
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Natural language processing can be used to

classify email messages as work-related or personal.
predict the number of future car rentals.
predict which website visitors will make a transaction.
stop a process in a factory when extremely high temperatures are registered.

CorrectAnswer:

Answer Area

Natural language processing can be used to

classify email messages as work-related or personal.
predict the number of future car rentals.
predict which website visitors will make a transaction.
stop a process in a factory when extremely high temperatures are registered.

Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

Question 95
Which AI service can you use to interpret the meaning of a user input such as `Call me back later?`

- A. Translator
- B. Text Analytics
- C. Speech
- D. Language Understanding (LUIS)

Correct Answer: *D*
Language Understanding (LUIS) is a cloud-based AI service, that applies custom machine-learning intelligence to a user's conversational, natural language text to predict overall meaning, and pull out relevant, detailed information.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/luis/what-is-luis

Question 96
You are developing a chatbot solution in Azure.
Which service should you use to determine a user's intent?

- A. Translator
- B. QnA Maker
- C. Speech
- D. Language Understanding (LUIS)

Correct Answer: *D*
Language Understanding (LUIS) is a cloud-based API service that applies custom machine-learning intelligence to a user's conversational, natural language text to predict overall meaning, and pull out relevant, detailed information.
Design your LUIS model with categories of user intentions called intents. Each intent needs examples of user utterances. Each utterance can provide data that needs to be extracted with machine-learning entities.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/luis/what-is-luis

Question 97
You need to make the written press releases of your company available in a range of languages.
Which service should you use?

- A. Translator
- B. Text Analytics
- C. Speech
- D. Language Understanding (LUIS)

Correct Answer: *A*
Translator is a cloud-based machine translation service you can use to translate text in near real-time through a simple REST API call. The service uses modern neural machine translation technology and offers statistical machine translation technology. Custom Translator is an extension of Translator, which allows you to build neural translation systems.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/translator/

Question 98
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
The Text Analytics service can identify in which language text is written.	○	○
The Text Analytics service can detect handwritten signatures in a document.	○	○
The Text Analytics service can identify companies and organizations mentioned in a document.	○	○

Correct Answer:

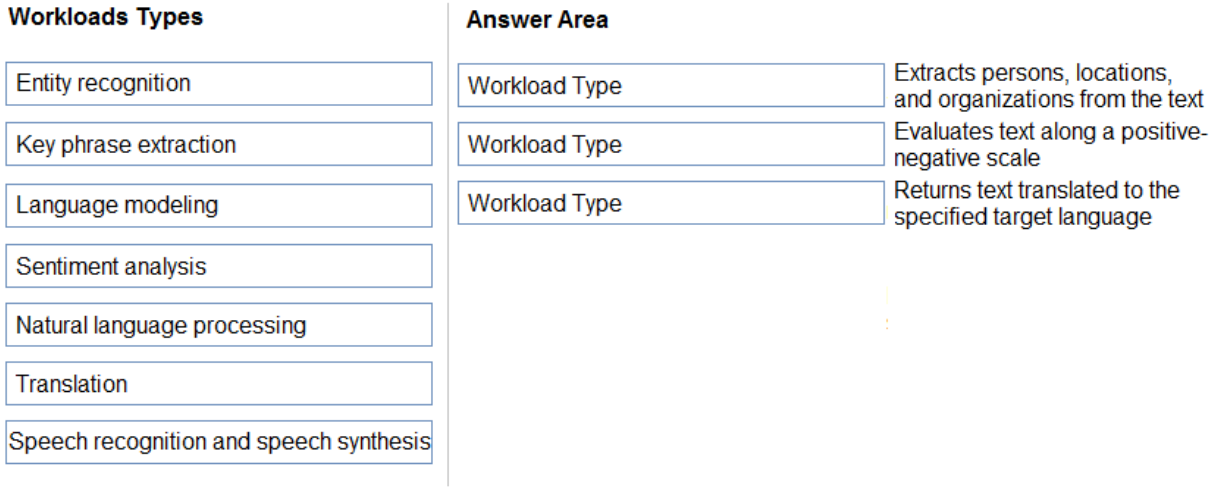
Answer Area

Statements	Yes	No
The Text Analytics service can identify in which language text is written.	○	○
The Text Analytics service can detect handwritten signatures in a document.	○	○
The Text Analytics service can identify companies and organizations mentioned in a document.	○	○

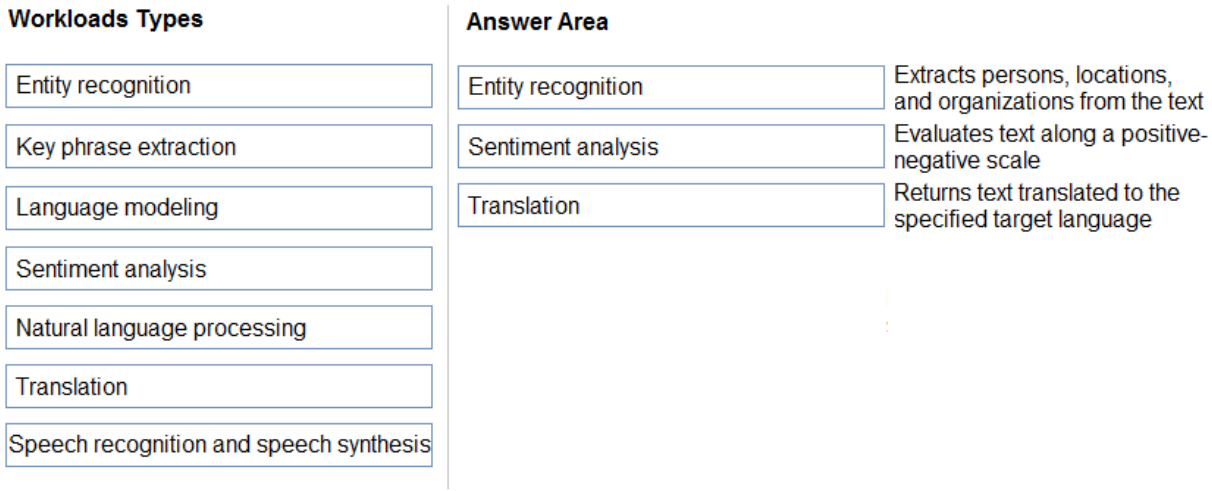
The Text Analytics API is a cloud-based service that provides advanced natural language processing over raw text, and includes four main functions: sentiment analysis, key phrase extraction, named entity recognition, and language detection.
Box 1: Yes -
You can detect which language the input text is written in and report a single language code for every document submitted on the request in a wide range of languages, variants, dialects, and some regional/cultural languages. The language code is paired with a score indicating the strength of the score.
Box 2: No -
Box 3: Yes -
Named Entity Recognition: Identify and categorize entities in your text as people, places, organizations, date/time, quantities, percentages, currencies, and more.

Well-known entities are also recognized and linked to more information on the web.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/overview

Question 99
DRAG DROP -
Match the types of natural languages processing workloads to the appropriate scenarios.
To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:



Correct Answer:



Box 1: Entity recognition -
Named Entity Recognition (NER) is the ability to identify different entities in text and categorize

them into pre-defined classes or types such as: person, location, event, product, and organization.
Box 2: Sentiment analysis -
Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral.
Box 3: Translation -
Using Microsoft's Translator text API
This versatile API from Microsoft can be used for the following:
Translate text from one language to another.
Transliterate text from one script to another.
Detecting language of the input text.
Find alternate translations to specific text.
Determine the sentence length.
Reference:
https://docs.microsoft.com/en-in/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-entity-linking?tabs=version-3-preview https://azure.microsoft.com/en-us/services/cognitive-services/text-analytics

Question 100
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Monitoring online service reviews for profanities is an example of natural language processing.	○	○
Identifying brand logos in an image is an example of natural languages processing.	○	○
Monitoring public news sites for negative mentions of a product is an example of natural language processing.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Monitoring online service reviews for profanities is an example of natural language processing.	○	○
Identifying brand logos in an image is an example of natural languages processing.	○	○
Monitoring public news sites for negative mentions of a product is an example of natural language processing.	○	○

Box 1: Yes -
Content Moderator is part of Microsoft Cognitive Services allowing businesses to use machine assisted moderation of text, images, and videos that augment human review.
The text moderation capability now includes a new machine-learning based text classification feature which uses a trained model to identify possible abusive, derogatory or discriminatory language such as slang, abbreviated words, offensive, and intentionally misspelled words for review.
Box 2: No -
Azure's Computer Vision service gives you access to advanced algorithms that process images and return information based on the visual features you're interested in. For example, Computer Vision can determine whether an image contains adult content, find specific brands or objects, or find human faces.
Box 3: Yes -
Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.
Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral.
Reference:
https://azure.microsoft.com/es-es/blog/machine-assisted-text-classification-on-content-moderator-public-preview/ https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

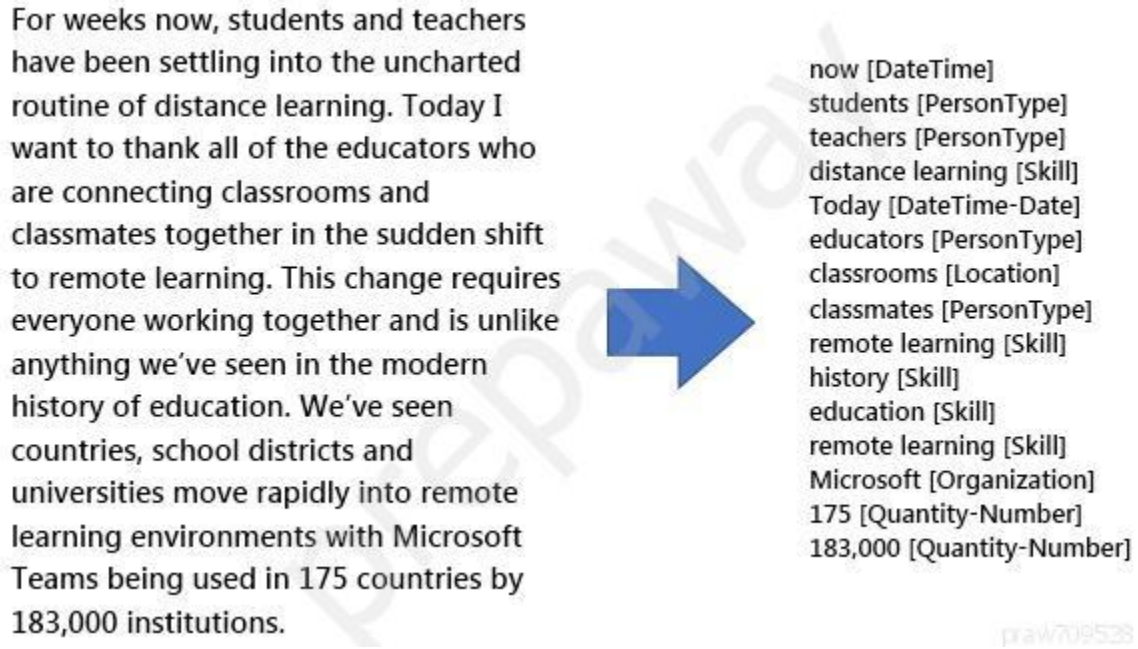
Question 101
You are developing a natural language processing solution in Azure. The solution will analyze customer reviews and determine how positive or negative each review is.
This is an example of which type of natural language processing workload?

- A. language detection
- B. sentiment analysis
- C. key phrase extraction

- D. entity recognition

Correct Answer: *B*
Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

Question 102
You use natural language processing to process text from a Microsoft news story.
You receive the output shown in the following exhibit.



Which type of natural languages processing was performed?

- A. entity recognition
- B. key phrase extraction
- C. sentiment analysis
- D. translation

Correct Answer: *A*
Named Entity Recognition (NER) is the ability to identify different entities in text and categorize them into pre-defined classes or types such as: person, location, event, product, and organization.
In this question, the square brackets indicate the entities such as DateTime, PersonType, Skill.
Reference:
https://docs.microsoft.com/en-in/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-entity-linking?tabs=version-3-preview

Question 103
DRAG DROP -
You plan to apply Text Analytics API features to a technical support ticketing system.
Match the Text Analytics API features to the appropriate natural language processing scenarios.
To answer, drag the appropriate feature from the column on the left to its scenario on the right.
Each feature may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:

API Features	Answer Area	
Entity recognition	API Feature	Understand how upset a customer is based on the text contained in the support ticket.
Key phrase extraction	API Feature	Summarize important information from the support ticket.
Language detection	API Feature	Extract key dates from the support ticket.
Sentiment analysis		

Correct Answer:

API Features	Answer Area	
Entity recognition	Sentiment analysis	Understand how upset a customer is based on the text contained in the support ticket.
Key phrase extraction	Key phrase extraction	Summarize important information from the support ticket.
Language detection	Entity recognition	Extract key dates from the support ticket.
Sentiment analysis		

Box1: Sentiment analysis - Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral.
Box 2: Broad entity extraction -
Broad entity extraction: Identify important concepts in text, including key
Key phrase extraction/ Broad entity extraction: Identify important concepts in text, including key phrases and named entities such as people, places, and organizations.
Box 3: Entity Recognition -
Named Entity Recognition: Identify and categorize entities in your text as people, places, organizations, date/time, quantities, percentages, currencies, and more.
Well-known entities are also recognized and linked to more information on the web.
Reference: https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing https://azure.microsoft.com/en-us/services/cognitive-services/text-analytics

Question 104
You are authoring a Language Understanding (LUIS) application to support a music festival.
You want users to be able to ask questions about scheduled shows, such as: `Which act is playing on the main stage?`
The question `Which act is playing on the main stage?` is an example of which type of element?

- A. an intent
- B. an utterance
- C. a domain
- D. an entity

Correct Answer: *B*
Utterances are input from the user that your app needs to interpret.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/LUIS/luis-concept-utterance

Question 105
You build a QnA Maker bot by using a frequently asked questions (FAQ) page.
You need to add professional greetings and other responses to make the bot more user friendly.
What should you do?

- A. Increase the confidence threshold of responses
- B. Enable active learning
- C. Create multi-turn questions
- D. Add chit-chat

Correct Answer: *D*
Reference: https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/how-to/chit-chat-knowledge-base?tabs=v1

Question 106
You need to develop a chatbot for a website. The chatbot must answer users' questions based on the information in the following documents:
☞ A product troubleshooting guide in a Microsoft Word document
☞ A frequently asked questions (FAQ) list on a webpage
Which service should you use to process the documents?

- A. Azure Bot Service
- B. Language Understanding
- C. Text Analytics
- D. QnA Maker

Correct Answer: *D*
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/QnAMaker/Overview/overview

Question 107
You are building a Language Understanding model for an e-commerce business.
You need to ensure that the model detects when utterances are outside the intended scope of the model.
What should you do?

- A. Test the model by using new utterances
- B. Add utterances to the None intent
- C. Create a prebuilt task entity
- D. Create a new model

Correct Answer: *B*
The None intent is filled with utterances that are outside of your domain.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/LUIS/luis-concept-intent

Question 108
You have a webchat bot that provides responses from a QnA Maker knowledge base.
You need to ensure that the bot uses user feedback to improve the relevance of the responses over time.
What should you use?

- A. key phrase extraction
- B. sentiment analysis
- C. business logic
- D. active learning

Correct Answer: *D*
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/how-to/improve-knowledge-base

Question 109
You are developing a conversational AI solution that will communicate with users through multiple channels including email, Microsoft Teams, and webchat.
Which service should you use?

- A. Text Analytics
- B. Azure Bot Service
- C. Translator
- D. Form Recognizer

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction?view=azure-bot-service-4.0

Question 110
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
A bot that responds to queries by internal users is an example of a conversational AI workload.	○	○
An application that displays images relating to an entered search term is an example of a conversational AI workload.	○	○
A web form used to submit a request to reset a password is an example of a conversational AI workload.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
A bot that responds to queries by internal users is an example of a conversational AI workload.	○	○
An application that displays images relating to an entered search term is an example of a conversational AI workload.	○	○
A web form used to submit a request to reset a password is an example of a conversational AI workload.	○	○

Reference:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction?view=azure-bot-service-4.0

Question 111
You need to provide content for a business chatbot that will help answer simple user queries.
What are three ways to create question and answer text by using QnA Maker? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Generate the questions and answers from an existing webpage.
- B. Use automated machine learning to train a model based on a file that contains the questions.
- C. Manually enter the questions and answers.
- D. Connect the bot to the Cortana channel and ask questions by using Cortana.
- E. Import chit-chat content from a predefined data source.

Correct Answer: *ACE*
Automatic extraction -
Extract question-answer pairs from semi-structured content, including FAQ pages, support websites, excel files, SharePoint documents, product manuals and policies.
Reference:
https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/concepts/content-types

Question 112
You have a frequently asked questions (FAQ) PDF file.
You need to create a conversational support system based on the FAQ.
Which service should you use?

- A. QnA Maker
- B. Text Analytics
- C. Computer Vision
- D. Language Understanding (LUIS)

Correct Answer: *A*
QnA Maker is a cloud-based API service that lets you create a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/qna-maker/

Question 113
You need to reduce the load on telephone operators by implementing a chatbot to answer simple questions with predefined answers.
Which two AI service should you use to achieve the goal? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

- A. Text Analytics
- B. QnA Maker
- C. Azure Bot Service
- D. Translator

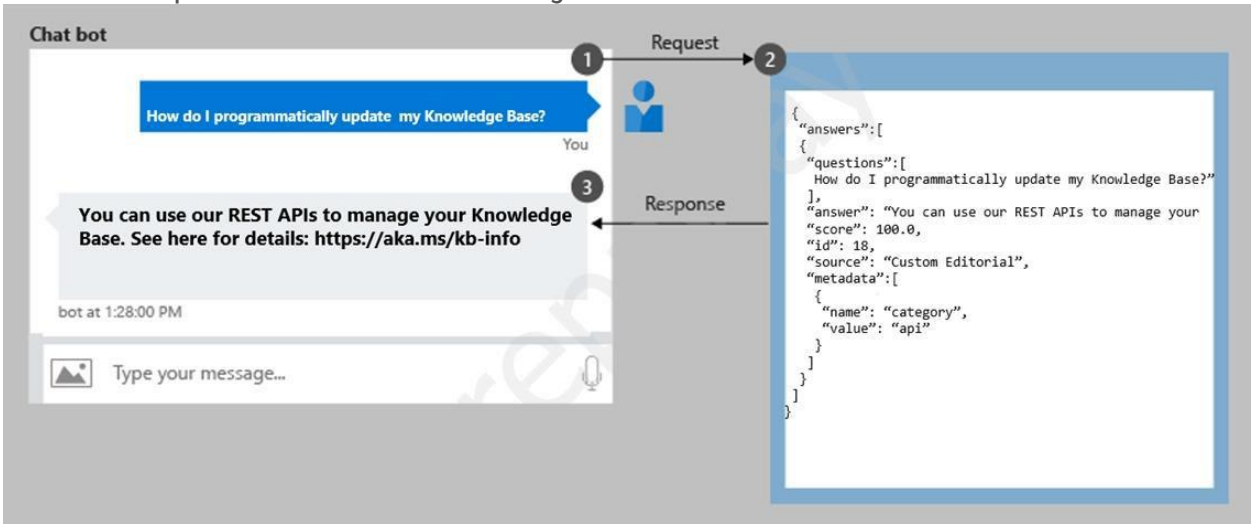
Correct Answer: *BC*
Bots are a popular way to provide support through multiple communication channels. You can use the QnA Maker service and Azure Bot Service to create a bot that answers user questions.
Reference:
https://docs.microsoft.com/en-us/learn/modules/build-faq-chatbot-qna-maker-azure-bot-service/

Question 114
Which two scenarios are examples of a conversational AI workload? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. a smart device in the home that responds to questions such as ג€What will the weather be like today?ג€
- B. a website that uses a knowledge base to interactively respond to users' questions
- C. assembly line machinery that autonomously inserts headlamps into cars
- D. monitoring the temperature of machinery to turn on a fan when the temperature reaches a specific threshold

Correct Answer: *AB*

Question 115
You have the process shown in the following exhibit.



Which type AI solution is shown in the diagram?

- A. a sentiment analysis solution
- B. a chatbot
- C. a machine learning model
- D. a computer vision application

Correct Answer: *B*

Question 116
You need to develop a web-based AI solution for a customer support system. Users must be able to interact with a web app that will guide them to the best resource or answer.
Which service should you use?

- A. Custom Vision
- B. QnA Maker
- C. Translator Text
- D. Face

Correct Answer: *B*
QnA Maker is a cloud-based API service that lets you create a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents. Answer users' questions with the best answers from the QnAs in your knowledge baseâ€"automatically. Your knowledge base gets smarter, too, as it continually learns from user behavior.
Incorrect Answers:
A: Azure Custom Vision is a cognitive service that lets you build, deploy, and improve your own

image classifiers. An image classifier is an AI service that applies labels (which represent classes) to images, according to their visual characteristics. Unlike the Computer Vision service, Custom Vision allows you to specify the labels to apply.
D: Azure Cognitive Services Face Detection API: At a minimum, each detected face corresponds to a faceRectangle field in the response. This set of pixel coordinates for the left, top, width, and height mark the located face. Using these coordinates, you can get the location of the face and its size. In the API response, faces are listed in size order from largest to smallest.
Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/qna-maker/

Question 117
Which AI service should you use to create a bot from a frequently asked questions (FAQ) document?

- A. QnA Maker
- B. Language Understanding (LUIS)
- C. Text Analytics
- D. Speech

Correct Answer: *A*

Question 118
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

The interactive answering of questions entered by a user as part of an application is an example of [▼]

- anomaly detection.
- computer vision.
- conversational AI.
- forecasting.

Answer Area

The interactive answering of questions entered by a user as part of an application is an example of

- anomaly detection.
- computer vision.
- conversational AI.
- forecasting.

Correct Answer:
With Microsoft's Conversational AI tools developers can build, connect, deploy, and manage intelligent bots that naturally interact with their users on a website, app, Cortana, Microsoft Teams, Skype, Facebook Messenger, Slack, and more.
Reference:
https://azure.microsoft.com/en-in/blog/microsoft-conversational-ai-tools-enable-developers-to-build-connect-and-manage-intelligent-bots

Question 119
Which scenario is an example of a webchat bot?

- A. Determine whether reviews entered on a website for a concert are positive or negative, and then add a thumbs up or thumbs down emoji to the reviews.
- B. Translate into English questions entered by customers at a kiosk so that the appropriate person can call the customers back.
- C. Accept questions through email, and then route the email messages to the correct person based on the content of the message.
- D. From a website interface, answer common questions about scheduled events and ticket purchases for a music festival.

Correct Answer: *D*

Question 120
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
You can use QnA Maker to query an Azure SQL database.	○	○
You should use QnA Maker when you want a knowledge base to provide the same answer to different users who submit similar questions.	○	○
The QnA Maker service can determine the intent of a user utterance.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
You can use QnA Maker to query an Azure SQL database.	○	○
You should use QnA Maker when you want a knowledge base to provide the same answer to different users who submit similar questions.	○	○
The QnA Maker service can determine the intent of a user utterance.	○	○

Reference:
https://docs.microsoft.com/en-gb/azure/cognitive-services/qnamaker/concepts/data-sources-and-content https://docs.microsoft.com/en-us/azure/cognitive-services/luis/choose-natural-language-processing-service

Question 121
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
You can communicate with a bot by using email.	○	○
You can communicate with a bot by using Microsoft Teams.	○	○
You can communicate with a bot by using a webchat interface.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
You can communicate with a bot by using email.	○	○
You can communicate with a bot by using Microsoft Teams.	○	○
You can communicate with a bot by using a webchat interface.	○	○

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

Question 122
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
A restaurant can use a chatbot to empower customers to make reservations by using a website or an app.	○	○
A restaurant can use a chatbot to answer inquiries about business hours from a webpage.	○	○
A restaurant can use a chatbot to automate responses to customer reviews on an external website.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
A restaurant can use a chatbot to empower customers to make reservations by using a website or an app.	○	○
A restaurant can use a chatbot to answer inquiries about business hours from a webpage.	○	○
A restaurant can use a chatbot to automate responses to customer reviews on an external website.	○	○

Reference:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction?view=azure-bot-service-4.0

Question 123
Which two scenarios are examples of a conversational AI workload? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. a telephone answering service that has a pre-recorder message
- B. a chatbot that provides users with the ability to find answers on a website by themselves
- C. telephone voice menus to reduce the load on human resources
- D. a service that creates frequently asked questions (FAQ) documents by crawling public websites

Correct Answer: *BC*
B: A bot is an automated software program designed to perform a particular task. Think of it as a robot without a body.
C: Automated customer interaction is essential to a business of any size. In fact, 61% of consumers prefer to communicate via speech, and most of them prefer self-service. Because customer satisfaction is a priority for all businesses, self-service is a critical facet of any customer-facing communications strategy.
Incorrect Answers:
D: Early bots were comparatively simple, handling repetitive and voluminous tasks with relatively straightforward algorithmic logic. An example would be web crawlers used by search engines to automatically explore and catalog web content.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/ai-overview
https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/interactive-voice-response-bot

Question 124
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Azure Bot Service and Azure Congnitive Services can be integrated.	○	○
Azure Bot Service engages with customers in a conversational manner.	○	○
Azure Bot Service can import frequently asked questions (FAQ) to question and answer sets.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Azure Bot Service and Azure Congnitive Services can be integrated.	○	○
Azure Bot Service engages with customers in a conversational manner.	○	○
Azure Bot Service can import frequently asked questions (FAQ) to question and answer sets.	○	○

Box 1: Yes -
Azure bot service can be integrated with the powerful AI capabilities with Azure Cognitive Services.
Box 2: Yes -
Azure bot service engages with customers in a conversational manner.
Box 3: No -
The QnA Maker service creates knowledge base, not question and answers sets.
Note: You can use the QnA Maker service and a knowledge base to add question-and-answer support to your bot. When you create your knowledge base, you seed it with questions and answers.
Reference:
https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-tutorial-add-qna

Question 125
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
A webchat bot can interact with users visiting a website	○	○
Automatically generating captions for pre-recorded videos is an example of conversational AI	○	○
A smart device in the home that responds to questions such as “What will the weather like today?” is an example of conversational AI	○	○

Correct Answer:

Answer Area

Statements	Yes	No
A webchat bot can interact with users visiting a website	◯	○
Automatically generating captions for pre-recorded videos is an example of conversational AI	○	◯
A smart device in the home that responds to questions such as "What will the weather like today?" is an example of conversational AI	◯	○

Reference:
https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/ai/conversational-bot https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-webchat-overview?view=azure-bot-service-4.0