AI-900 Q&As

Microsoft Azure AI Fundamentals

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QUESTION 1

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 base--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 2

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 3

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 4

You have a bot that identifies the brand names of products in images of supermarket shelves. Which service does the bot use?

A. AI enrichment for Azure Search capabilities

B. Computer Vision Image Analysis capabilities

C. Custom Vision Image Classification capabilities

D. Language Understanding capabilities

Correct Answer: C

Explanation:

Brand detection is a specialized mode of object detection that uses a database of thousands of global logos to identify commercial brands in images or video. You can use this feature, for example, to discover which brands are most popular

on social media or most prevalent in media product placement.

The Azure AI Vision service detects whether there are brand logos in a given image; if there are, it returns the brand name, a confidence score, and the coordinates of a bounding box around the logo.

The built-in logo database covers popular brands in consumer electronics, clothing, and more. If you find that the brand you\\'re looking for is not detected by the Azure AI Vision service, you could also try creating and training your own logo

detector using the Custom Vision service.

Reference:

https://learn.microsoft.com/en-us/azure/ai-services/computer-vision/concept-brand-detection

QUESTION 5

You need to identify street names based on street signs in photographs. Which type of computer vision should you use?

A. object detection

B. optical character recognition (OCR)

C. image classification

D. facial recognition

Correct Answer: C

QUESTION 6

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 7

Which statement is an example of a Microsoft responsible AJ principle?

A. Al systems must use only publicly available data.

B. Al systems must protect the interests of the company

C. Al systems must be understandable.

D. Al systems must keep personal details public

Correct Answer: C

QUESTION 8

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 "What will the weather be like today?"

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

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 9

DRAG DROP

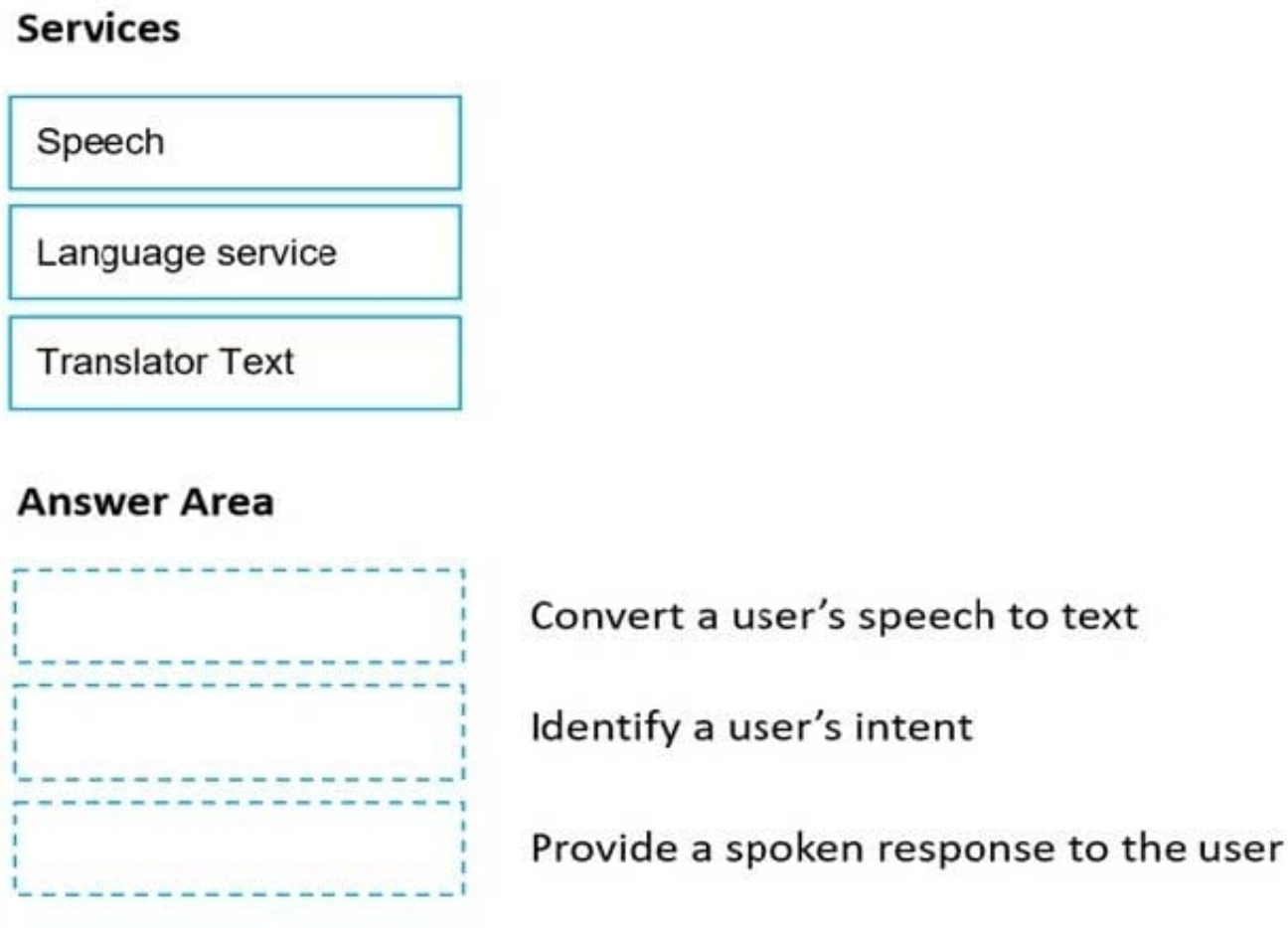
You plan to use Azure Cognitive Services to develop a voice controlled personal assistant app.

Match the Azure Cognitive Services to the appropriate tasks.

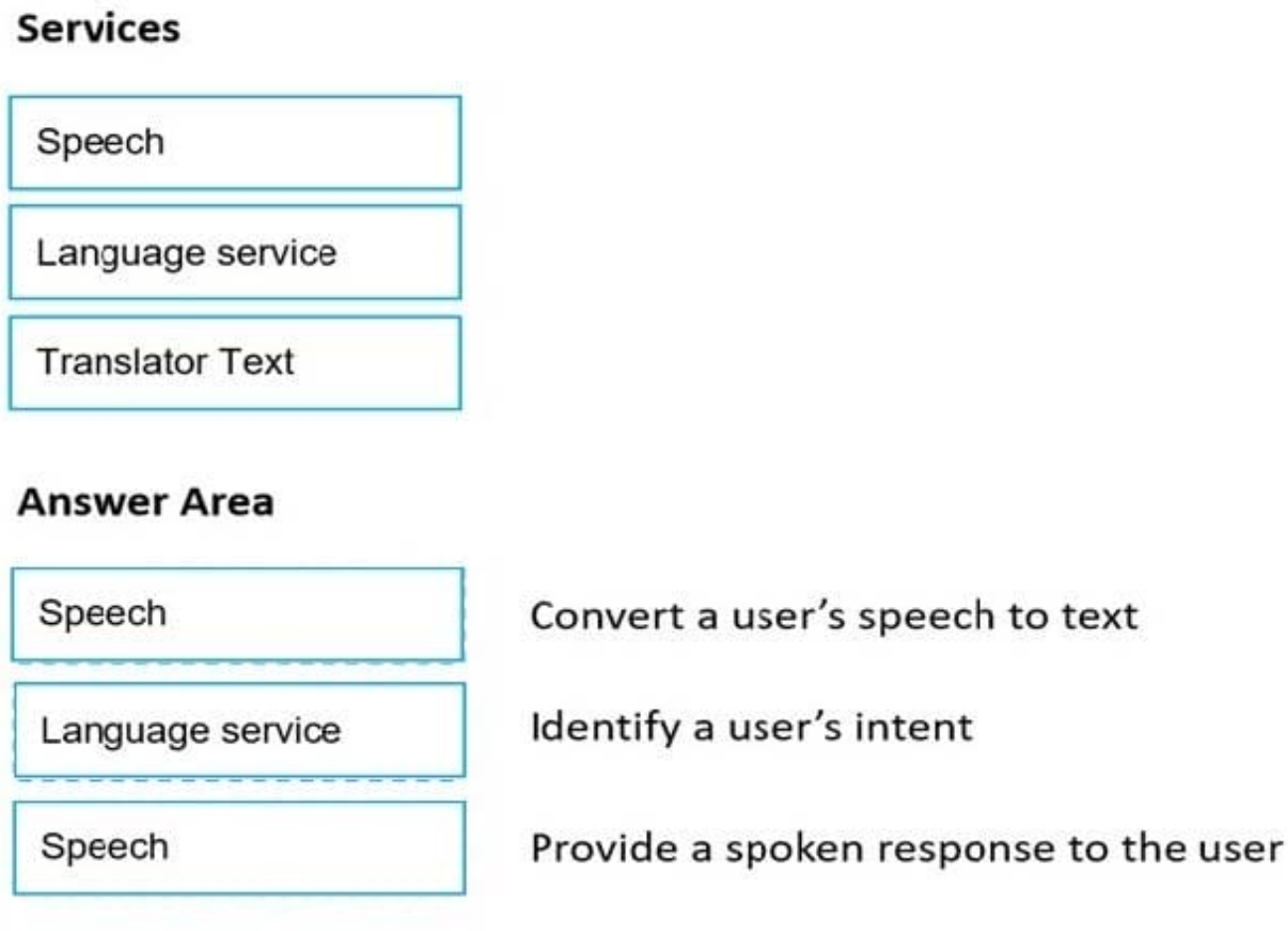
To answer, drag the appropriate service from the column on the left to its description on the right. Each service may be used once, more than once, or not at all.

NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Box 1: Speech

The Speech service provides speech-to-text and text-to-speech capabilities with an Azure Speech resource. You can transcribe speech to text with high accuracy, produce natural-sounding text-to-speech voices, translate spoken audio, and

use speaker recognition during conversations.

Box 2: Language service

Build applications with conversational language understanding, a Cognitive Service for Language feature that understands natural language to interpret user goals and extracts key information from conversational phrases. Create multilingual,

customizable intent classification and entity extraction models for your domain-specific keywords or phrases across 96 languages.

Box 3: Speech

Incorrect:

Not Translator text: Text translation is a cloud-based REST API feature of the Translator service that uses neural machine translation technology to enable quick and accurate source-to-target text translation in real time across all supported

languages.

Reference: https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview

https://azure.microsoft.com/en-us/services/cognitive-services/conversational-language-understanding/

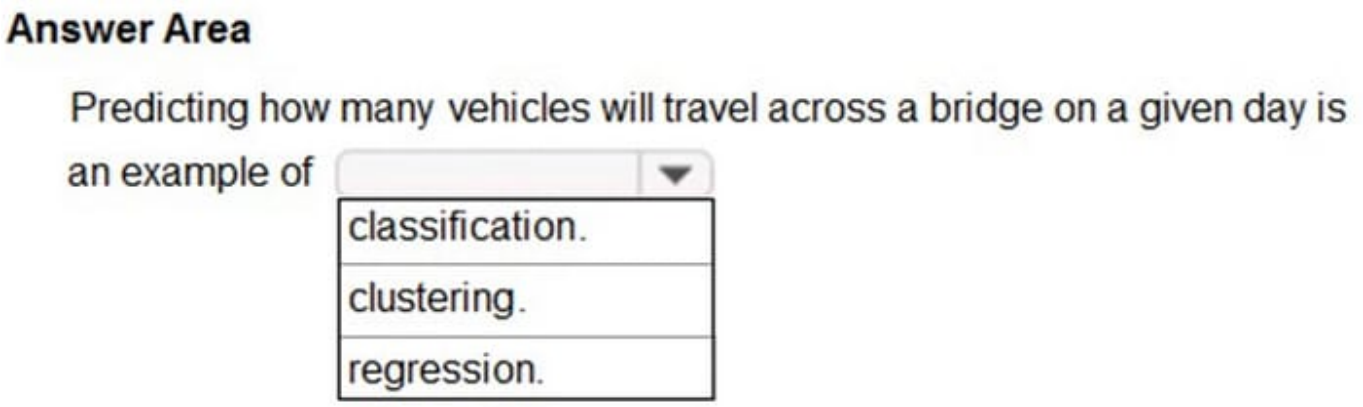
https://docs.microsoft.com/en-us/azure/cognitive-services/translator/text-translation-overview

QUESTION 10

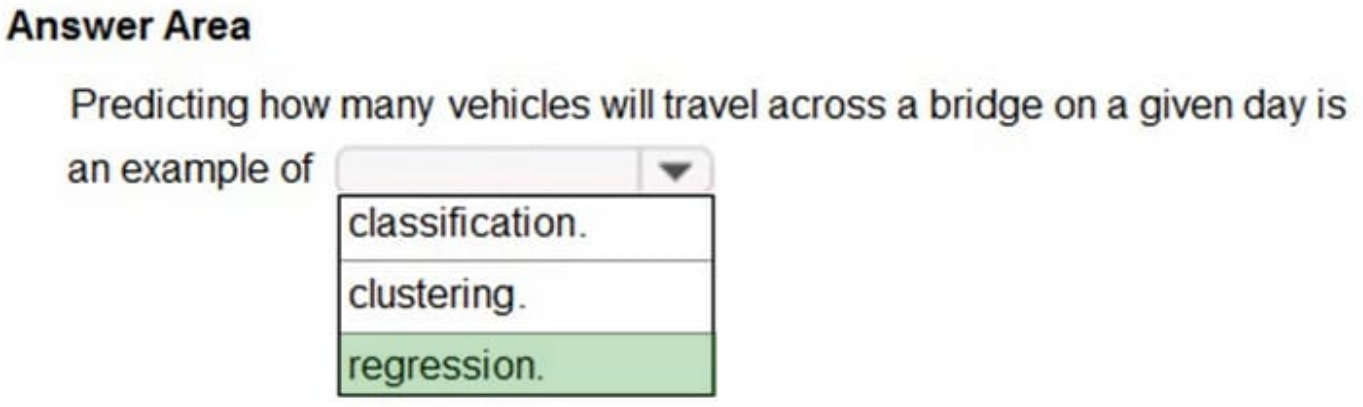
HOTSPOT

To complete the sentence, select the appropriate option in the answer area.

Hot Area:



Correct Answer:



Regression is a machine learning task that is used to predict the value of the label from a set of related features.

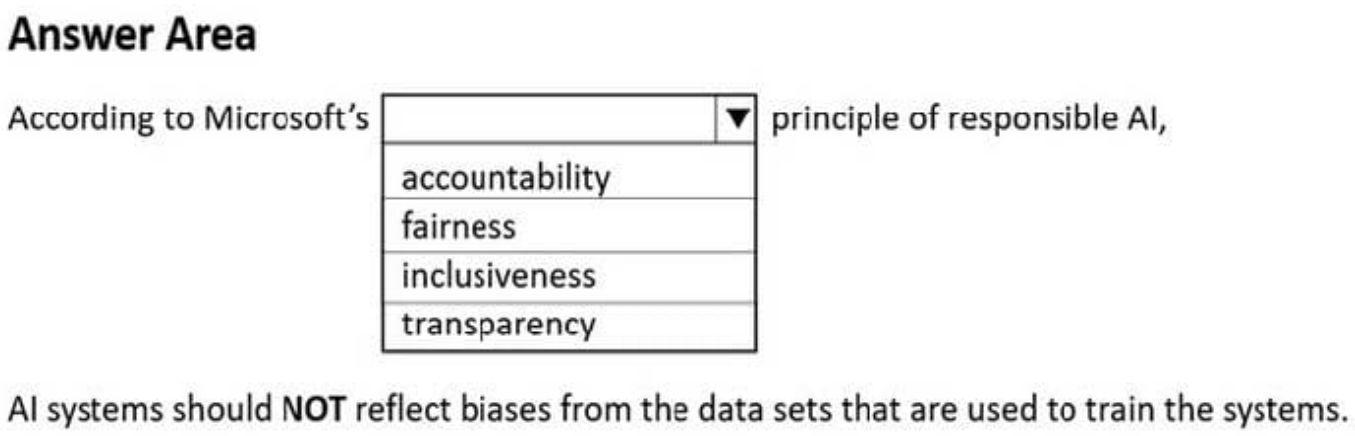
Reference: https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/tasks

QUESTION 11

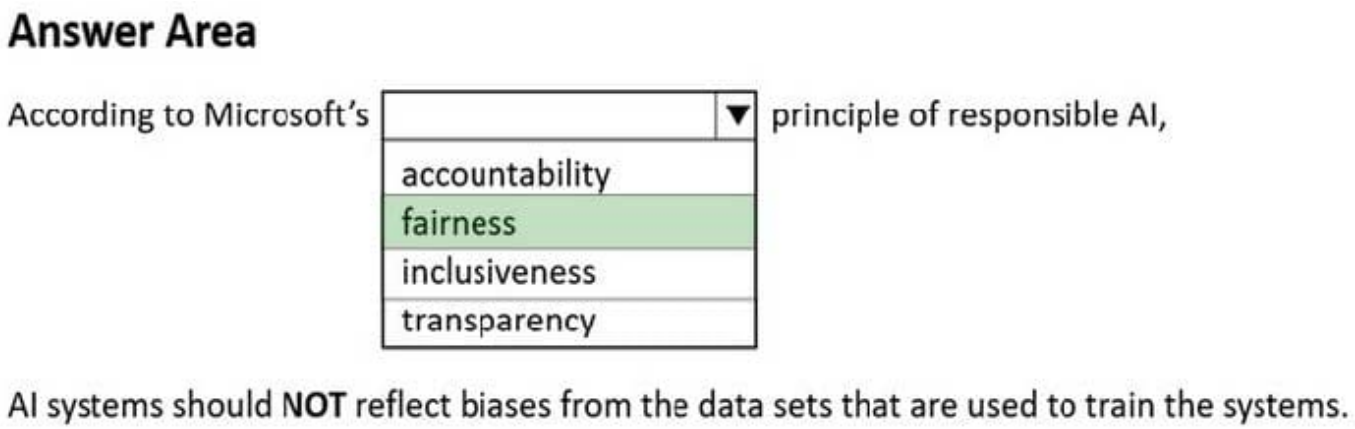
HOTSPOT

To complete the sentence, select the appropriate option in the answer area.

Hot Area:



Correct Answer:



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

QUESTION 12

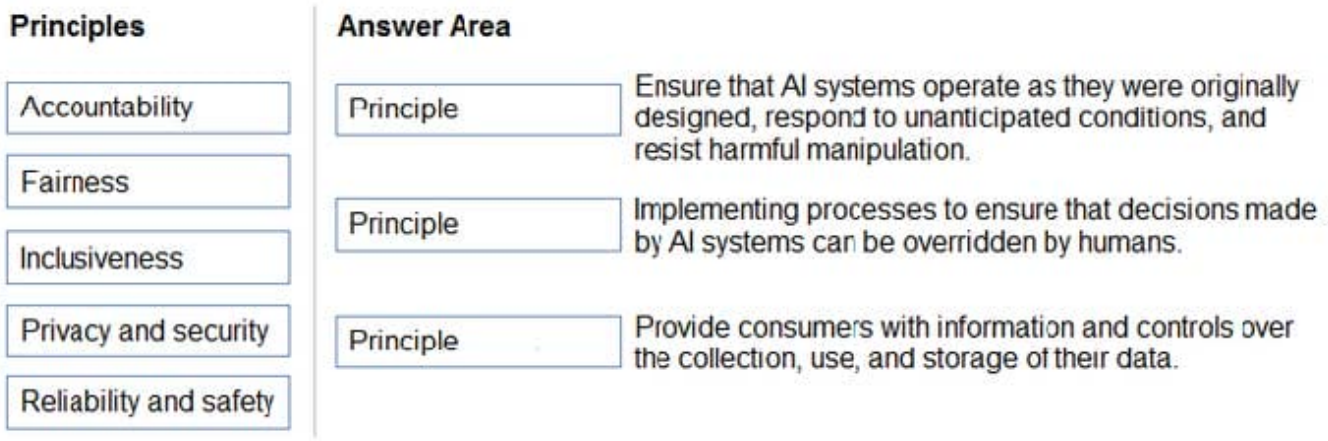
DRAG DROP

Match the Microsoft guiding principles for responsible AI to the appropriate descriptions.

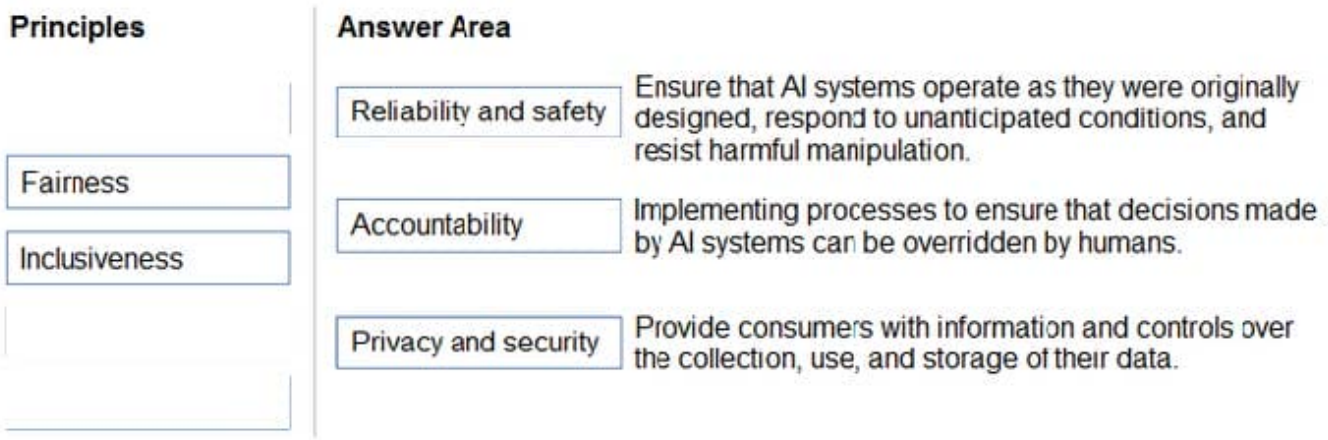
To answer, drag the appropriate principle from the column on the left to its description on the right. Each principle may be used once, more than once, or not at all.

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: Fairness Fairness: AI systems should treat everyone fairly and avoid affecting similarly situated groups of people in different ways. For example, when AI systems provide guidance on medical treatment, loan applications, or employment, they should make the same recommendations to everyone with similar symptoms, financial circumstances, or professional qualifications.

We believe that mitigating bias starts with people understanding the implications and limitations of AI predictions and recommendations. Ultimately, people should supplement AI decisions with sound human judgment and be held accountable for consequential decisions that affect others.

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 13

You have a solution that reads manuscripts in different languages and categorizes the manuscripts based on topic. Which types of natural language processing (NLP) workloads does the solution use?

A. speech recognition and entity recognition

B. speech recognition and language modeling

C. translation and key phrase extraction

D. translation and sentiment analysis

Correct Answer: C

Natural language processing (NLP) has many uses: sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.

Need translation as different languages are used.

Key phrase extraction is one of the features offered by Azure Cognitive Service for Language, a collection of machine learning and AI algorithms in the cloud for developing intelligent applications that involve written language. Use key phrase

extraction to quickly identify the main concepts in text.

Reference:

https://learn.microsoft.com/en-us/azure/cognitive-services/language-service/key-phrase-extraction/overview

QUESTION 14

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.	○	○

Explanation:

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 15

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