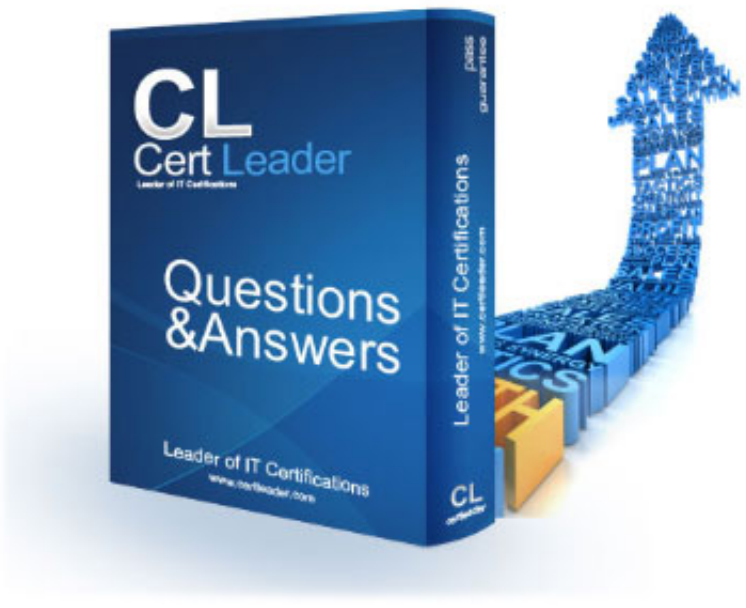
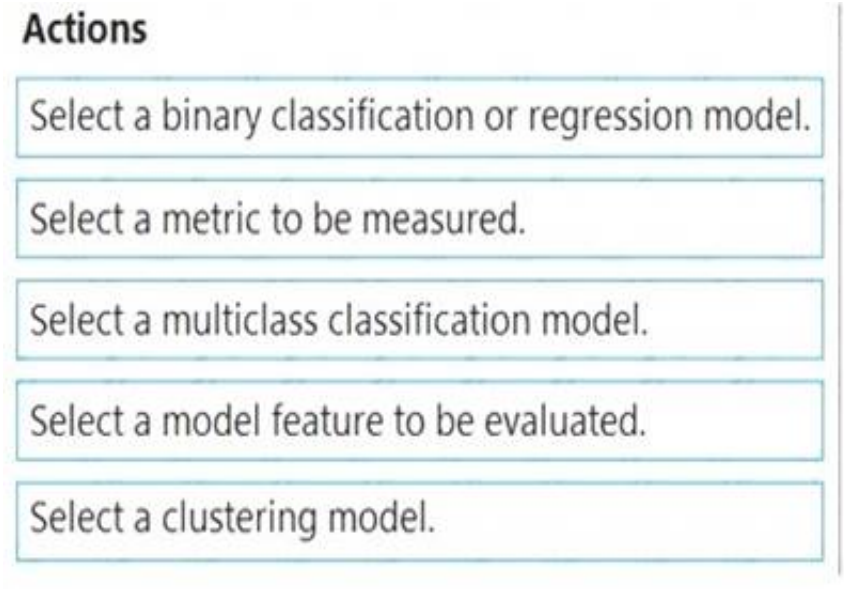
DP-100 Dumps

Designing and Implementing a Data Science Solution on Azure

https://www.certleader.com/DP-100-dumps.html



NEW QUESTION 1
- (Exam Topic 3)
You have several machine learning models registered in an Azure Machine Learning workspace. You must use the Fairlearn dashboard to assess fairness in a selected model.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



A. Mastered
B. Not Mastered

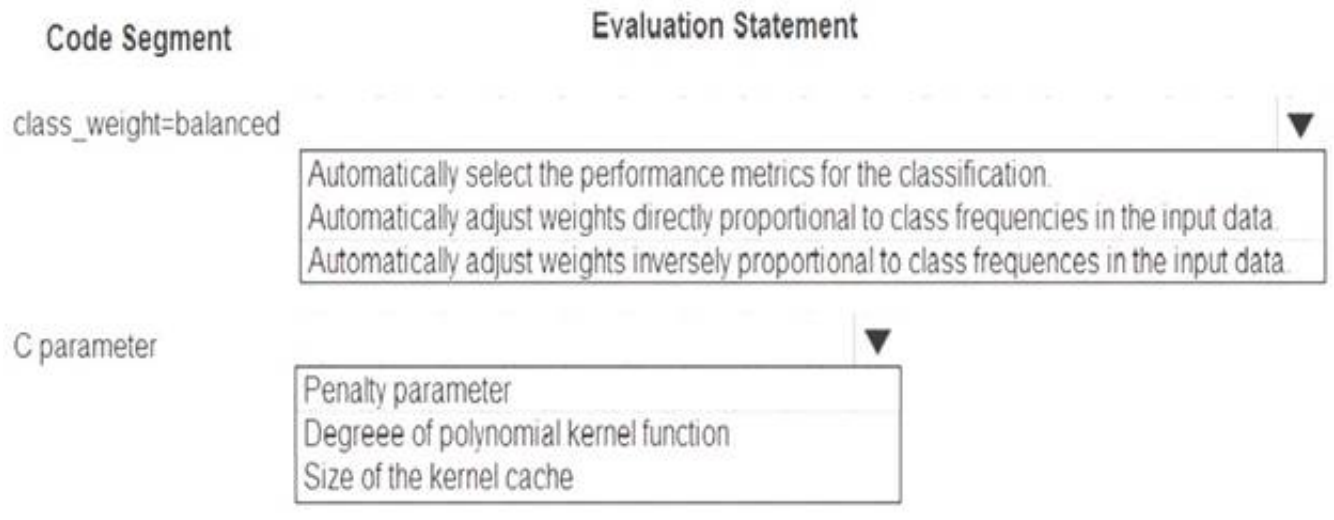
Answer: A

Explanation:
Graphical user interface, text, application Description automatically generated
Step 1: Select a model feature to be evaluated.
Step 2: Select a binary classification or regression model.
Register your models within Azure Machine Learning. For convenience, store the results in a dictionary,
which maps the id of the registered model (a string in name:version format) to the predictor itself. Example:
model_dict = {}
lr_reg_id = register_model("fairness_logistic_regression", lr_predictor) model_dict[lr_reg_id] = lr_predictor
svm_reg_id = register_model("fairness_svm", svm_predictor) model_dict[svm_reg_id] = svm_predictor
Step 3: Select a metric to be measured Precompute fairness metrics.
Create a dashboard dictionary using Fairlearn's metrics package. Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-fairness-aml

NEW QUESTION 2
- (Exam Topic 3)
You are using C-Support Vector classification to do a multi-class classification with an unbalanced training dataset. The C-Support Vector classification using Python code shown below:

```
from sklearn.svm import svc
import numpy as np
svc = SVC(kernel= 'linear', class_weight= 'balanced', C-1.0, random_state-0)
model1 = svc.fit(X_train, y)
```

You need to evaluate the C-Support Vector classification code.
Which evaluation statement should you use? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Automatically adjust weights inversely proportional to class frequencies in the input data
The “balanced” mode uses the values of y to automatically adjust weights inversely proportional to class frequencies in the input data as n_samples / (n_classes * np.bincount(y)).
Box 2: Penalty parameter
Parameter: C : float, optional (default=1.0) Penalty parameter C of the error term. References:
https://scikit-learn.org/stable/modules/generated/sklearn.svm.SVC.html

NEW QUESTION 3
- (Exam Topic 3)
HOTSPOT
You register the following versions of a model.

Model name	Model version	Tags	Properties
healthcare_model	3	'Training context':'CPU Compute'	value:87.43
healthcare_model	2	'Training context':'CPU Compute'	value:54.98
healthcare_model	1	'Training context':'CPU Compute'	value:23.56

You use the Azure ML Python SDK to run a training experiment. You use a variable named run to reference the experiment run.
After the run has been submitted and completed, you run the following code:

```
run.register_model(model_path='outputs/model.pkl',
 model_name='healthcare_model',
 tags={'Training context':'CPU Compute'} )
```

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

	Yes	No
The code will cause a previous version of the saved model to be overwritten.	○	○
The version number will now be 4.	○	○
The latest version of the stored model will have a property of value: 87.43.	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-deploy-and-where

NEW QUESTION 4
- (Exam Topic 3)
You use an Azure Machine Learning workspace. You create the following Python code:

```
from azureml.core import ScriptRunConfig
src = ScriptRunConfig(source_directory=project_folder,
                      script='train.py'
                      environment=myenv)
```

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

Statements	Yes	No
The default environment will be created	○	○
The training script will run on local compute	○	○
A script run configuration runs a training script named `train.py` located in a directory defined by the `project_folder` variable	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application Description automatically generated
Box 1: No
Environment is a required parameter. The environment to use for the run. If no environment is specified, azureml.core.runconfig.DEFAULT_CPU_IMAGE will be used as the Docker image for the run.
The following example shows how to instantiate a new environment. from azureml.core import Environment
myenv = Environment(name="myenv") Box 2: Yes
Parameter compute_target: The compute target where training will happen. This can either be a ComputeTarget object, the name of an existing ComputeTarget, or the string "local". If no compute target is specified, your local machine will be used.
Box 3: Yes
Parameter source_directory. A local directory containing code files needed for a run. Parameter script. The file path relative to the source_directory of the script to be run. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.scriptrunconfig https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.environment.environment

NEW QUESTION 5
- (Exam Topic 3)
You create a Python script named train.py and save it in a folder named scripts. The script uses the scikit-learn framework to train a machine learning model.
You must run the script as an Azure Machine Learning experiment on your local workstation. You need to write Python code to initiate an experiment that runs the train.py script.
How should you complete the code segment? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

```
from azureml.core import Experiment, ScriptRunConfig, Environment
from azureml.core.conda_dependencies import CondaDependencies
from azureml.core import Workspace

ws = Workspace.from_config()
py_sk = Environment('sklearn-training')
pkgs = CondaDependencies.create(pip_packages=['scikit-learn', 'azureml-defaults'])
py_sk.python.conda_dependencies = pkgs
script_config = ScriptRunConfig ( [▼] = 'scripts',
                                  [▼] = 'train.py',
                                  [▼] =py_sk)
experiment = Experiment(workspace=ws, name='training-experiment')
run = experiment.submit(config=script_config)
```

- script
- source_directory
- resume_from
- arguments

- script
- arguments
- environment
- compute_target

- arguments
- resume_from
- environment
- compute_target

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, table, Word Description automatically generated
Box 1: source_directory
source_directory: A local directory containing code files needed for a run. Box 2: script
Script: The file path relative to the source_directory of the script to be run. Box 3: environment
Reference:
https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.scriptrunconfig

NEW QUESTION 6
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are analyzing a numerical dataset which contains missing values in several columns.
You must clean the missing values using an appropriate operation without affecting the dimensionality of the feature set.
You need to analyze a full dataset to include all values.
Solution: Calculate the column median value and use the median value as the replacement for any missing value in the column.
Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Use the Multiple Imputation by Chained Equations (MICE) method. References: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074241/
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/clean-missing-data

NEW QUESTION 7
- (Exam Topic 3)
You create a training pipeline using the Azure Machine Learning designer. You upload a CSV file that contains the data from which you want to train your model.
You need to use the designer to create a pipeline that includes steps to perform the following tasks:

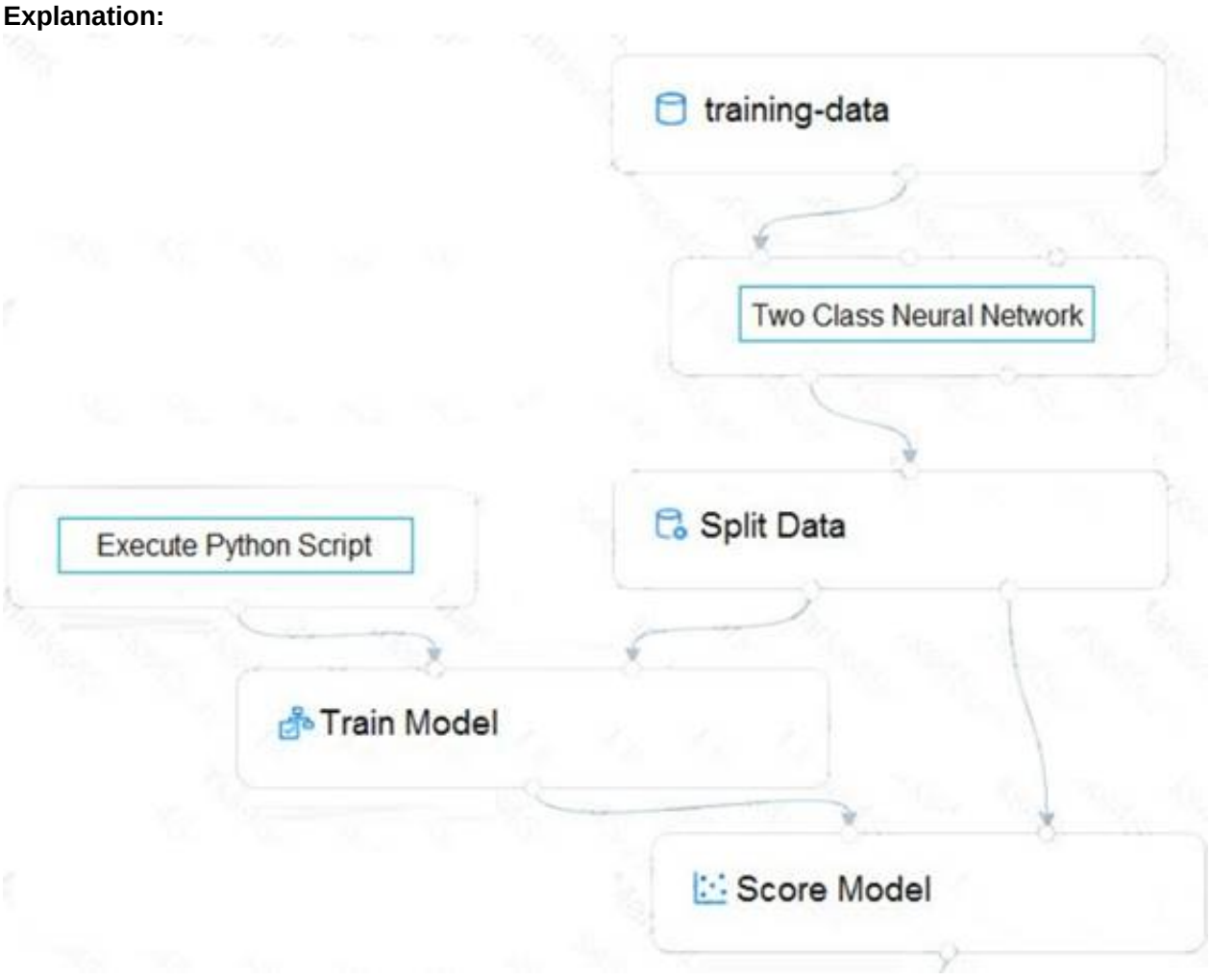
- Select the training features using the pandas filter method.
- Train a model based on the naive_bayes.GaussianNB algorithm.
- Return only the Scored Labels column by using the query SELECT [Scored Labels] FROM t1; Which modules should you use? To answer, drag the

appropriate modules to the appropriate locations. Each
module name 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.

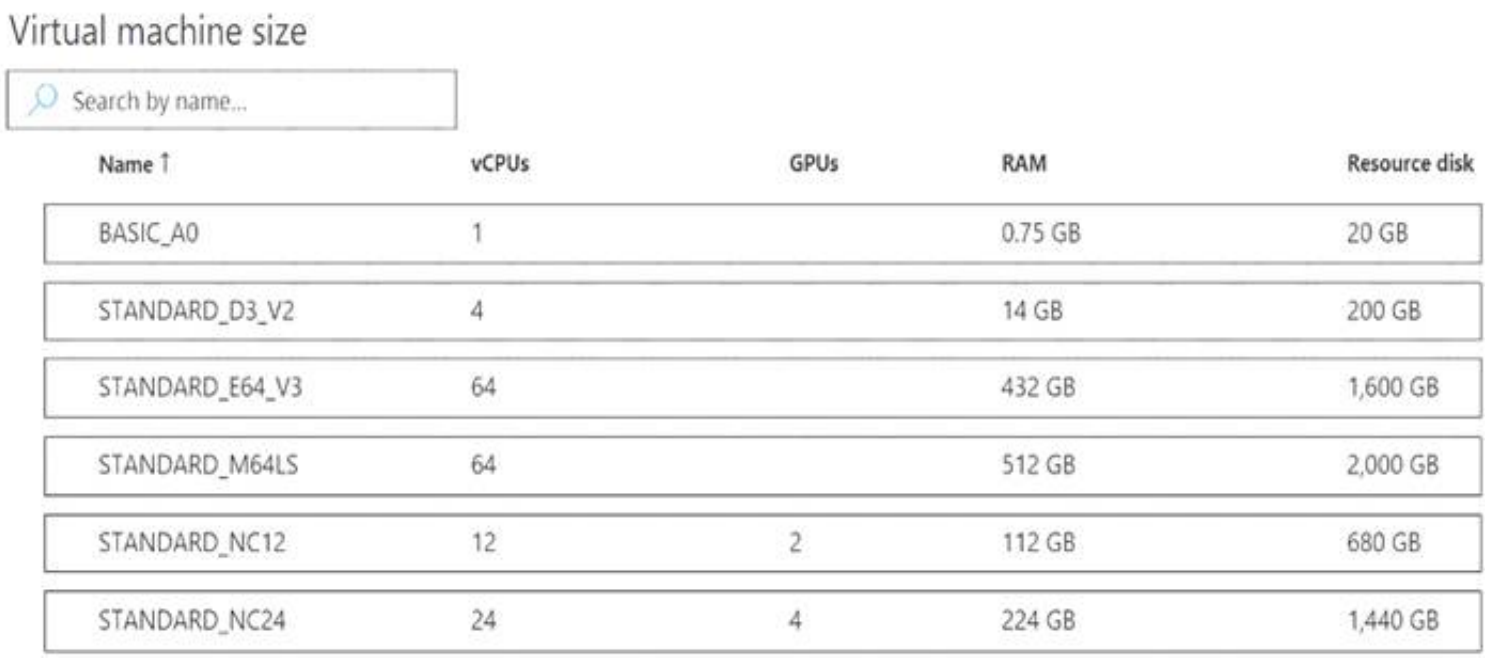
A. Mastered
B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 8
- (Exam Topic 3)
You are developing a deep learning model by using TensorFlow. You plan to run the model training workload on an Azure Machine Learning Compute Instance.
You must use CUDA-based model training. You need to provision the Compute Instance.
Which two virtual machines sizes can you use? To answer, select the appropriate virtual machine sizes in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
CUDA is a parallel computing platform and programming model developed by Nvidia for general computing on its own GPUs (graphics processing units). CUDA enables developers to speed up compute-intensive applications by harnessing the power of GPUs for the parallelizable part of the computation.
Reference:
https://www.infoworld.com/article/3299703/what-is-cuda-parallel-programming-for-gpus.html

NEW QUESTION 9
- (Exam Topic 3)
Your Azure Machine Learning workspace has a dataset named real_estate_data. A sample of the data in the dataset follows.

postal_code	num_bedrooms	sq_feet	garage	price
12345	3	1300	0	23,9000
54321	1	950	0	11,0000
12346	2	1200	1	15,0000

You want to use automated machine learning to find the best regression model for predicting the price column. You need to configure an automated machine learning experiment using the Azure Machine Learning SDK. How should you complete the code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

```
from azureml.core import Workspace
from azureml.core.compute import ComputeTarget
from azureml.core.runconfig import RunConfiguration
from azureml.train.automl import AutoMLConfig

ws = Workspace.from_config()
training_cluster = ComputeTarget(workspace=ws, name= 'aml-cluster1')
real_estate_ds = ws.datasets.get('real_estate_data')
split1_ds, split2_ds = real_estate_ds.random_split(percentage=0.7, seed=123)
automl_run_config = RunConfiguration(framework= "python")
automl_config = AutoMLConfig(          task= 'regression',
                                compute_target= training_cluster,
                                run_configuration=automl_run_config,
                                primary_metric='r2_score',
                                ▼ =split1_ds,
                                X
                                Y
                                X_valid
                                Y_valid
                                training_data
                                ▼ =split2_ds
                                X
                                Y
                                X_valid
                                Y_valid
                                validation_data
                                training_data
                                ▼ ='price')
                                y
                                y_valid
                                y_max
                                label_column_name
                                exclude_nan_labels
```

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: training_data
The training data to be used within the experiment. It should contain both training features and a label column (optionally a sample weights column). If training_data is specified, then the label_column_name parameter must also be specified.
Box 2: validation_data
Provide validation data: In this case, you can either start with a single data file and split it into training and validation sets or you can provide a separate data file for the validation set. Either way, the validation_data parameter in your AutoMLConfig object assigns which data to use as your validation set.
Example, the following code example explicitly defines which portion of the provided data in dataset to use for training and validation.
dataset = Dataset.Tabular.from_delimited_files(data)
training_data, validation_data = dataset.random_split(percentage=0.8, seed=1) automl_config = AutoMLConfig(compute_target = aml_remote_compute, task = 'classification',
primary_metric = 'AUC_weighted', training_data = training_data,
validation_data = validation_data, label_column_name = 'Class'
)
Box 3: label_column_name label_column_name:
The name of the label column. If the input data is from a pandas.DataFrame which doesn't have column names, column indices can be used instead, expressed as integers.
This parameter is applicable to training_data and validation_data parameters. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-train-automl-client/azureml.train.automl.automlconfig.auto

NEW QUESTION 10
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have a Python script named train.py in a local folder named scripts. The script trains a regression model by using scikit-learn. The script includes code to load a training data file which is also located in the scripts folder.
You must run the script as an Azure ML experiment on a compute cluster named aml-compute.
You need to configure the run to ensure that the environment includes the required packages for model training. You have instantiated a variable named aml-compute that references the target compute cluster.
Solution: Run the following code:

```
from azureml.train.dnn import TensorFlow
sk_est = TensorFlow(source_directory='./scripts',
 compute_target=aml-compute,
 entry_script='train.py')
```

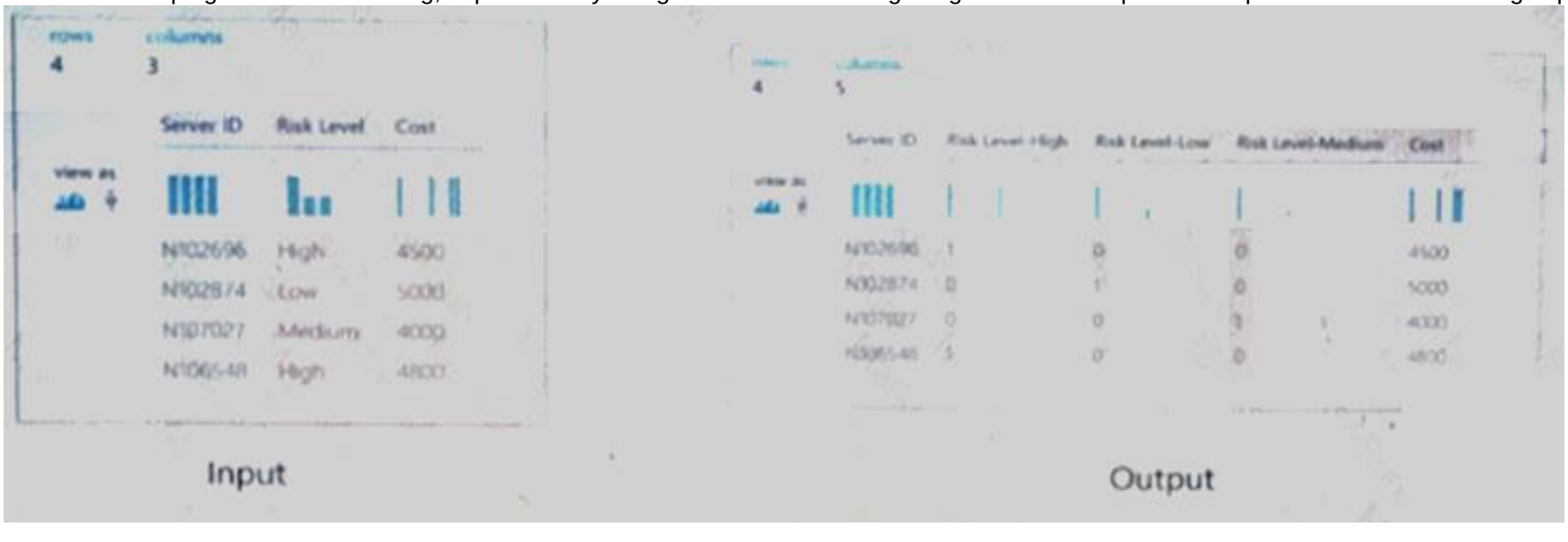
Does the solution meet the goal?

A. Yes
B. No

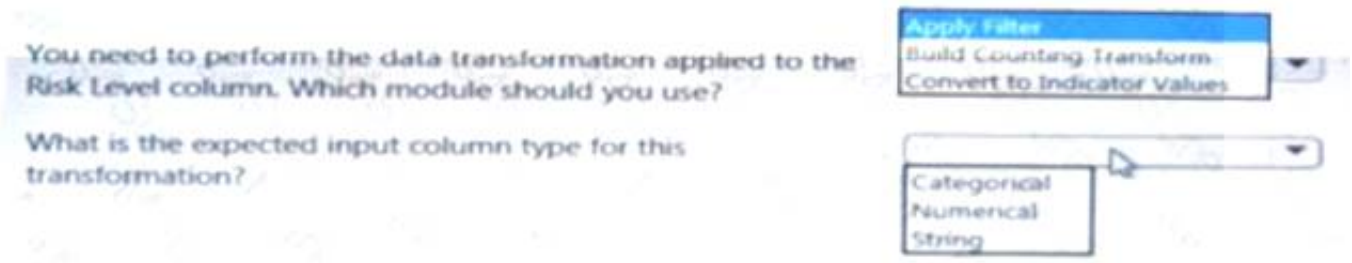
Answer: B

Explanation:
The scikit-learn estimator provides a simple way of launching a scikit-learn training job on a compute target. It is implemented through the SKLearn class, which can be used to support single-node CPU training.
Example:
from azureml.train.sklearn import SKLearn
}
estimator = SKLearn(source_directory=project_folder, compute_target=compute_target, entry_script='train_iris.py'
)
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-train-scikit-learn

NEW QUESTION 10
- (Exam Topic 3)
You are developing a machine learning, experiment by using Azure. The following images show the input and output of a machine learning experiment:



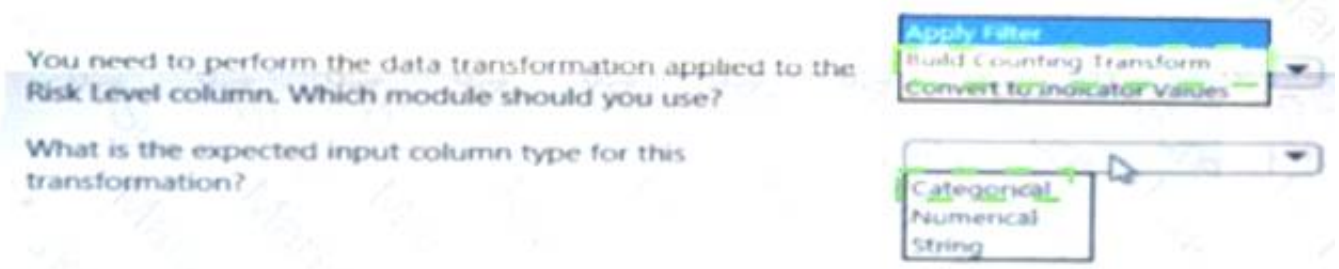
Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 14
- (Exam Topic 3)
You are developing deep learning models to analyze semi-structured, unstructured, and structured data types. You have the following data available for model building:

- Video recordings of sporting events
- Transcripts of radio commentary about events
- Logs from related social media feeds captured during sporting events You need to select an environment for creating the model.

Which environment should you use?

A. Azure Cognitive Services
B. Azure Data Lake Analytics
C. Azure HDInsight with Spark MLib
D. Azure Machine Learning Studio

Answer: A

Explanation:
Azure Cognitive Services expand on Microsoft's evolving portfolio of machine learning APIs and enable developers to easily add cognitive features – such as emotion and video detection; facial, speech, and vision recognition; and speech and language understanding – into their applications. The goal of Azure Cognitive Services is to help developers create applications that can see, hear, speak, understand, and even begin to reason. The catalog of services within Azure Cognitive Services can be categorized into five main pillars - Vision, Speech, Language, Search, and Knowledge.
References:
https://docs.microsoft.com/en-us/azure/cognitive-services/welcome

NEW QUESTION 17
- (Exam Topic 3)
A set of CSV files contains sales records. All the CSV files have the same data schema.
Each CSV file contains the sales record for a particular month and has the filename sales.csv. Each file in stored in a folder that indicates the month and year when the data was recorded. The folders are in an Azure blob container for which a datastore has been defined in an Azure Machine Learning workspace. The folders are organized in a parent folder named sales to create the following hierarchical structure:

```
/sales
  /01-2019
    /sales.csv
  /02-2019
    /sales.csv
  /03-2019
    /sales.csv
  ...
```

At the end of each month, a new folder with that month's sales file is added to the sales folder.
You plan to use the sales data to train a machine learning model based on the following requirements:

- You must define a dataset that loads all of the sales data to date into a structure that can be easily converted to a dataframe.
- You must be able to create experiments that use only data that was created before a specific previous month, ignoring any data that was added after that month.
- You must register the minimum number of datasets possible.

You need to register the sales data as a dataset in Azure Machine Learning service workspace. What should you do?

A. Create a tabular dataset that references the datastore and explicitly specifies each 'sales/mm-yyyy/ sales.csv' file every mont
B. Register the dataset with the name sales_dataset each month, replacing the existing dataset and specifying a tag named month indicating the month and year it was registere
C. Use this dataset for all experiments.
D. Create a tabular dataset that references the datastore and specifies the path 'sales/*/sales.csv', register the dataset with the name sales_dataset and a tag named month indicating the month and year it was registered, and use this dataset for all experiments.
E. Create a new tabular dataset that references the datastore and explicitly specifies each 'sales/mm-yyyy/ sales.csv' file every mont
F. Register the dataset with the name sales_dataset_MM-YYYY each month with appropriate MM and YYYY values for the month and yea
G. Use the appropriate month-specific dataset for experiments.
H. Create a tabular dataset that references the datastore and explicitly specifies each 'sales/mm-yyyy/ sales.csv' fil
I. Register the dataset with the name sales_dataset each month as a new version and with a tag named month indicating the month and year it was registere
J. Use this dataset for all experiments, identifying the version to be used based on the month tag as necessary.

Answer: B

Explanation:
Specify the path. Example:
The following code gets the workspace existing workspace and the desired datastore by name. And then passes the datastore and file locations to the path parameter to create a new TabularDataset, weather_ds.
from azureml.core import Workspace, Datastore, Dataset datastore_name = 'your datastore name'
# get existing workspace
workspace = Workspace.from_config()
# retrieve an existing datastore in the workspace by name datastore = Datastore.get(workspace, datastore_name)
# create a TabularDataset from 3 file paths in datastore datastore_paths = [(datastore, 'weather/2018/11.csv'), (datastore, 'weather/2018/12.csv'), (datastore, 'weather/2019/*.csv')]
weather_ds = Dataset.Tabular.from_delimited_files(path=datastore_paths)

NEW QUESTION 21
- (Exam Topic 3)
You retrain an existing model.
You need to register the new version of a model while keeping the current version of the model in the registry.
What should you do?

A. Register a model with a different name from the existing model and a custom property named versionwith the value 2.
B. Register the model with the same name as the existing model.
C. Save the new model in the default datastore with the same name as the existing mode
D. Do not register the new model.
E. Delete the existing model and register the new one with the same name.

Answer: B

Explanation:
Model version: A version of a registered model. When a new model is added to the Model Registry, it is added as Version 1. Each model registered to the same model name increments the version number.
Reference:
https://docs.microsoft.com/en-us/azure/databricks/applications/mlflow/model-registry

NEW QUESTION 24
- (Exam Topic 3)
You are solving a classification task.
You must evaluate your model on a limited data sample by using k-fold cross validation. You start by configuring a k parameter as the number of splits.
You need to configure the k parameter for the cross-validation. Which value should you use?

A. k=0.5
B. k=0
C. k=5
D. k=1

Answer: C

Explanation:
Leave One Out (LOO) cross-validation
Setting K = n (the number of observations) yields n-fold and is called leave-one out cross-validation (LOO), a special case of the K-fold approach.
LOO CV is sometimes useful but typically doesn’t shake up the data enough. The estimates from each fold are highly correlated and hence their average can have high variance.
This is why the usual choice is K=5 or 10. It provides a good compromise for the bias-variance tradeoff.

NEW QUESTION 29
- (Exam Topic 3)
You create an Azure Machine Learning workspace.
You must create a custom role named DataScientist that meets the following requirements:
- Role members must not be able to delete the workspace.
- Role members must not be able to create, update, or delete compute resource in the workspace.
- Role members must not be able to add new users to the workspace.

You need to create a JSON file for the DataScientist role in the Azure Machine Learning workspace. The custom role must enforce the restrictions specified by the IT Operations team.
Which JSON code segment should you use?
A)

```
{
"Name": "DataScientist",
     "IsCustom": true,
     "Description": "Project Data Scientist role",
     "Actions": ["*"],
     "NotActions":[
     "Microsoft.MachineLearningServices/workspaces/*/delete",
     "Microsoft.MachineLearningServices/workspaces/computes/*/write",
     "Microsoft.MachineLearningServices/workspaces/computes/*/delete",
     "Microsoft.Authorization/*/write"
],
"AssignableScopes": [
  "/subscriptions/<id>/resourceGroups/ml-rg/providers/Microsoft/MachineLearningServices/workspaces/ml-ws"
  ]
}
```

B)

```
{
"Name": "DataScientist",
"IsCustom": true,
"Description": "Project Data Scientist role",
"Actions": ["*"],
"NotActions":[],
"AssignableScopes": [
    "/subscriptions/<id>/resourceGroups/ml-rg/providers/Microsoft.MachineLearningServices/workspaces/ml-ws"
}
```

C)

```
{
"Name": "DataScientist",
"IsCustom": true,
"Description": "Project Data Scientist role",
"Actions": ["Microsoft.MachineLearningServices/workspaces/*/delete",
     "Microsoft.MachineLearningServices/workspaces/computes/*/write",
     "Microsoft.MachineLearningServices/workspaces/computes/*/delete",
     "Microsoft.Authorization/*/write"
],
"NotActions":[],
"AssignaleScopes":[
     "/subscriptions/<id>/resourceGroups/ml-rg/providers/Microsoft.MachineLearningServices/workspaces/ml-ws"
]
}
```

D)

```
{
"Name": "DataScientist",
"IsCustom": true,
"Description": "Project Data Scientist role",
"Actions": [],
"NotActions":["*"],
"AssignableScopes": [
     "/subscriptions/<id>/resourceGroups/ml-rg/providers/Microsoft.MachineLearningServices/workspaces/ml-ws"
]
}
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Explanation:
The following custom role can do everything in the workspace except for the following actions:

- It can't create or update a compute resource.
- It can't delete a compute resource.
- It can't add, delete, or alter role assignments.
- It can't delete the workspace.

To create a custom role, first construct a role definition JSON file that specifies the permission and scope for the role. The following example defines a custom role named "Data Scientist Custom" scoped at a specific workspace level:
data_scientist_custom_role.json :
{
"Name": "Data Scientist Custom", "IsCustom": true,
"Description": "Can run experiment but can't create or delete compute.", "Actions": ["*"],
"NotActions": [
"Microsoft.MachineLearningServices/workspaces/*/delete", "Microsoft.MachineLearningServices/workspaces/write",
"Microsoft.MachineLearningServices/workspaces/computes/*/write", "Microsoft.MachineLearningServices/workspaces/computes/*/delete",
"Microsoft.Authorization/*/write"

],
"AssignableScopes": ["/subscriptions/<subscription_id>/resourceGroups/<resource_group_name>/providers/Microsoft.MachineLearni
]
}
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-assign-roles

NEW QUESTION 31
- (Exam Topic 3)
You are creating a binary classification by using a two-class logistic regression model. You need to evaluate the model results for imbalance.
Which evaluation metric should you use?

A. Relative Absolute Error
B. AUC Curve
C. Mean Absolute Error
D. Relative Squared Error

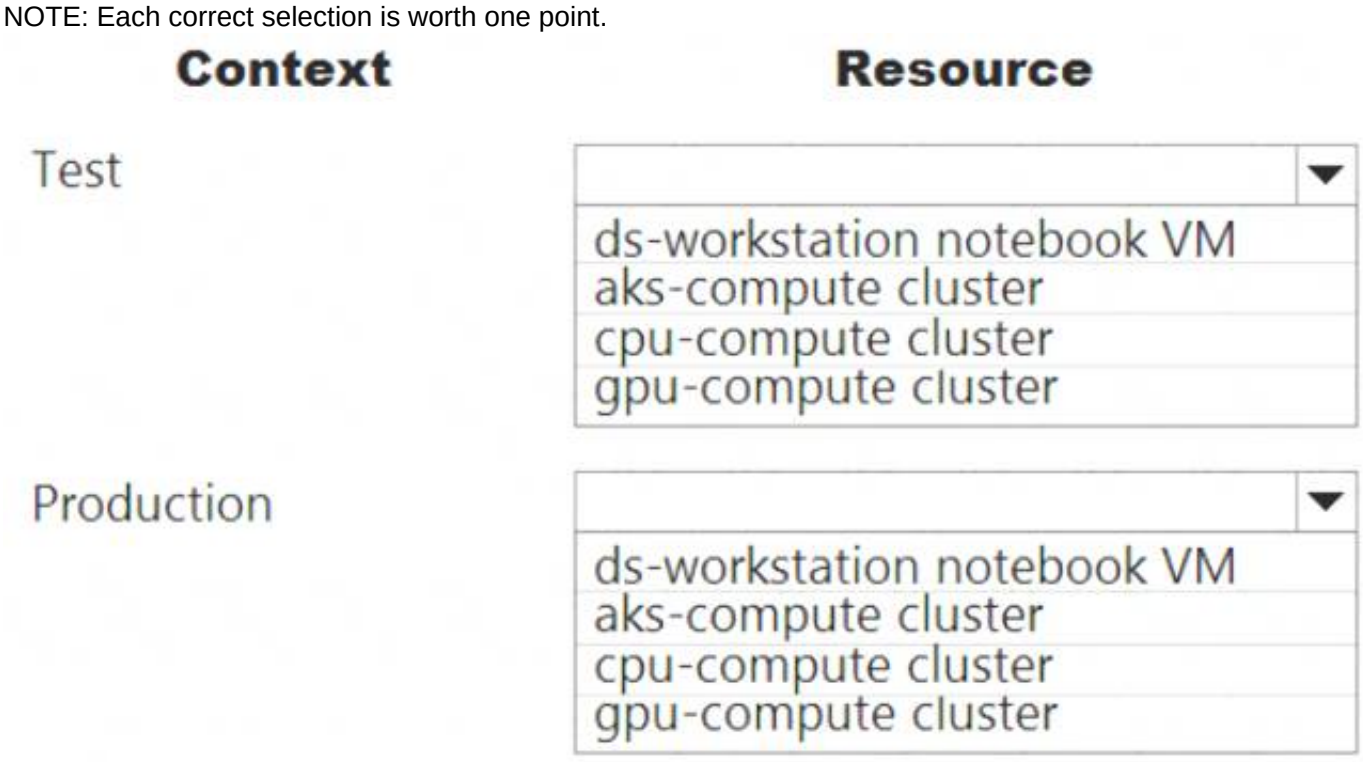
Answer: B

Explanation:
One can inspect the true positive rate vs. the false positive rate in the Receiver Operating Characteristic (ROC) curve and the corresponding Area Under the Curve (AUC) value. The closer this curve is to the upper left corner, the better the classifier's performance is (that is maximizing the true positive rate while minimizing the false positive rate). Curves that are close to the diagonal of the plot, result from classifiers that tend to make predictions that are close to random guessing.
References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance#evaluating-a-bina

NEW QUESTION 32
- (Exam Topic 3)
You are a lead data scientist for a project that tracks the health and migration of birds. You create a multi-image classification deep learning model that uses a set of labeled bird photos collected by experts. You plan to use the model to develop a cross-platform mobile app that predicts the species of bird captured by app users.
You must test and deploy the trained model as a web service. The deployed model must meet the following requirements:

- An authenticated connection must not be required for testing.
- The deployed model must perform with low latency during inferencing.
- The REST endpoints must be scalable and should have a capacity to handle large number of requests when multiple end users are using the mobile application.

You need to verify that the web service returns predictions in the expected JSON format when a valid REST request is submitted.
Which compute resources should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: ds-workstation notebook VM
An authenticated connection must not be required for testing.
On a Microsoft Azure virtual machine (VM), including a Data Science Virtual Machine (DSVM), you create local user accounts while provisioning the VM. Users then authenticate to the VM by using these credentials.
Box 2: gpu-compute cluster
Image classification is well suited for GPU compute clusters
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/data-science-virtual-machine/dsvm-common-identity https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/ai/training-deep-learning

NEW QUESTION 34

- (Exam Topic 3)
You deploy a model in Azure Container Instance.
You must use the Azure Machine Learning SDK to call the model API.
You need to invoke the deployed model using native SDK classes and methods.
How should you complete the command? To answer, select the appropriate options in the answer areas.
NOTE: Each correct selection is worth one point.

```
from azureml.core import Workspace
```

[▼]
- from azureml.core.webservice import requests
- from azureml.core.webservice import Webservice
- from azureml.core.webservice import LocalWebservice

```
import json
ws = Workspace.from_config()
service_name = "mlmodel1-service"
service = Webservice(name=service_name, workspace=ws)
x_new = [[2,101.5,1,24,21], [1,89.7,4,41,21]]
input_json = json.dumps({"data": x_new})
```

[▼]
- predictions = service.run(input_json)
- predictions = requests.post(service.scoring_uri, input_json)
- predictions = service.deserialize(ws, input_json)

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: from azureml.core.webservice import Webservice
The following code shows how to use the SDK to update the model, environment, and entry script for a web service to Azure Container Instances:
from azureml.core import Environment
from azureml.core.webservice import Webservice
from azureml.core.model import Model, InferenceConfig Box 2: predictions = service.run(input_json)
Example: The following code demonstrates sending data to the service: import json
test_sample = json.dumps({'data': [[1, 2, 3, 4, 5, 6, 7, 8, 9, 10],
[10, 9, 8, 7, 6, 5, 4, 3, 2, 1]
]})
test_sample = bytes(test_sample, encoding='utf8') prediction = service.run(input_data=test_sample)
print(prediction) Reference:
https://docs.microsoft.com/bs-latn-ba/azure/machine-learning/how-to-deploy-azure-container-instance https://docs.microsoft.com/en-us/azure/machine-learning/how-to-troubleshoot-deployment

NEW QUESTION 39
- (Exam Topic 3)
You are creating a machine learning model. You need to identify outliers in the data.
Which two visualizations can you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point. NOTE: Each correct selection is worth one point.

A. box plot
B. scatter
C. random forest diagram
D. Venn diagram
E. ROC curve

Answer: AB

Explanation:
The box-plot algorithm can be used to display outliers.
One other way to quickly identify Outliers visually is to create scatter plots. References:
https://blogs.msdn.microsoft.com/azuredev/2017/05/27/data-cleansing-tools-in-azure-machine-learning/

NEW QUESTION 41
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are using Azure Machine Learning to run an experiment that trains a classification model.
You want to use Hyperdrive to find parameters that optimize the AUC metric for the model. You configure a HyperDriveConfig for the experiment by running the following code:

```
hyperdrive = HyperDriveConfig(estimator=your_estimator,
 hyperparameter_sampling=your_params,
 policy=policy,
 primary_metric_name='AUC',
 primary_metric_goal=PrimaryMetricGoal.MAXIMIZE,
 max_total_runs=6,
 max_concurrent_runs=4)
```

You plan to use this configuration to run a script that trains a random forest model and then tests it with validation data. The label values for the validation data are stored in a variable named y_test variable, and the predicted probabilities from the model are stored in a variable named y_predicted.
You need to add logging to the script to allow Hyperdrive to optimize hyperparameters for the AUC metric. Solution: Run the following code:

```
import numpy as np
from sklearn.metrics import roc_auc_score
# code to train model omitted
auc = roc_auc_score(y_test, y_predicted)
print(np.float(auc))
```

Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Use a solution with logging.info(message) instead. Note: Python printing/logging example: logging.info(message)
Destination: Driver logs, Azure Machine Learning designer Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-debug-pipelines

NEW QUESTION 43
- (Exam Topic 3)
You are preparing to use the Azure ML SDK to run an experiment and need to create compute. You run the following code:

```
from azureml.core.compute import ComputeTarget, AmlCompute
from azureml.core.compute_target import ComputeTargetException
ws = Workspace.from_config()
cluster_name = 'aml-cluster'
try:
  training_compute = ComputeTarget(workspace=ws, name=cluster_name)
except ComputeTargetException:
  compute_config = AmlCompute.provisioning_configuration(vm_size='STANDARD_D2_V2', vm_priority='lowpriority',
max_nodes=4)
  training_compute = ComputeTarget.create(ws, cluster_name, compute_config)
  training_compute.wait_for_completion(show_output=True)
```

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

	Yes	No
If a training cluster named aml-cluster already exists in the workspace, it will be deleted and replaced.	○	○
The `wait_for_completion()` method will not return until the aml-cluster compute has four active nodes.	○	○
If the code creates a new aml-cluster compute target, it may be preempted due to capacity constraints.	○	○
The aml-cluster compute target is deleted from the workspace after the training experiment completes.	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: No
If a training cluster already exists it will be used. Box 2: Yes
The wait_for_completion method waits for the current provisioning operation to finish on the cluster. Box 3: Yes
Low Priority VMs use Azure's excess capacity and are thus cheaper but risk your run being pre-empted.

Box 4: No
Need to use training_compute.delete() to deprovision and delete the AmlCompute target. Reference:
https://notebooks.azure.com/azureml/projects/azureml-getting-started/html/how-to-use-azureml/training/train-on https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.compute.computetarget

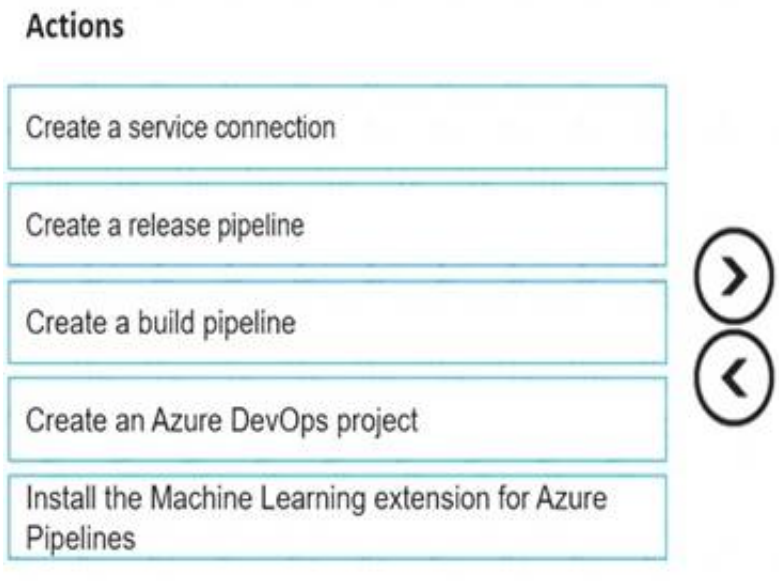
NEW QUESTION 44
- (Exam Topic 3)
You create a multi-class image classification deep learning model that uses a set of labeled images. You create a script file named train.py that uses the PyTorch 1.3 framework to train the model.
You must run the script by using an estimator. The code must not require any additional Python libraries to be installed in the environment for the estimator. The time required for model training must be minimized.
You need to define the estimator that will be used to run the script. Which estimator type should you use?

A. TensorFlow
B. PyTorch
C. SKLearn
D. Estimator

Answer: B

Explanation:
For PyTorch, TensorFlow and Chainer tasks, Azure Machine Learning provides respective PyTorch, TensorFlow, and Chainer estimators to simplify using these frameworks.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-train-ml-models

NEW QUESTION 48
- (Exam Topic 3)
You create an Azure Machine Learning workspace and a new Azure DevOps organization. You register a model in the workspace and deploy the model to the target environment.
All new versions of the model registered in the workspace must automatically be deployed to the target environment.
You need to configure Azure Pipelines to deploy the model.
Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

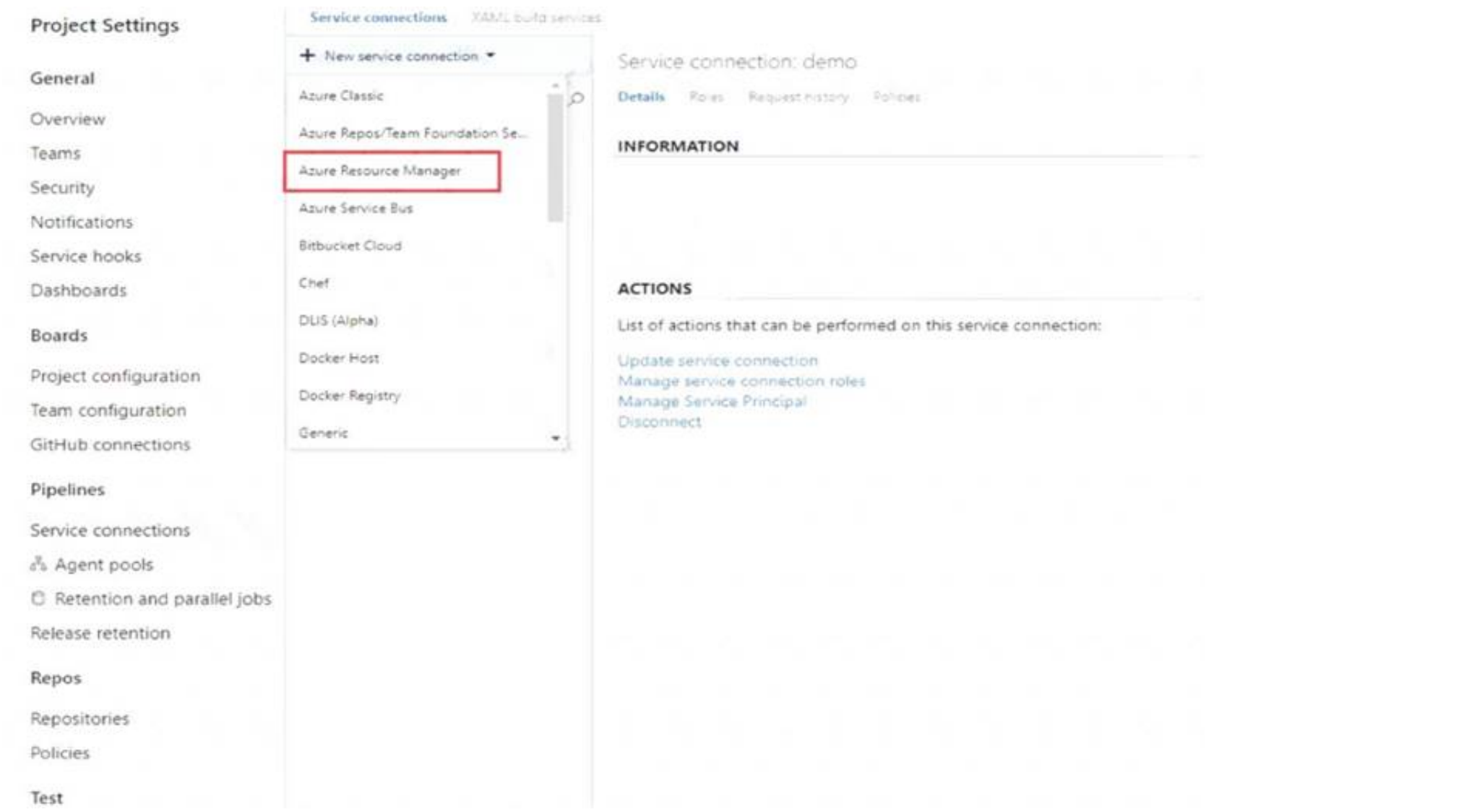


A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, email Description automatically generated
Step 1: Create an Azure DevOps project
Step 2: Create a release pipeline
- Sign in to your Azure DevOps organization and navigate to your project.
- Go to Pipelines, and then select New pipeline.

Step 3: Install the Machine Learning extension for Azure Pipelines
You must install and configure the Azure CLI and ML extension.
Step 4: Create a service connection
How to set up your service connection
Graphical user interface, text, application, email Description automatically generated



Select AzureMLWorkspace for the scope level, then fill in the following subsequent parameters. Graphical user interface, text, application Description automatically generated

Note: How to enable model triggering in a release pipeline

- Go to your release pipeline and add a new artifact. Click on AzureML Model artifact then select the appropriate AzureML service connection and select from the available models in your workspace.
- Enable the deployment trigger on your model artifact as shown here. Every time a new version of that model is registered, a release pipeline will be triggered.

Reference:

https://marketplace.visualstudio.com/items?itemName=ms-air-aiagility.vss-services-azureml https://docs.microsoft.com/en-us/azure/devops/pipelines/targets/azure-machine-learning

NEW QUESTION 51

- (Exam Topic 3)

You use Azure Machine Learning to train and register a model.

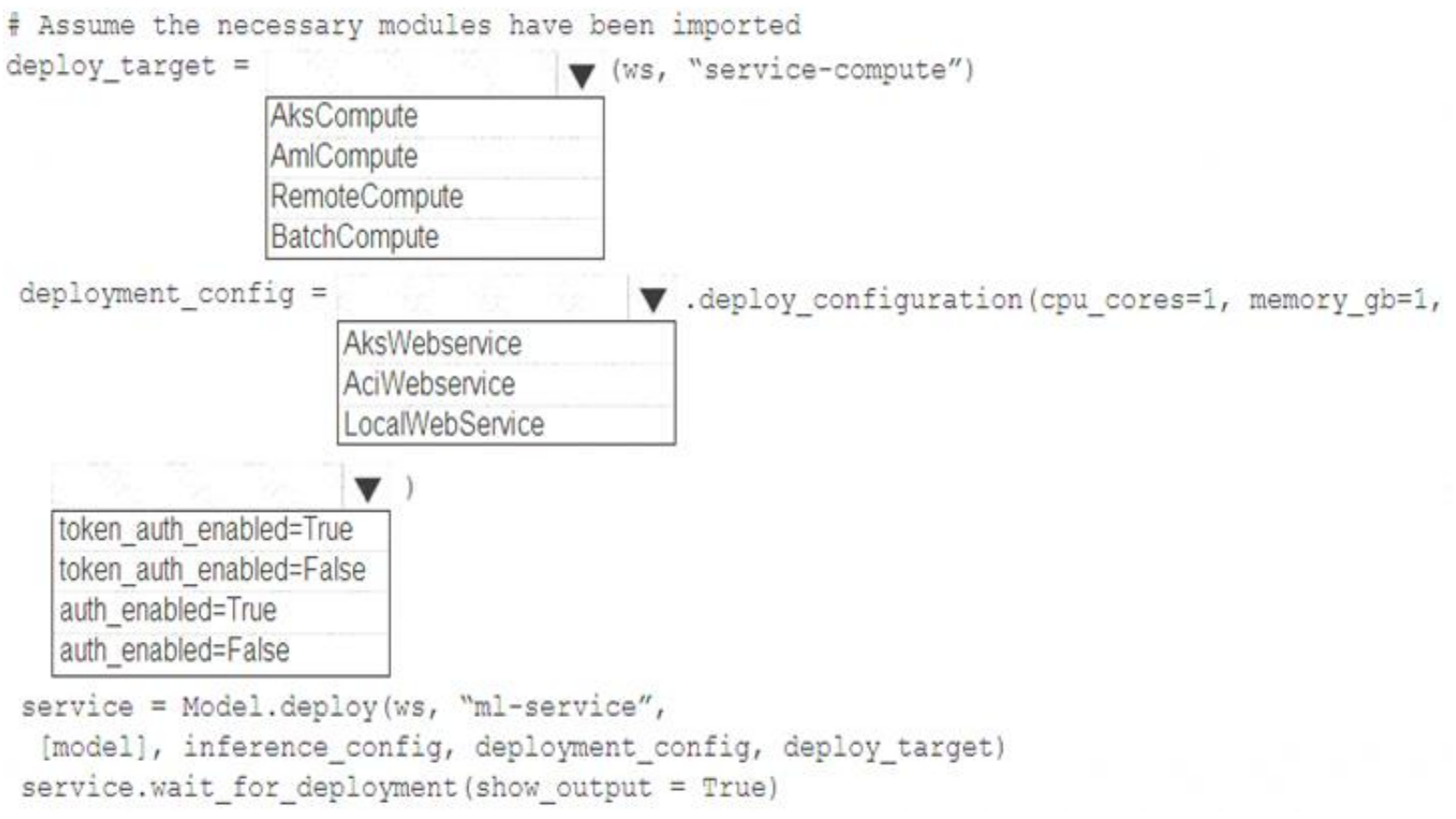
You must deploy the model into production as a real-time web service to an inference cluster named service-compute that the IT department has created in the Azure Machine Learning workspace.

Client applications consuming the deployed web service must be authenticated based on their Azure Active Directory service principal.

You need to write a script that uses the Azure Machine Learning SDK to deploy the model. The necessary modules have been imported.

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

NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: AksCompute Example:
aks_target = AksCompute(ws,"myaks")
# If deploying to a cluster configured for dev/test, ensure that it was created with enough
# cores and memory to handle this deployment configuration. Note that memory is also used by
# things such as dependencies and AML components.
deployment_config = AksWebservice.deploy_configuration(cpu_cores = 1, memory_gb = 1)
service = Model.deploy(ws, "myservice", [model], inference_config, deployment_config, aks_target) Box 2: AksWebservice
Box 3: token_auth_enabled=Yes
Whether or not token auth is enabled for the Webservice.
Note: A Service principal defined in Azure Active Directory (Azure AD) can act as a principal on which authentication and authorization policies can be enforced in Azure Databricks.
The Azure Active Directory Authentication Library (ADAL) can be used to programmatically get an Azure AD access token for a user.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-deploy-azure-kubernetes-service https://docs.microsoft.com/en-us/azure/databricks/dev-tools/api/latest/aad/service-prin-aad-token

NEW QUESTION 56
- (Exam Topic 3)
You are building a machine learning model for translating English language textual content into French language textual content.
You need to build and train the machine learning model to learn the sequence of the textual content. Which type of neural network should you use?

A. Multilayer Perceptions (MLPs)
B. Convolutional Neural Networks (CNNs)
C. Recurrent Neural Networks (RNNs)
D. Generative Adversarial Networks (GANs)

Answer: C

Explanation:
To translate a corpus of English text to French, we need to build a recurrent neural network (RNN).
Note: RNNs are designed to take sequences of text as inputs or return sequences of text as outputs, or both. They're called recurrent because the network's hidden layers have a loop in which the output and cell state from each time step become inputs at the next time step. This recurrence serves as a form of memory. It allows contextual information to flow through the network so that relevant outputs from previous time steps can be applied to network operations at the current time step.
References:
https://towardsdatascience.com/language-translation-with-rnns-d84d43b40571

NEW QUESTION 61
- (Exam Topic 3)
You use the following code to run a script as an experiment in Azure Machine Learning:

```
from azureml.core import Workspace, Experiment, Run
from azureml.core import RunConfig, ScriptRunConfig
ws = Workspace.from_config()
run_config = RunConfiguration()
run_config.target='local'
script_config = ScriptRunConfig(source_directory='./script', script='experiment.py', run_config=run_config)
experiment = Experiment(workspace=ws, name='script experiment')
run = experiment.submit(config=script_config)
run.wait_for_completion()
```

You must identify the output files that are generated by the experiment run. You need to add code to retrieve the output file names.
Which code segment should you add to the script?

A. files = run.get_properties()
B. files= run.get_file_names()
C. files = run.get_details_with_logs()
D. files = run.get_metrics()
E. files = run.get_details()

Answer: B

Explanation:
You can list all of the files that are associated with this run record by called run.get_file_names() Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-track-experiments

NEW QUESTION 62
- (Exam Topic 3)
You are performing clustering by using the K-means algorithm. You need to define the possible termination conditions.
Which three conditions can you use? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. A fixed number of iterations is executed.
B. The residual sum of squares (RSS) rises above a threshold.
C. The sum of distances between centroids reaches a maximum.
D. The residual sum of squares (RSS) falls below a threshold.

E. Centroids do not change between iterations.

Answer: ADE

Explanation:
References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/k-means-clustering https://nlp.stanford.edu/IR-book/html/htmledition/k-means-1.html

NEW QUESTION 67
- (Exam Topic 3)
You use an Azure Machine Learning workspace.
You have a trained model that must be deployed as a web service. Users must authenticate by using Azure Active Directory.
What should you do?

A. Deploy the model to Azure Kubernetes Service (AKS). During deployment, set the token_auth_enabled parameter of the target configuration object to true
B. Deploy the model to Azure Container Instance
C. During deployment, set the auch_enabled parameter of the target configuration object to true
D. Deploy the model to Azure Container Instance
E. During deployment, set the coken_auch_enabled parameter of the target configuration object to true
F. Deploy the model to Azure Kubernetes Service (AKS). During deployment, set the auc
G. enabled parameter of the target configuration object to true

Answer: A

Explanation:
To control token authentication, use the token_auth_enabled parameter when you create or update a deployment
Token authentication is disabled by default when you deploy to Azure Kubernetes Service.
Note: The model deployments created by Azure Machine Learning can be configured to use one of two authentication methods:
key-based: A static key is used to authenticate to the web service.
token-based: A temporary token must be obtained from the Azure Machine Learning workspace (using Azure Active Directory) and used to authenticate to the web service.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-authenticate-web-service

NEW QUESTION 72
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You train and register a machine learning model.
You plan to deploy the model as a real-time web service. Applications must use key-based authentication to use the model.
You need to deploy the web service. Solution:
Create an AksWebservice instance.
Set the value of the auth_enabled property to True.
Deploy the model to the service. Does the solution meet the goal?

A. Yes
B. No

Answer: A

Explanation:
Key-based authentication.
Web services deployed on AKS have key-based auth enabled by default. ACI-deployed services have
key-based auth disabled by default, but you can enable it by setting auth_enabled = TRUE when creating the ACI web service. The following is an example of creating an ACI deployment configuration with key-based auth enabled.
deployment_config <- aci_webservice_deployment_config(cpu_cores = 1, memory_gb = 1,
auth_enabled = TRUE) Reference:
https://azure.github.io/azureml-sdk-for-r/articles/deploying-models.html

NEW QUESTION 76
- (Exam Topic 3)
You register a file dataset named csvjolder that references a folder. The folder includes multiple com
ma-separated values (CSV) files in an Azure storage blob container. You plan to use the following code to run a script that loads data from the file dataset. You create and instantiate the following variables:

Variable	Description
remote_cluster	References the Azure Machine Learning compute cluster
ws	References the Azure Machine Learning workspace

You have the following code:

```
from azureml.train.estimator import Estimator
file_dataset = ws.datasets.get('csv_folder')
estimator = Estimator(source_directory=script_folder,
```

```
    compute_target = remote_cluster,
    entry_script='script.py')
    run = experiment.submit(config=estimator)
    run.wait_for_completion(show_output=True)
```

You need to pass the dataset to ensure that the script can read the files it references. Which code segment should you insert to replace the code comment?

A)

```
inputs=[file_dataset.as_named_input('training_files').to_pandas_dataframe()],
```

B)

```
inputs=[file_dataset.as_named_input('training_files').as_mount()],
```

C)

```
script_params={'--training_files': file_dataset},
```

D)

```
inputs=[file_dataset.as_named_input('training_files')],
```

A. Option A
B. Option B
C. Option C
D. Option D

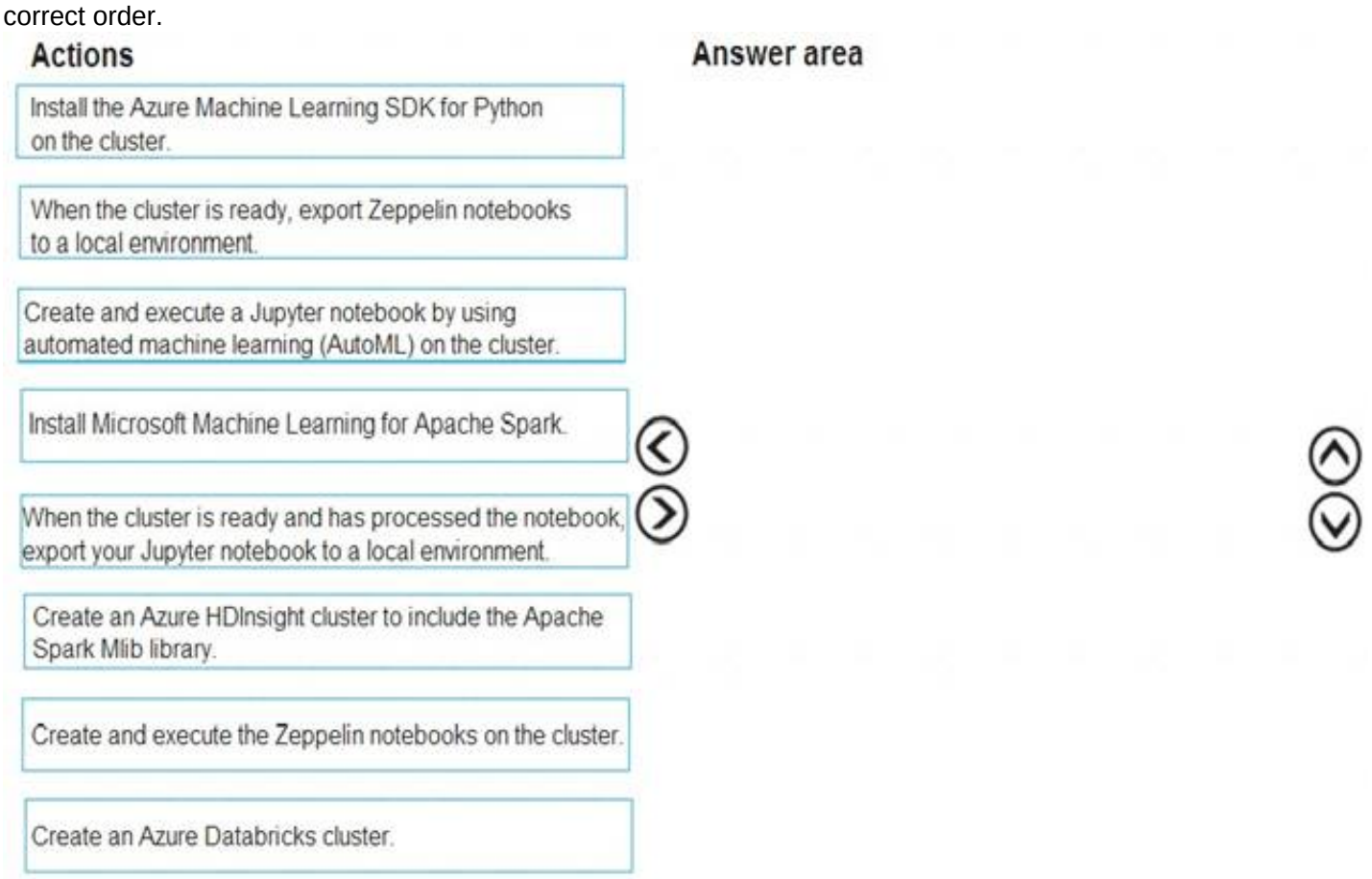
Answer: D

Explanation:
Example:
from azureml.train.estimator import Estimator script_params = {
# to mount files referenced by mnist dataset
'--data-folder': mnist_file_dataset.as_named_input('mnist_opendataset').as_mount(),
'--regularization': 0.5
}
est = Estimator(source_directory=script_folder, script_params=script_params, compute_target=compute_target, environment_definition=env,
entry_script='train.py')
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/tutorial-train-models-with-aml

NEW QUESTION 77
- (Exam Topic 3)
You are building an intelligent solution using machine learning models. The environment must support the following requirements:

- Data scientists must build notebooks in a cloud environment
- Data scientists must use automatic feature engineering and model building in machine learning pipelines.
- Notebooks must be deployed to retrain using Spark instances with dynamic worker allocation.
- Notebooks must be exportable to be version controlled locally.

You need to create the environment.
Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: Create an Azure HDInsight cluster to include the Apache Spark Mlib library
Step 2: Install Microsot Machine Learning for Apache Spark You install AzureML on your Azure HDInsight cluster.
Microsoft Machine Learning for Apache Spark (MMLSpark) provides a number of deep learning and data science tools for Apache Spark, including seamless integration of Spark Machine Learning pipelines with Microsoft Cognitive Toolkit (CNTK) and OpenCV, enabling you to quickly create powerful, highly-scalable predictive and analytical models for large image and text datasets.
Step 3: Create and execute the Zeppelin notebooks on the cluster
Step 4: When the cluster is ready, export Zeppelin notebooks to a local environment. Notebooks must be exportable to be version controlled locally.
References:
https://docs.microsoft.com/en-us/azure/hdinsight/spark/apache-spark-zeppelin-notebook https://azuremlbuild.blob.core.windows.net/pysparkapi/intro.html

NEW QUESTION 78
- (Exam Topic 3)
You create a multi-class image classification deep learning model that uses the PyTorch deep learning framework.
You must configure Azure Machine Learning Hyperdrive to optimize the hyperparameters for the classification model.
You need to define a primary metric to determine the hyperparameter values that result in the model with the best accuracy score.
Which three actions must you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Set the primary_metric_goal of the estimator used to run the bird_classifier_train.py script to maximize.
B. Add code to the bird_classifier_train.py script to calculate the validation loss of the model and log it as a float value with the key loss.
C. Set the primary_metric_goal of the estimator used to run the bird_classifier_train.py script to minimize.
D. Set the primary_metric_name of the estimator used to run the bird_classifier_train.py script to accuracy.
E. Set the primary_metric_name of the estimator used to run the bird_classifier_train.py script to loss.
F. Add code to the bird_classifier_train.py script to calculate the validation accuracy of the model and log it as a float value with the key accuracy.

Answer: ADF

Explanation:
AD:
primary_metric_name="accuracy", primary_metric_goal=PrimaryMetricGoal.MAXIMIZE
Optimize the runs to maximize "accuracy". Make sure to log this value in your training script. Note:
primary_metric_name: The name of the primary metric to optimize. The name of the primary metric needs to exactly match the name of the metric logged by the training script.
primary_metric_goal: It can be either PrimaryMetricGoal.MAXIMIZE or PrimaryMetricGoal.MINIMIZE and determines whether the primary metric will be maximized or minimized when evaluating the runs.
F: The training script calculates the val_accuracy and logs it as "accuracy", which is used as the primary metric.

NEW QUESTION 81
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have a Python script named train.py in a local folder named scripts. The script trains a regression model by using scikit-learn. The script includes code to load a training data file which is also located in the scripts folder.
You must run the script as an Azure ML experiment on a compute cluster named aml-compute.
You need to configure the run to ensure that the environment includes the required packages for model training. You have instantiated a variable named aml-compute that references the target compute cluster.
Solution: Run the following code:

```
from azureml.train.sklearn import SKLearn
sk_est = SKLearn(source_directory='./scripts',
compute_target=aml-compute,
entry_script='train.py')
```

Does the solution meet the goal?

A. Yes
B. No

Answer: A

Explanation:
The scikit-learn estimator provides a simple way of launching a scikit-learn training job on a compute target. It is implemented through the SKLearn class, which can be used to support single-node CPU training.
Example:
from azureml.train.sklearn import SKLearn
}
estimator = SKLearn(source_directory=project_folder, compute_target=compute_target, entry_script='train_iris.py'
)
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-train-scikit-learn

NEW QUESTION 82
- (Exam Topic 3)
You train and register a machine learning model. You create a batch inference pipeline that uses the model to generate predictions from multiple data files.
You must publish the batch inference pipeline as a service that can be scheduled to run every night. You need to select an appropriate compute target for the

inference service.
Which compute target should you use?

A. Azure Machine Learning compute instance
B. Azure Machine Learning compute cluster
C. Azure Kubernetes Service (AKS)-based inference cluster
D. Azure Container Instance (ACI) compute target

Answer: B

Explanation:
Azure Machine Learning compute clusters is used for Batch inference. Run batch scoring on serverless compute. Supports normal and low-priority VMs. No support for real-time inference.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-compute-target

NEW QUESTION 85
- (Exam Topic 3)
You have a dataset created for multiclass classification tasks that contains a normalized numerical feature set with 10,000 data points and 150 features.
You use 75 percent of the data points for training and 25 percent for testing. You are using the scikit-learn machine learning library in Python. You use X to denote the feature set and Y to denote class labels.
You create the following Python data frames:

Name	Description
X_train	training feature set
Y_train	training class labels
x_train	testing feature set
y_train	testing class labels

You need to apply the Principal Component Analysis (PCA) method to reduce the dimensionality of the feature set to 10 features in both training and testing sets.
How should you complete the code segment? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

```
from sklearn.decomposition import PCA
pca -
```
PCA()
PCA(n_components = 150)
PCA(n_components = 10)
PCA(n_components = 10000)

```
X_train=
```
pca
model
sklearn.decomposition

```
.fit_transform(X_train)
x_test = pca.
```
x_test
X_train
fit(x_test)
transform(x_test)

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: PCA(n_components = 10)
Need to reduce the dimensionality of the feature set to 10 features in both training and testing sets. Example:
from sklearn.decomposition import PCA pca = PCA(n_components=2) ;2 dimensions principalComponents = pca.fit_transform(x)
Box 2: pca
fit_transform(X[, y])fits the model with X and apply the dimensionality reduction on X. Box 3: transform(x_test)
transform(X) applies dimensionality reduction to X. References:
https://scikit-learn.org/stable/modules/generated/sklearn.decomposition.PCA.html

NEW QUESTION 87
- (Exam Topic 3)
You use the Azure Machine Learning Python SDK to define a pipeline to train a model.
The data used to train the model is read from a folder in a datastore.
You need to ensure the pipeline runs automatically whenever the data in the folder changes. What should you do?

A. Set the regenerate_outputs property of the pipeline to True
B. Create a ScheduleRecurrance object with a Frequency of aut
C. Use the object to create a Schedule for the pipeline
D. Create a PipelineParameter with a default value that references the location where the training data is stored
E. Create a Schedule for the pipelin
F. Specify the datastore in the datastore property, and the folder containing the training data in the path_on_datascore property

Answer: D

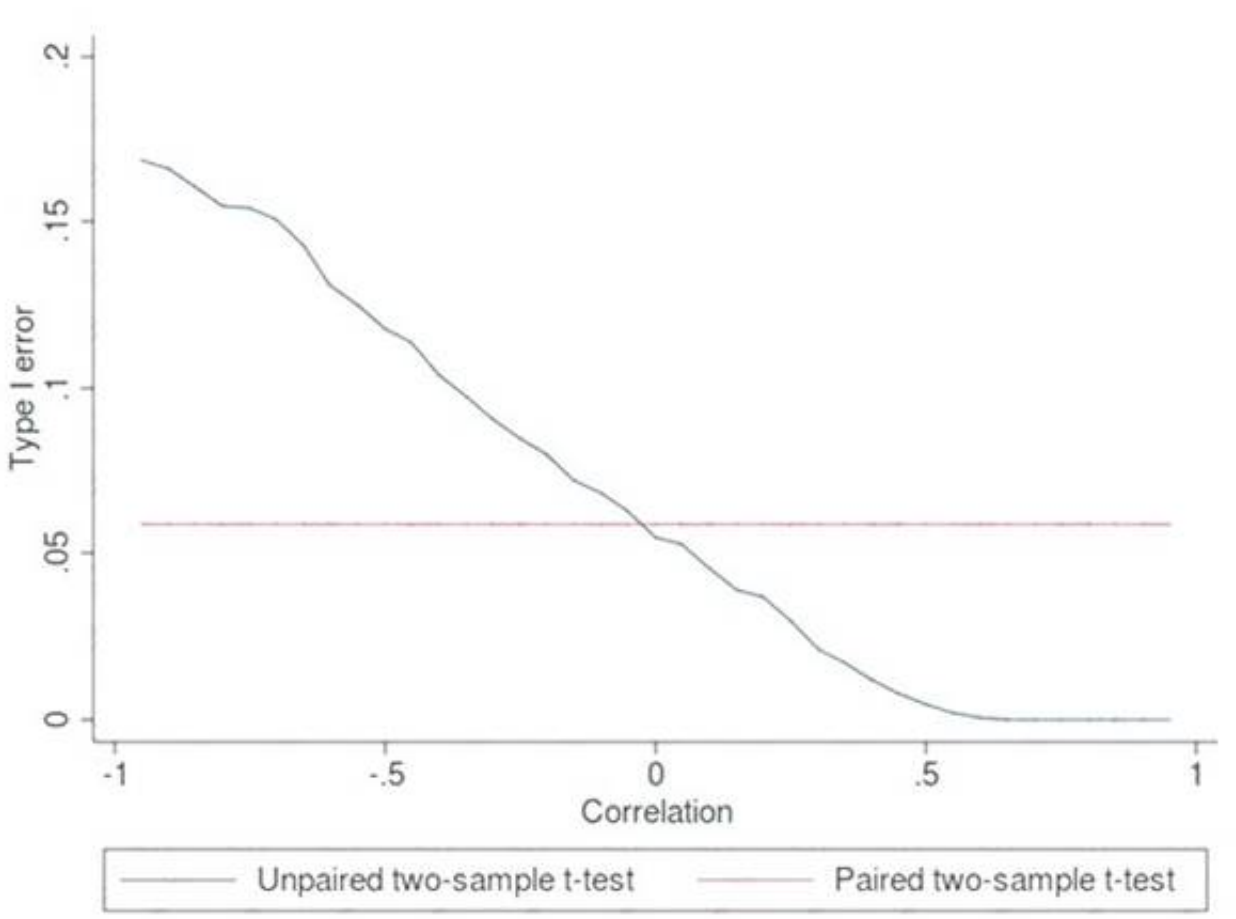
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-trigger-published-pipeline

NEW QUESTION 91
- (Exam Topic 3)
You are determining if two sets of data are significantly different from one another by using Azure Machine Learning Studio.
Estimated values in one set of data may be more than or less than reference values in the other set of data. You must produce a distribution that has a constant Type I error as a function of the correlation.
You need to produce the distribution.
Which type of distribution should you produce?

A. Paired t-test with a two-tail option
B. Unpaired t-test with a two tail option
C. Paired t-test with a one-tail option
D. Unpaired t-test with a one-tail option

Answer: A

Explanation:
Choose a one-tail or two-tail test. The default is a two-tailed test. This is the most common type of test, in which the expected distribution is symmetric around zero.
Example: Type I error of unpaired and paired two-sample t-tests as a function of the correlation. The simulated random numbers originate from a bivariate normal distribution with a variance of 1.



Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/test-hypothesis-using-t-test https://en.wikipedia.org/wiki/Student%27s_t-test

NEW QUESTION 93
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You create a model to forecast weather conditions based on historical data.
You need to create a pipeline that runs a processing script to load data from a datastore and pass the processed data to a machine learning model training script.
Solution: Run the following code:

```
datastore = ws.get_default_datastore()
data_input = PipelineData("raw_data", datastore=rawdatastore)
data_output = PipelineData("processed_data", datastore=datastore)
process_step = PythonScriptStep(script_name="process.py",
 arguments=["--data_for_train", data_input],
 outputs=[data_output], compute_target=aml_compute,
 source_directory=process_directory)
train_step = PythonScriptStep(script_name="train.py",
 arguments=["--data_for_train", data_input], inputs=[data_output],
 compute_target=aml_compute, source_directory=train_directory)
pipeline = Pipeline(workspace=ws, steps=[process_step, train_step])
```

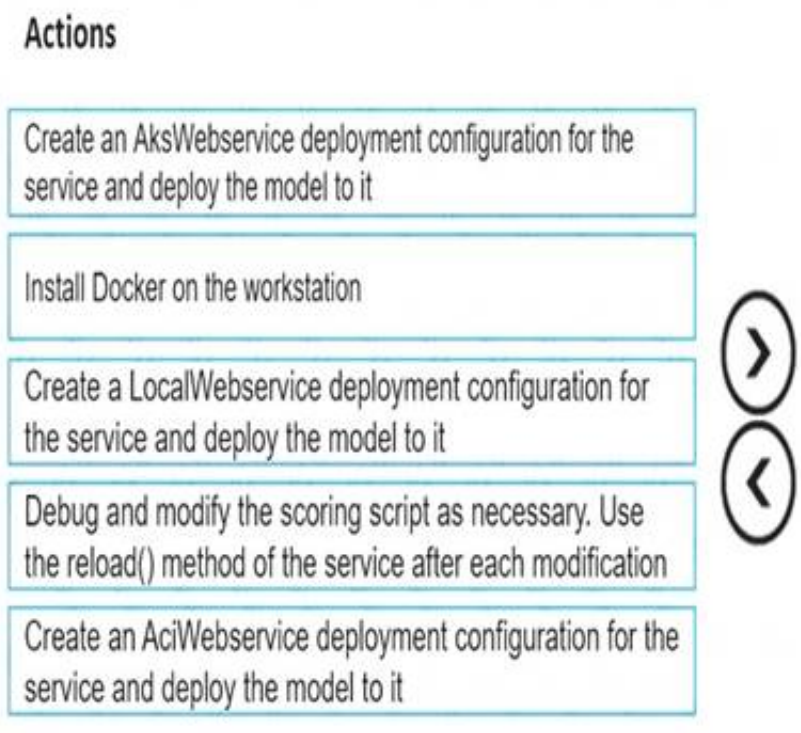
Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Note: Data used in pipeline can be produced by one step and consumed in another step by providing a PipelineData object as an output of one step and an input of one or more subsequent steps.
Compare with this example, the pipeline train step depends on the process_step_output output of the pipeline process step:
from azureml.pipeline.core import Pipeline, PipelineData from azureml.pipeline.steps import PythonScriptStep
datastore = ws.get_default_datastore()
process_step_output = PipelineData("processed_data", datastore=datastore) process_step = PythonScriptStep(script_name="process.py", arguments=["--data_for_train", process_step_output], outputs=[process_step_output], compute_target=aml_compute, source_directory=process_directory)
train_step = PythonScriptStep(script_name="train.py", arguments=["--data_for_train", process_step_output], inputs=[process_step_output], compute_target=aml_compute, source_directory=train_directory)
pipeline = Pipeline(workspace=ws, steps=[process_step, train_step]) Reference:
https://docs.microsoft.com/en-us/python/api/azureml-pipeline-core/azureml.pipeline.core.pipelinedata?view=azu

NEW QUESTION 98
- (Exam Topic 3)
You train and register a model by using the Azure Machine Learning SDK on a local workstation. Python 3.6 and Visual Studio Code are installed on the workstation.
When you try to deploy the model into production as an Azure Kubernetes Service (AKS)-based web service, you experience an error in the scoring script that causes deployment to fail.
You need to debug the service on the local workstation before deploying the service to production.
Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, email Description automatically generated
Step 1: Install Docker on the workstation
Prerequisites include having a working Docker installation on your local system. Build or download the dockerfile to the compute node.
Step 2: Create an AksWebservice deployment configuration and deploy the model to it
To deploy a model to Azure Kubernetes Service, create a deployment configuration that describes the compute resources needed.
# If deploying to a cluster configured for dev/test, ensure that it was created with enough
# cores and memory to handle this deployment configuration. Note that memory is also used by
# things such as dependencies and AML components.
deployment_config = AksWebservice.deploy_configuration(cpu_cores = 1, memory_gb = 1)
service = Model.deploy(ws, "myservice", [model], inference_config, deployment_config, aks_target) service.wait_for_deployment(show_output = True)
print(service.state) print(service.get_logs())
Step 3: Create a LocalWebservice deployment configuration for the service and deploy the model to it
To deploy locally, modify your code to use LocalWebservice.deploy_configuration() to create a deployment configuration. Then use Model.deploy() to deploy the service.
Step 4: Debug and modify the scoring script as necessary. Use the reload() method of the service after each modification.
During local testing, you may need to update the score.py file to add logging or attempt to resolve any problems that you've discovered. To reload changes to the score.py file, use reload(). For example, the following code reloads the script for the service, and then sends data to it.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-deploy-azure-kubernetes-service https://docs.microsoft.com/en-us/azure/machine-learning/how-to-troubleshoot-deployment-local

NEW QUESTION 101
- (Exam Topic 3)
You plan to explore demographic data for home ownership in various cities. The data is in a CSV file with the following format:

age,city,income,home_owner 21,Chicago,50000,0 35,Seattle,120000,1 23,Seattle,65000,0 45,Seattle,130000,1 18,Chicago,48000,0
You need to run an experiment in your Azure Machine Learning workspace to explore the data and log the results. The experiment must log the following information:

- the number of observations in the dataset
- a box plot of income by home_owner
- a dictionary containing the city names and the average income for each city

You need to use the appropriate logging methods of the experiment's run object to log the required information.
How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments

log
log_list
log_row
log_table
log_image

Answer Area

```
from azureml.core import Experiment, Run
import pandas as pd
import matplotlib.pyplot as plt
# Create an Azure ML experiment in workspace
experiment = Experiment(workspace = ws, name = "demo-experiment")
# Start logging data from the experiment
run = experiment.start_logging()
# load the dataset
data = pd.read_csv('research/demographics.csv')
# Log the number of observations
row_count = (len(data))
run. Segment ("observations", row_count)
# Log box plot for income by home_owner
fig = plt.figure(figsize=(9, 6))
ax = fig.gca()
data.boxplot(column = 'income', by = "home_owner", ax = ax)
ax.set_title('income by home_owner')
ax.set_ylabel('income')
run. Segment (name = 'income_by_home_owner', plot = fig)
# Create a dataframe of mean income per city
mean_inc_df = data.groupby('city')['income'].agg(np.mean).to_frame().reset_index()
# Convert to a dictionary
mean_inc_dict = mean_inc_df.to_dict('dict')
# Log city names and average income dictionary
run. Segment (name="mean_income_by_city", value= mean_inc_dict)
# Complete tracking and get link to details
run.complete()
```

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: log
The number of observations in the dataset. run.log(name, value, description='')
Scalar values: Log a numerical or string value to the run with the given name. Logging a metric to a run causes that metric to be stored in the run record in the experiment. You can log the same metric multiple times within a run, the result being considered a vector of that metric.
Example: run.log("accuracy", 0.95)
Box 2: log_image
A box plot of income by home_owner.
log_image Log an image to the run record. Use log_image to log a .PNG image file or a matplotlib plot to the run. These images will be visible and comparable in the run record.
Example: run.log_image("ROC", plot=plt) Box 3: log_table
A dictionary containing the city names and the average income for each city. log_table: Log a dictionary object to the run with the given name.

NEW QUESTION 106
- (Exam Topic 3)
You write code to retrieve an experiment that is run from your Azure Machine Learning workspace.
The run used the model interpretation support in Azure Machine Learning to generate and upload a model explanation.
Business managers in your organization want to see the importance of the features in the model.
You need to print out the model features and their relative importance in an output that looks similar to the following.

Feature	Importance
0	1.5627435610083558
2	0.6077689312583112
4	0.5574002432900718
3	0.42858759955671777
1	0.3501361539771977

How should you complete the code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

```
# Assume required modules are imported

ws = Workspace.from_config()
feature_importances = explanation.[ ▼ ]( workspace = ws,
                                         experiment_name='train_and_explain',
                                         run_id='train_and_explain_12345')
explanation = client.[ ▼ ]()
feature_importances = explanation.[ ▼ ]()

for key, value in feature_importances.items():
    print(key, "\t", value)
```

from_run	upload_model_explanation
list_model_explanations	list_model_explanations
from_run_id	run
download_model_explanation	download_model_explanation

explanation
explanation_client
get_feature_important_dict
download_model_explanation

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: from_run_id
from_run_id(workspace, experiment_name, run_id) Create the client with factory method given a run ID. Returns an instance of the explanations Client.
Parameters

- Workspace Workspace An object that represents a workspace.
- experiment_name str The name of an experiment.
- run_id str A GUID that represents a run.

Box 2: list_model_explanations
list_model_explanations returns a dictionary of metadata for all model explanations available.
Returns
A dictionary of explanation metadata such as id, data type, explanation: method, model type, and upload time, sorted by upload time
Box 3: explanation:
Reference:
https://docs.microsoft.com/en-us/python/api/azureml-contrib-interpret/azureml.contrib.interpret.

NEW QUESTION 110
- (Exam Topic 3)
You plan to provision an Azure Machine Learning Basic edition workspace for a data science project. You need to identify the tasks you will be able to perform in the workspace.
Which three tasks will you be able to perform? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point. D

A. Create a Compute Instance and use it to run code in Jupyter notebooks.
B. Create an Azure Kubernetes Service (AKS) inference cluster.
C. Use the designer to train a model by dragging and dropping pre-defined modules.
D. Create a tabular dataset that supports versioning.
E. Use the Automated Machine Learning user interface to train a model.

Answer: ABD

Explanation:
Reference:
https://azure.microsoft.com/en-us/pricing/details/machine-learning/

NEW QUESTION 111
- (Exam Topic 3)
You have a Python script that executes a pipeline. The script includes the following code: from azureml.core import Experiment
pipeline_run = Experiment(ws, 'pipeline_test').submit(pipeline) You want to test the pipeline before deploying the script.
You need to display the pipeline run details written to the STDOUT output when the pipeline completes. Which code segment should you add to the test script?

A. pipeline_run.get.metrics()
B. pipeline_run.wait_for_completion(show_output=True)
C. pipeline_param = PipelineParameter(name="stdout", default_value="console")
D. pipeline_run.get_status()

Answer: B

Explanation:
wait_for_completion: Wait for the completion of this run. Returns the status object after the wait. Syntax: wait_for_completion(show_output=False, wait_post_processing=False, raise_on_error=True) Parameter: show_output
Indicates whether to show the run output on sys.stdout.

NEW QUESTION 112
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
An IT department creates the following Azure resource groups and resources:

Resource group	Resources
ml_resources	• an Azure Machine Learning workspace named amlworkspace • an Azure Storage account named amlworkspace12345 • an Application Insights instance named amlworkspace54321 • an Azure Key Vault named amlworkspace67890 • an Azure Container Registry named amlworkspace09876
general_compute	A virtual machine named mlvm with the following configuration: • Operating system: Ubuntu Linux • Software installed: Python 3.6 and Jupyter Notebooks • Size: NC6 (6 vCPUs, 1 vGPU, 56 Gb RAM)

The IT department creates an Azure Kubernetes Service (AKS)-based inference compute target named
aks-cluster in the Azure Machine Learning workspace.
You have a Microsoft Surface Book computer with a GPU. Python 3.6 and Visual Studio Code are installed. You need to run a script that trains a deep neural network (DNN) model and logs the loss and accuracy
metrics.
Solution: Attach the mlvm virtual machine as a compute target in the Azure Machine Learning workspace. Install the Azure ML SDK on the Surface Book and run Python code to connect to the workspace. Run the training script as an experiment on the mlvm remote compute resource.

A. Yes
B. No

Answer: A

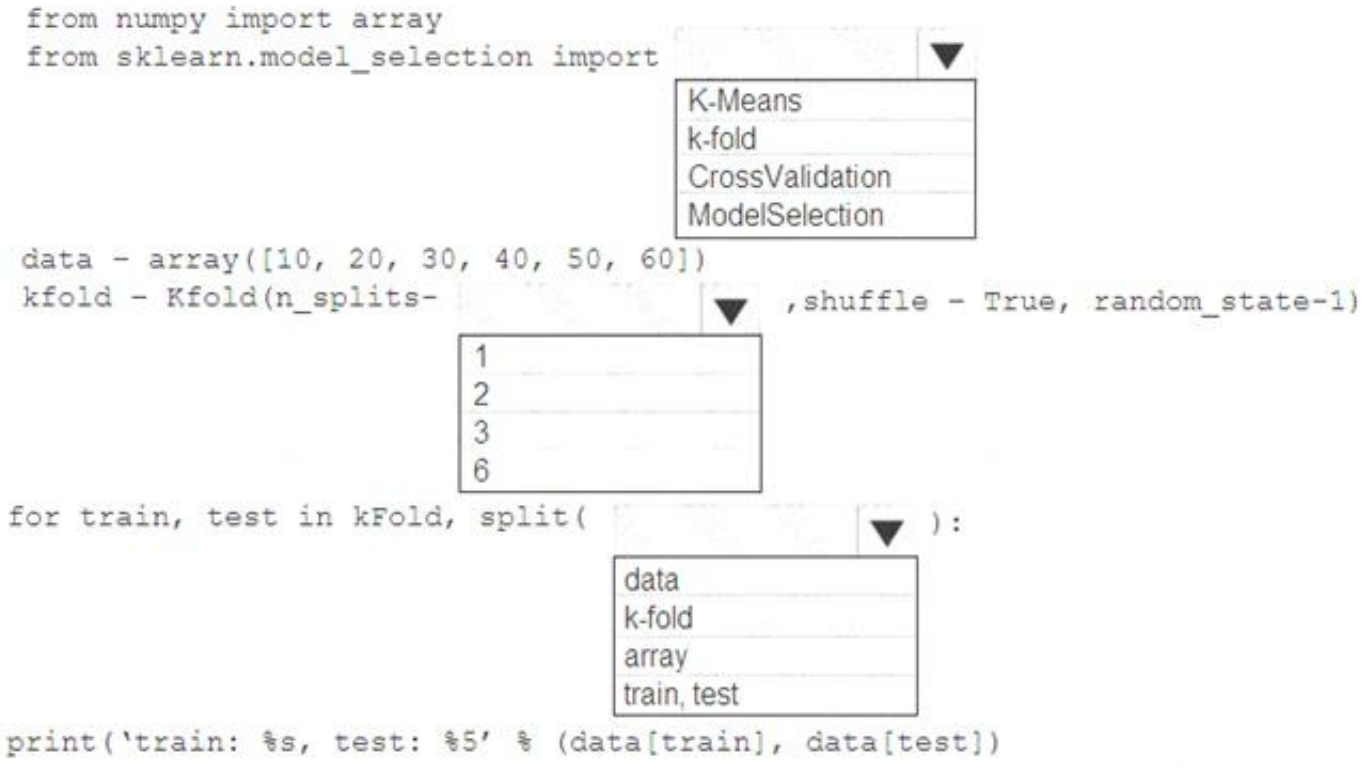
Explanation:
Use the VM as a compute target.
Note: A compute target is a designated compute resource/environment where you run your training script or host your service deployment. This location may be your local machine or a cloud-based compute resource.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-compute-target

NEW QUESTION 113
- (Exam Topic 3)
You arc creating a new experiment in Azure Machine Learning Studio. You have a small dataset that has missing values in many columns. The data does not require the application of predictors for each column. You plan to use the Clean Missing Data module to handle the missing data.
You need to select a data cleaning method. Which method should you use?

A. Synthetic Minority
B. Replace using Probabilistic PAC
C. Replace using MICE
D. Normalization

Answer: B

NEW QUESTION 118
- (Exam Topic 3)
You are evaluating a Python NumPy array that contains six data points defined as follows: data = [10, 20, 30, 40, 50, 60]
You must generate the following output by using the k-fold algorithm implantation in the Python Scikit-learn machine learning library:
train: [10 40 50 60], test: [20 30]
train: [20 30 40 60], test: [10 50]
train: [10 20 30 50], test: [40 60]
You need to implement a cross-validation to generate the output.
How should you complete the code segment? To answer, select the appropriate code segment in the dialog box in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: k-fold
Box 2: 3
K-F olds cross-validator provides train/test indices to split data in train/test sets. Split dataset into k consecutive folds (without shuffling by default).
The parameter n_splits (int, default=3) is the number of folds. Must be at least 2. Box 3: data
Example: Example:
>>>
>>> from sklearn.model_selection import KFold
>>> X = np.array([[1, 2], [3, 4], [1, 2], [3, 4]])
>>> y = np.array([1, 2, 3, 4])
>>> kf = KFold(n_splits=2)
>>> kf.get_n_splits(X) 2
>>> print(kf)
KFold(n_splits=2, random_state=None, shuffle=False)
>>> for train_index, test_index in kf.split(X): print("TRAIN:", train_index, "TEST:", test_index) X_train, X_test = X[train_index], X[test_index] y_train, y_test = y[train_index], y[test_index] TRAIN: [2 3] TEST: [0 1]
TRAIN: [0 1] TEST: [2 3]
References:
https://scikit-learn.org/stable/modules/generated/sklearn.model_selection.KFold.html

NEW QUESTION 123
- (Exam Topic 3)
You are building recurrent neural network to perform a binary classification.
The training loss, validation loss, training accuracy, and validation accuracy of each training epoch has been provided. You need to identify whether the classification model is over fitted.
Which of the following is correct?

A. The training loss increases while the validation loss decreases when training the model.
B. The training loss decreases while the validation loss increases when training the model.
C. The training loss stays constant and the validation loss decreases when training the model.
D. The training loss .stays constant and the validation loss stays on a constant value and close to the training loss value when training the model.

Answer: B

Explanation:
An overfit model is one where performance on the train set is good and continues to improve, whereas performance on the validation set improves to a point and then begins to degrade.
References:
https://machinelearningmastery.com/diagnose-overfitting-underfitting-lstm-models/

NEW QUESTION 125
- (Exam Topic 3)
You train and register a model in your Azure Machine Learning workspace.
You must publish a pipeline that enables client applications to use the model for batch inferencing. You must use a pipeline with a single ParallelRunStep step that runs a Python inferencing script to get predictions from the input data.
You need to create the inferencing script for the ParallelRunStep pipeline step.
Which two functions should you include? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. run(mini_batch) D
B. main()

C. batch()
D. init()
E. score(mini_batch)

Answer: AD

Explanation:
Reference:
https://github.com/Azure/MachineLearningNotebooks/tree/master/how-to-use-azureml/machine-learningpipelin

NEW QUESTION 130
- (Exam Topic 3)
You are solving a classification task.
You must evaluate your model on a limited data sample by using k-fold cross-validation. You start by configuring a k parameter as the number of splits.
You need to configure the k parameter for the cross-validation. Which value should you use?

A. k=1
B. k=10
C. k=0.5
D. k=0.9

Answer: B

Explanation:
Leave One Out (LOO) cross-validation
Setting K = n (the number of observations) yields n-fold and is called leave-one out cross-validation (LOO), a special case of the K-fold approach.
LOO CV is sometimes useful but typically doesn't shake up the data enough. The estimates from each fold are highly correlated and hence their average can have high variance.
This is why the usual choice is K=5 or 10. It provides a good compromise for the bias-variance tradeoff.

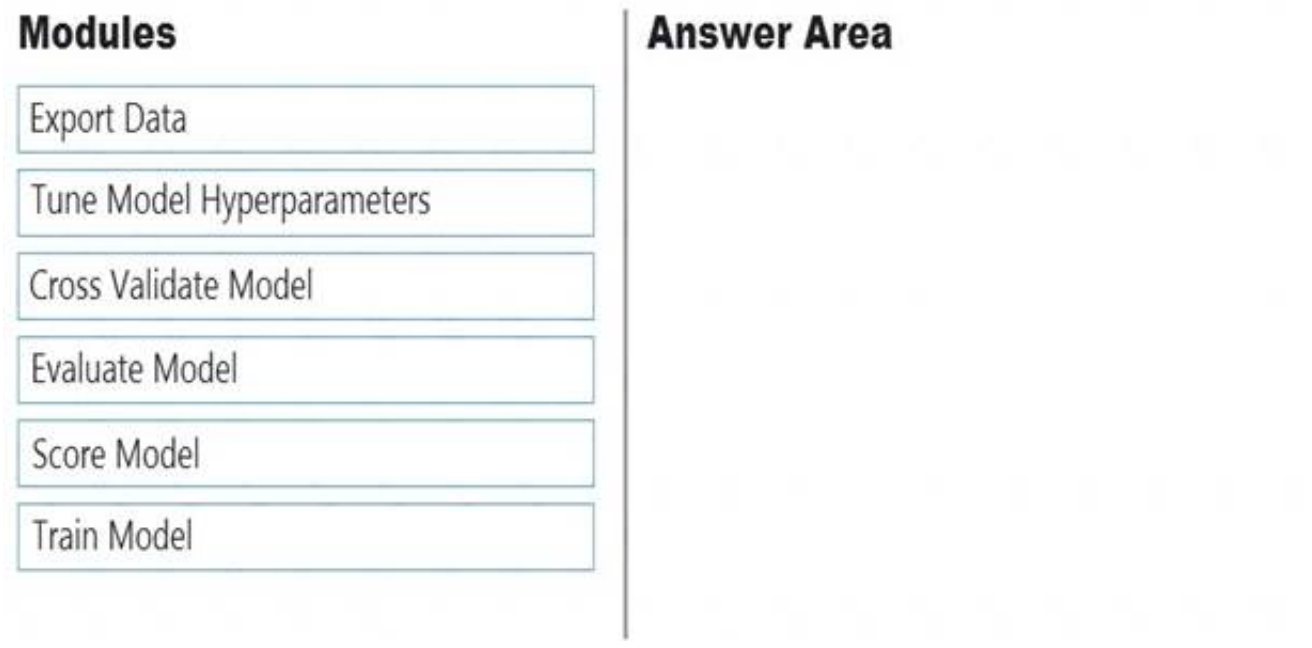
NEW QUESTION 132
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You plan to use a Python script to run an Azure Machine Learning experiment. The script creates a reference to the experiment run context, loads data from a file, identifies the set of unique values for the label column, and completes the experiment run:
from azureml.core import Run import pandas as pd
run = Run.get_context()
data = pd.read_csv('data.csv') label_vals = data['label'].unique()
# Add code to record metrics here run.complete()
The experiment must record the unique labels in the data as metrics for the run that can be reviewed later.
You must add code to the script to record the unique label values as run metrics at the point indicated by the comment.
Solution: Replace the comment with the following code:
run.upload_file('outputs/labels.csv', './data.csv') Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
label_vals has the unique labels (from the statement label_vals = data['label'].unique()), and it has to be logged.
Note:
Instead use the run_log function to log the contents in label_vals: for label_val in label_vals:
run.log('Label Values', label_val) Reference:
https://www.element61.be/en/resource/azure-machine-learning-services-complete-toolbox-ai

NEW QUESTION 136
- (Exam Topic 3)
You are building an experiment using the Azure Machine Learning designer.
You split a dataset into training and testing sets. You select the Two-Class Boosted Decision Tree as the algorithm.
You need to determine the Area Under the Curve (AUC) of the model.
Which three modules should you use in sequence? To answer, move the appropriate modules from the list of modules to the answer area and arrange them in the correct order.

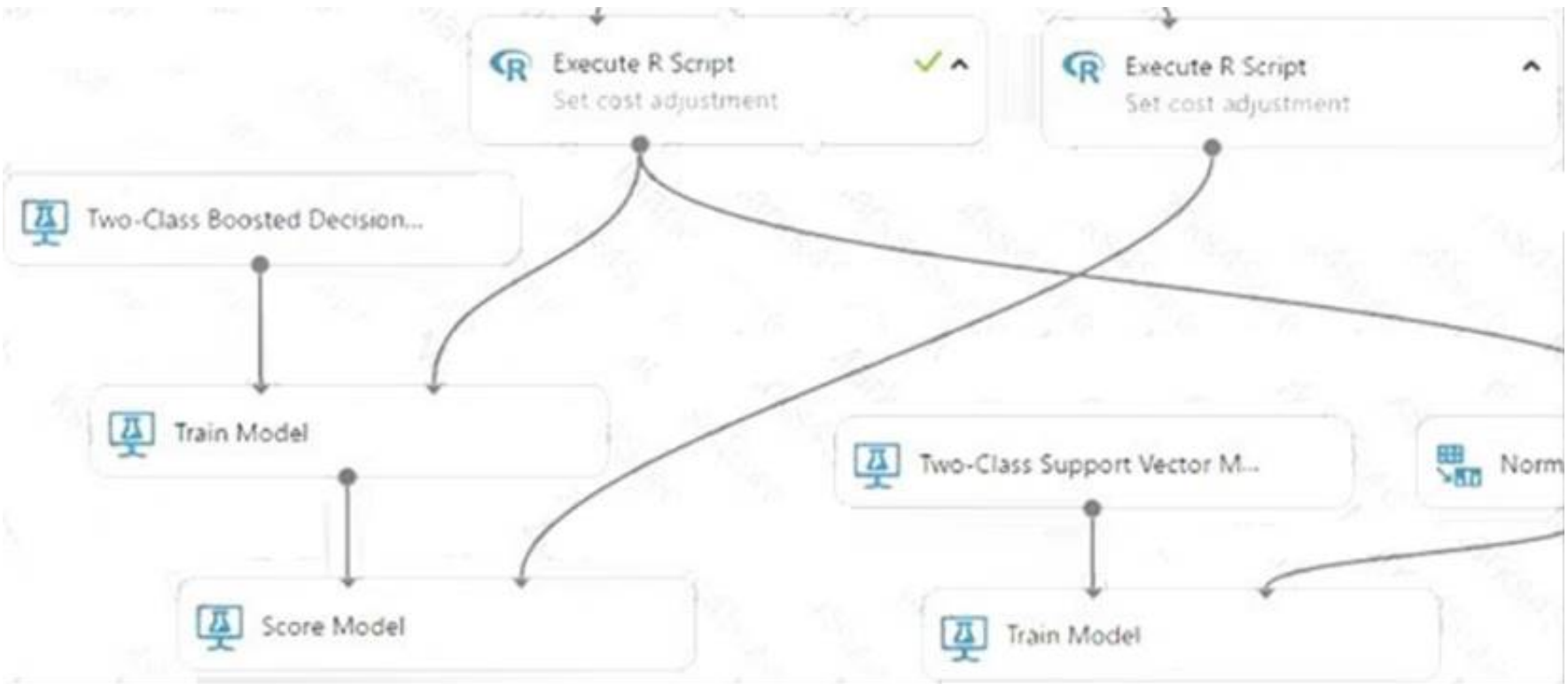


A. Mastered
B. Not Mastered

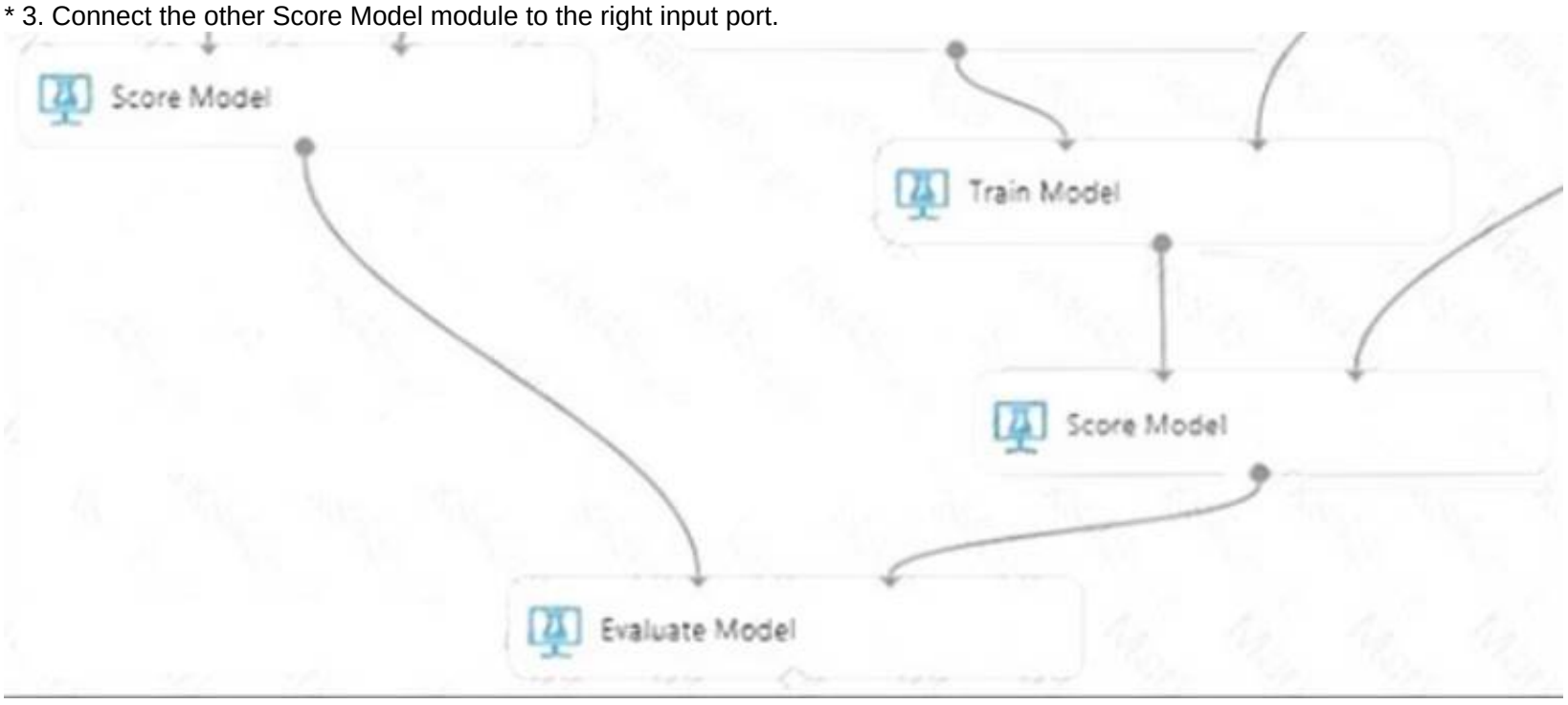
Answer: A

Explanation:
Step 1: Train Model
Two-Class Boosted Decision Tree
First, set up the boosted decision tree model.
* 1. Find the Two-Class Boosted Decision Tree module in the module palette and drag it onto the canvas.
* 2. Find the Train Model module, drag it onto the canvas, and then connect the output of the Two-Class Boosted Decision Tree module to the left input port of the Train Model module.
The Two-Class Boosted Decision Tree module initializes the generic model, and Train Model uses training data to train the model.
* 3. Connect the left output of the left Execute R Script module to the right input port of the Train Model
module (in this tutorial you used the data coming from the left side of the Split Data module for training). This portion of the experiment now looks something like this:

Step 2: Score Model
Score and evaluate the models
You use the testing data that was separated out by the Split Data module to score our trained models. You can then compare the results of the two models to see which generated better results.
Add the Score Model modules
* 1. Find the Score Model module and drag it onto the canvas.
* 2. Connect the Train Model module that's connected to the Two-Class Boosted Decision Tree module to the left input port of the Score Model module.
* 3. Connect the right Execute R Script module (our testing data) to the right input port of the Score Model module.



Step 3: Evaluate Model
To evaluate the two scoring results and compare them, you use an Evaluate Model module.
* 1. Find the Evaluate Model module and drag it onto the canvas.
* 2. Connect the output port of the Score Model module associated with the boosted decision tree model to the left input port of the Evaluate Model module.
* 3. Connect the other Score Model module to the right input port.



NEW QUESTION 140
- (Exam Topic 3)
You publish a batch inferencing pipeline that will be used by a business application.
The application developers need to know which information should be submitted to and returned by the REST interface for the published pipeline.
You need to identify the information required in the REST request and returned as a response from the published pipeline.
Which values should you use in the REST request and to expect in the response? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

REST Request	Value
Request Header	JSON containing the run ID JSON containing the pipeline ID JSON containing the experiment name JSON containing an OAuth bearer token
Response	JSON containing the run ID JSON containing the pipeline ID JSON containing the experiment name JSON containing an OAuth bearer token
Response	JSON containing the run ID JSON containing a list of predictions JSON containing the experiment name JSON containing a path to the parallel_run_step.txt output file

A. Mastered
B. Not Mastered

Answer: A

Explanation:

Box 1: JSON containing an OAuth bearer token Specify your authentication header in the request.
To run the pipeline from the REST endpoint, you need an OAuth2 Bearer-type authentication header. Box 2: JSON containing the experiment name
Add a JSON payload object that has the experiment name. Example:
rest_endpoint = published_pipeline.endpoint response = requests.post(rest_endpoint, headers=auth_header, json={"ExperimentName": "batch_scoring", "ParameterAssignments": {"process_count_per_node": 6}}) run_id = response.json()["Id"]
Box 3: JSON containing the run ID
Make the request to trigger the run. Include code to access the Id key from the response dictionary to get the value of the run ID.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/tutorial-pipeline-batch-scoring-classification

NEW QUESTION 144
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You train and register a machine learning model.
You plan to deploy the model as a real-time web service. Applications must use key-based authentication to use the model.
You need to deploy the web service.
Solution:
Create an AksWebservice instance.
Set the value of the auth_enabled property to False.
Set the value of the token_auth_enabled property to True.
Deploy the model to the service. Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Instead use only auth_enabled = TRUE Note: Key-based authentication.
Web services deployed on AKS have key-based auth enabled by default. ACI-deployed services have
key-based auth disabled by default, but you can enable it by setting auth_enabled = TRUE when creating the ACI web service. The following is an example of creating an ACI deployment configuration with key-based auth enabled.
deployment_config <- aci_webservice_deployment_config(cpu_cores = 1, memory_gb = 1,
auth_enabled = TRUE) Reference:
https://azure.github.io/azureml-sdk-for-r/articles/deploying-models.html

NEW QUESTION 146
- (Exam Topic 3)

```
train_cluster = ComputeTarget(workspace=work_space, name='train-cluster')
estimator = Estimator(source_directory =
 'training-experiment',
 script_params = {'--data-folder': data_source.as_mount(), '--regularization': 0.8},
 compute_target = train_cluster,
 entry_script = 'train.py',
 conda_packages = ['scikit-learn'])
```

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

Answer Area

	Yes	No
The estimator will look for the files it needs to run an experiment in the training-experiment directory of the local compute environment.	☑	○
The estimator will mount the local data-folder folder and make it available to the script through a parameter.	○	○
The train.py script file will be created if it does not exist.	○	○

A. Mastered
B. Not Mastered

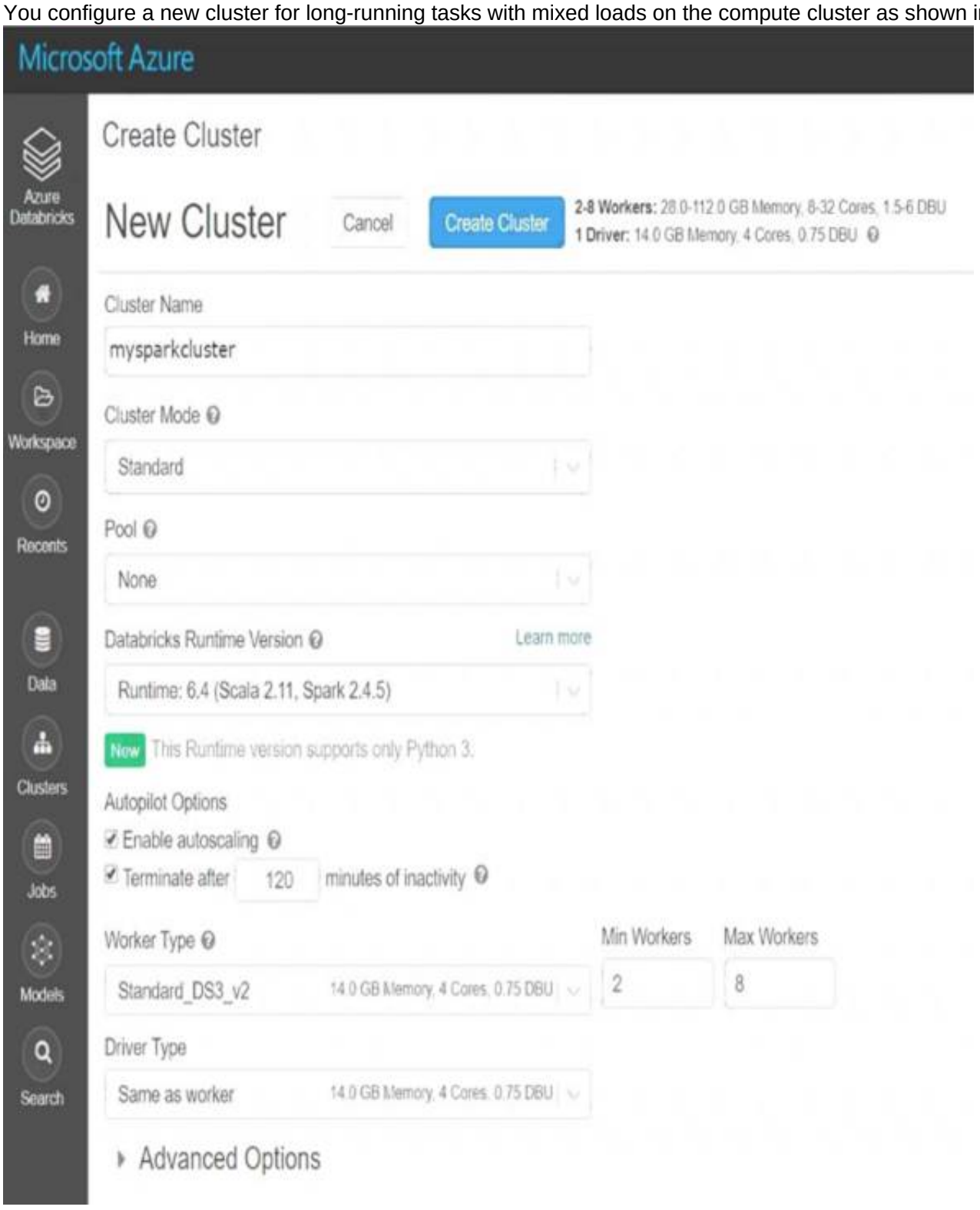
Answer: A

Explanation:

Answer Area

	Yes	No
The estimator will look for the files it needs to run an experiment in the training-experiment directory of the local compute environment.	☐	○
The estimator will mount the local data-folder folder and make it available to the script through a parameter.	○	○
The train.py script file will be created if it does not exist.	○	○

NEW QUESTION 148
- (Exam Topic 3)
You create a new Azure Databricks workspace.
You configure a new cluster for long-running tasks with mixed loads on the compute cluster as shown in the image below.



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.

Code for each user runs as a separate process [▼ Yes / No]

The number of workers is fixed for the entire duration of the job [▼ Yes / No]

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: No
Running user code in separate processes is not possible in Scala. Box 2: No
Autoscaling is enabled. Minimum 2 workers, Maximum 8 workers. Reference:
https://docs.databricks.com/clusters/configure.html

NEW QUESTION 149
- (Exam Topic 3)

```
source_directory=scripts_folder,
entry_script="batch_pipeline.py",
mini_batch_size="5",
error_threshold=10,
output_action="append_row",
environment=batch_env,
compute_target=compute_target,
logging_level="DEBUG",
node_count=4)
```

You need to obtain the output from the pipeline execution. Where will you find the output?

A. the Activity Log in the Azure portal for the Machine Learning workspace
B. a file named parallel_run_step.txt located in the output folder
C. the digitjdentification.py script
D. the Inference Clusters tab in Machine Learning studio
E. the debug log

Answer: B

Explanation:
output_action (str): How the output is to be organized. Currently supported values are 'append_row' and 'summary_only'.
- 'append_row' – All values output by run() method invocations will be aggregated into one unique file named parallel_run_step.txt that is created in the output location.
- 'summary_only' Reference:

https://docs.microsoft.com/en-us/python/api/azureml-contrib-pipeline-steps/azureml.contrib.pipeline.steps.parall

NEW QUESTION 150
- (Exam Topic 3)
You create a classification model with a dataset that contains 100 samples with Class A and 10,000 samples with Class B
The variation of Class B is very high. You need to resolve imbalances. Which method should you use?

A. Partition and Sample
B. Cluster Centroids
C. Tomek links
D. Synthetic Minority Oversampling Technique (SMOTE)

Answer: D

NEW QUESTION 153
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are a data scientist using Azure Machine Learning Studio.
You need to normalize values to produce an output column into bins to predict a target column. Solution: Apply an Equal Width with Custom Start and Stop binning mode.
Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Use the Entropy MDL binning mode which has a target column. References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/group-data-into-bins

NEW QUESTION 157
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are a data scientist using Azure Machine Learning Studio.

You need to normalize values to produce an output column into bins to predict a target column. Solution: Apply a Quantiles normalization with a QuantileIndex normalization.
Does the solution meet the GOAL?

A. Yes
B. No

Answer: B

Explanation:
Use the Entropy MDL binning mode which has a target column. References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/group-data-into-bins

NEW QUESTION 159
- (Exam Topic 3)
You train a classification model by using a decision tree algorithm.
You create an estimator by running the following Python code. The variable feature_names is a list of all feature names, and class_names is a list of all class names.
from interpret.ext.blackbox import TabularExplainer

```
explainer = TabularExplainer(model,
                             x_train,
                             features=feature_names,
                             classes=classe_names)
```

You need to explain the predictions made by the model for all classes by determining the importance of all features.
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

	Yes	No
The SHAP TreeExplainer will be used to interpret the model.	○	○
If you omit the features and classes parameters in the TabularExplainer instantiation, the explainer still works as expected.	○	○
You could interpret the model by using a MimicExplainer instead of a TabularExplainer.	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
s and visualizations more informative, you can choose to pass in feature names and output class names if doing classification.
Box 3: No
TabularExplainer automatically selects the most appropriate one for your use case, but you can call each of its three underlying explainers underneath (TreeExplainer, DeepExplainer, or KernelExplainer) directly.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-interpretability-aml

NEW QUESTION 161
- (Exam Topic 3)
You are a data scientist working for a bank and have used Azure ML to train and register a machine learning model that predicts whether a customer is likely to repay a loan.
You want to understand how your model is making selections and must be sure that the model does not violate government regulations such as denying loans based on where an applicant lives.
You need to determine the extent to which each feature in the customer data is influencing predictions. What should you do?

A. Enable data drift monitoring for the model and its training dataset.
B. Score the model against some test data with known label values and use the results to calculate a confusion matrix.
C. Use the Hyperdrive library to test the model with multiple hyperparameter values.
D. Use the interpretability package to generate an explainer for the model.
E. Add tags to the model registration indicating the names of the features in the training dataset.

Answer: D

Explanation:
for your model with different test data. The steps in this section show you how to compute and visualize engineered feature importance based on your test data.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-interpretability-automl

NEW QUESTION 163
- (Exam Topic 3)

You are performing feature engineering on a dataset.
You must add a feature named CityName and populate the column value with the text London.
You need to add the new feature to the dataset.
Which Azure Machine Learning Studio module should you use?

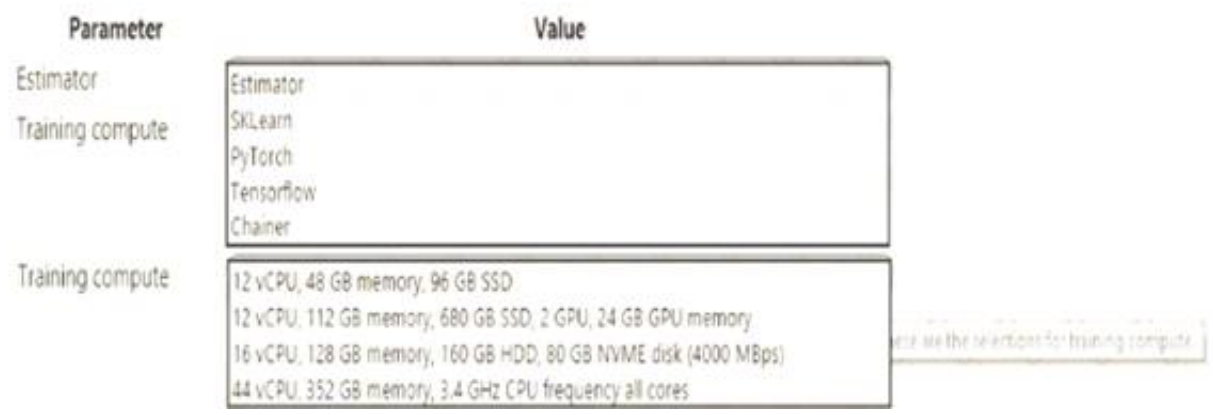
A. Edit Metadata
B. Preprocess Text
C. Execute Python Script
D. Latent Dirichlet Allocation

Answer: A

Explanation:
Typical metadata changes might include marking columns as features. References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/edit-metadata

NEW QUESTION 168
- (Exam Topic 3)
You create an Azure Machine Learning workspace and set up a development environment. You plan to train a deep neural network (DNN) by using the Tensorflow framework and by using estimators to submit training scripts.
You must optimize computation speed for training runs.
You need to choose the appropriate estimator to use as well as the appropriate training compute target configuration.
Which values should you use? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Tensorflow
TensorFlow represents an estimator for training in TensorFlow experiments. Box 2: 12 vCPU, 112 GB memory..,2 GPU,..
Use GPUs for the deep neural network. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-train-core/azureml.train.dnn

NEW QUESTION 172
- (Exam Topic 3)
You have a comma-separated values (CSV) file containing data from which you want to train a classification model.
You are using the Automated Machine Learning interface in Azure Machine Learning studio to train the classification model. You set the task type to Classification.
You need to ensure that the Automated Machine Learning process evaluates only linear models. What should you do?

A. Add all algorithms other than linear ones to the blocked algorithms list.
B. Set the Exit criterion option to a metric score threshold.
C. Clear the option to perform automatic featurization.
D. Clear the option to enable deep learning.
E. Set the task type to Regression.

Answer: C

Explanation:
Automatic featurization can fit non-linear models. Reference: https://econml.azurewebsites.net/spec/estimation/dml.html
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-use-automated-ml-for-ml-models

NEW QUESTION 175
- (Exam Topic 3)
You are developing a linear regression model in Azure Machine Learning Studio. You run an experiment to compare different algorithms.
The following image displays the results dataset output:

Algorithm	Mean Absolute Error	Root Mean Squared Error	Relative Absolute Error	Relative Squared Error
Bayesian Liner	3.276025	4.655442	0.511436	0.282138
Neural Network	2.676538	3.621476	0.417847	0.17073
Boosted Decision Tree	2.168847	2.878077	0.338589	0.107831
Linear	6.350005	8.720718	0.99133	0.99002
Decision Forest	2.390206	3.315 164	0.373146	0.14307

Use the drop-down menus to select the answer choice that answers each question based on the information presented in the image.
NOTE: Each correct selection is worth one point.

Question	Answer choice
Which algorithm minimizes differences between actual and predicted values?	Bayesian Linear Regression Neural Network Regression Boosted Decision Tree Regression Linear Regression Decision Forest Regression
Which approach should you use to find the best parameters for a Linear Regression model for the Online Gradient Descent method?	Set the Decrease learning rate option to True. Set the Decrease learning rate option to True. Set the Create trainer mode option to Parameter Range. Increase the number of epochs. Decrease the number of epochs.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Boosted Decision Tree Regression
Mean absolute error (MAE) measures how close the predictions are to the actual outcomes; thus, a lower score is better.
Box 2:
Online Gradient Descent: If you want the algorithm to find the best parameters for you, set Create trainer mode option to Parameter Range. You can then specify multiple values for the algorithm to try.
References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/evaluate-model https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/linear-regression

NEW QUESTION 179
- (Exam Topic 3)
You create an Azure Machine Learning compute target named ComputeOne by using the STANDARD_D1 virtual machine image.
You define a Python variable named was that references the Azure Machine Learning workspace. You run the following Python code:

```
from azureml.core.compute import ComputeTarget, AmlCompute
from azureml.core.compute_target import ComputeTargetException
the_cluster_name = "ComputeOne"
try:
  the_cluster = ComputeTarget(workspace=ws, name=the_cluster_name)
  print('Step1')
except ComputeTargetException:
  config = AmlCompute.provisioning_configuration(vm_size='STANDARD_DS12_v2', max_nodes=4)
  the_cluster = ComputeTarget.create(ws, the_cluster_name, config)
  print('Step2')
```

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

	Yes	No
A new machine learning compute resource is created with a virtual machine size of STANDARD_DS12_v2 and a maximum of four nodes.	O	O
Any experiments configured to use `the_cluster` will run on ComputeOne.	O	O
The text **Step1** will be printed to the screen.	O	O

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1:Yes
ComputeTargetException class: An exception related to failures when creating, interacting with, or configuring a compute target. This exception is commonly raised for failures attaching a compute target,
missing headers, and unsupported configuration values. Create(workspace, name, provisioning_configuration)
Provision a Compute object by specifying a compute type and related configuration. This method creates a new compute target rather than attaching an existing one. Box 2: Yes
Box 3: No
The line before print('Step1') will fail. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.compute.computetarget

NEW QUESTION 182
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these
questions will not appear in the review screen.
You are creating a model to predict the price of a student's artwork depending on the following variables: the student's length of education, degree type, and art form.
You start by creating a linear regression model. You need to evaluate the linear regression model.
Solution: Use the following metrics: Mean Absolute Error, Root Mean Absolute Error, Relative Absolute Error, Accuracy, Precision, Recall, F1 score, and AUC.
Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Accuracy, Precision, Recall, F1 score, and AUC are metrics for evaluating classification models. Note: Mean Absolute Error, Root Mean Absolute Error, Relative Absolute Error are OK for the linear
regression model.
References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/evaluate-model

NEW QUESTION 186
- (Exam Topic 3)
You plan to run a script as an experiment using a Script Run Configuration. The script uses modules from the scipy library as well as several Python packages that are not typically installed in a default conda environment
You plan to run the experiment on your local workstation for small datasets and scale out the experiment by running it on more powerful remote compute clusters for larger datasets.
You need to ensure that the experiment runs successfully on local and remote compute with the least administrative effort.
What should you do?

A. Create and register an Environment that includes the required package
B. Use this Environment for all experiment runs.
C. Always run the experiment with an Estimator by using the default packages.
D. Do not specify an environment in the run configuration for the experimen
E. Run the experiment by using the default environment.
F. Create a config.yaml file defining the conda packages that are required and save the file in the experiment folder.
G. Create a virtual machine (VM) with the required Python configuration and attach the VM as a compute targe
H. Use this compute target for all experiment runs.

Answer: A

Explanation:
If you have an existing Conda environment on your local computer, then you can use the service to create an environment object. By using this strategy, you can reuse your local interactive environment on remote runs.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-use-environments

NEW QUESTION 189
- (Exam Topic 3)
You are creating a new Azure Machine Learning pipeline using the designer.
The pipeline must train a model using data in a comma-separated values (CSV) file that is published on a website. You have not created a dataset for this file.
You need to ingest the data from the CSV file into the designer pipeline using the minimal administrative effort.
Which module should you add to the pipeline in Designer?

A. Convert to CSV
B. Enter Data Manually D
C. Import Data
D. Dataset

Answer: D

Explanation:
The preferred way to provide data to a pipeline is a Dataset object. The Dataset object points to data that lives in or is accessible from a datastore or at a Web URL. The Dataset class is abstract, so you will create an instance of either a FileDataset (referring to one or more files) or a TabularDataset that's created by from one or more files with delimited columns of data.
Example:
from azureml.core import Dataset
iris_tabular_dataset = Dataset.Tabular.from_delimited_files([(def_blob_store, 'train-dataset/iris.csv')]) Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-create-your-first-pipeline

NEW QUESTION 194
- (Exam Topic 3)
You create an Azure Machine Learning compute resource to train models. The compute resource is configured as follows:
- Minimum nodes: 2
- Maximum nodes: 4

You must decrease the minimum number of nodes and increase the maximum number of nodes to the following values:
- Minimum nodes: 0
- Maximum nodes: 8

You need to reconfigure the compute resource.
What are three possible ways to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Use the Azure Machine Learning studio.
B. Run the update method of the AmlCompute class in the Python SDK.
C. Use the Azure portal.
D. Use the Azure Machine Learning designer.
E. Run the refresh_state() method of the BatchCompute class in the Python SDK

Answer: ABC

Explanation:
Reference:
https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.compute.amlcompute(class)

NEW QUESTION 198
- (Exam Topic 3)
You are a data scientist creating a linear regression model.
You need to determine how closely the data fits the regression line. Which metric should you review?

A. Coefficient of determination
B. Recall
C. Precision
D. Mean absolute error
E. Root Mean Square Error

Answer: A

Explanation:
Coefficient of determination, often referred to as R2, represents the predictive power of the model as a value between 0 and 1. Zero means the model is random (explains nothing); 1 means there is a perfect fit. However, caution should be used in interpreting R2 values, as low values can be entirely normal and high values can be suspect.
References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/evaluate-model

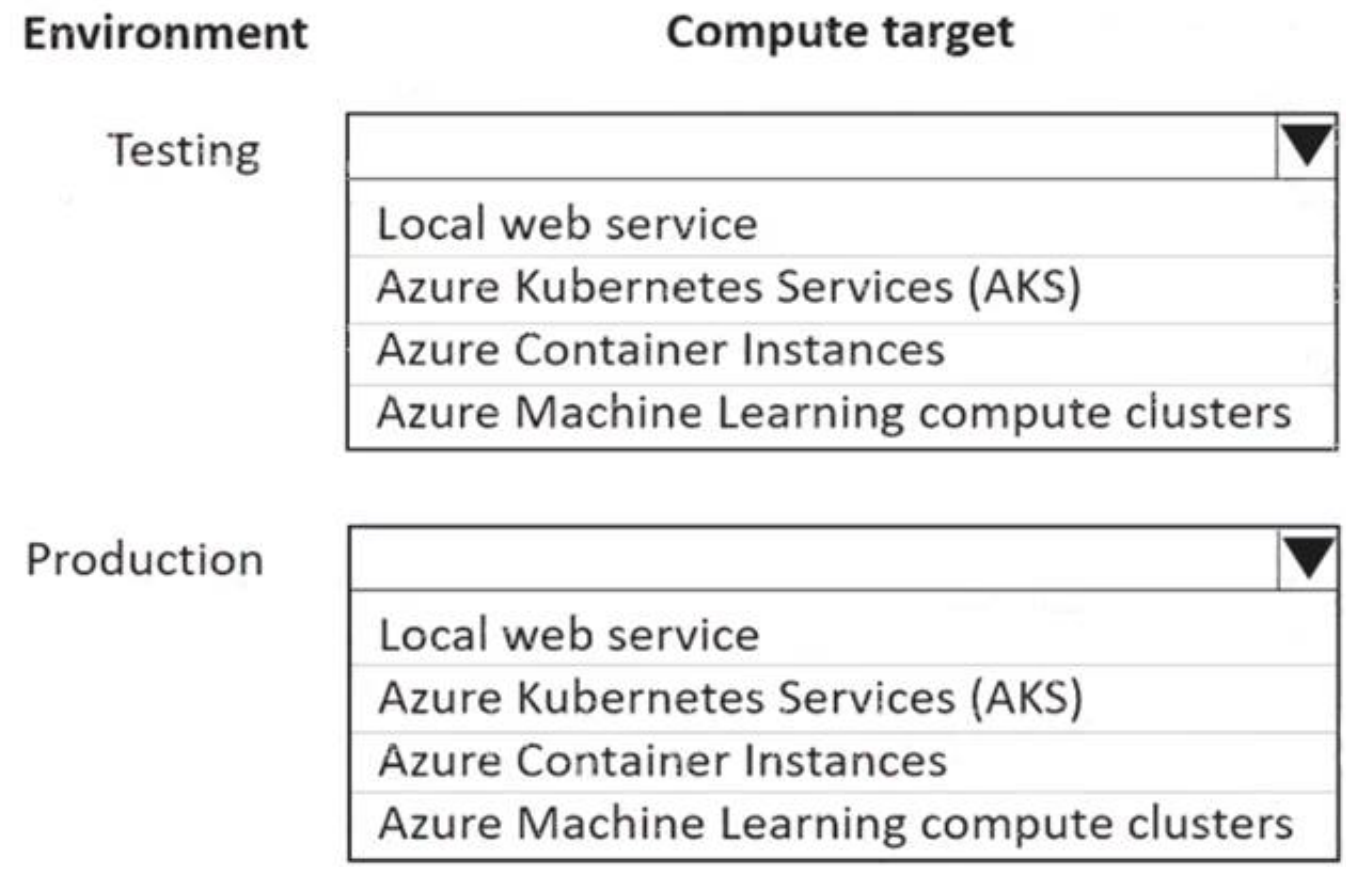
NEW QUESTION 201
- (Exam Topic 3)
You create a deep learning model for image recognition on Azure Machine Learning service using GPU-based training.
You must deploy the model to a context that allows for real-time GPU-based inferencing. You need to configure compute resources for model inferencing.
Which compute type should you use?

A. Azure Container Instance
B. Azure Kubernetes Service
C. Field Programmable Gate Array
D. Machine Learning Compute

Answer: B

Explanation:
You can use Azure Machine Learning to deploy a GPU-enabled model as a web service. Deploying a model on Azure Kubernetes Service (AKS) is one option. The AKS cluster provides a GPU resource that is used by the model for inference.
Inference, or model scoring, is the phase where the deployed model is used to make predictions. Using GPUs instead of CPUs offers performance advantages on highly parallelizable computation.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-deploy-inferencing-gpus

NEW QUESTION 202
- (Exam Topic 3)
You are using an Azure Machine Learning workspace. You set up an environment for model testing and an environment for production.
The compute target for testing must minimize cost and deployment efforts. The compute target for production must provide fast response time, autoscaling of the deployed service, and support real-time inferencing.
You need to configure compute targets for model testing and production.
Which compute targets should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

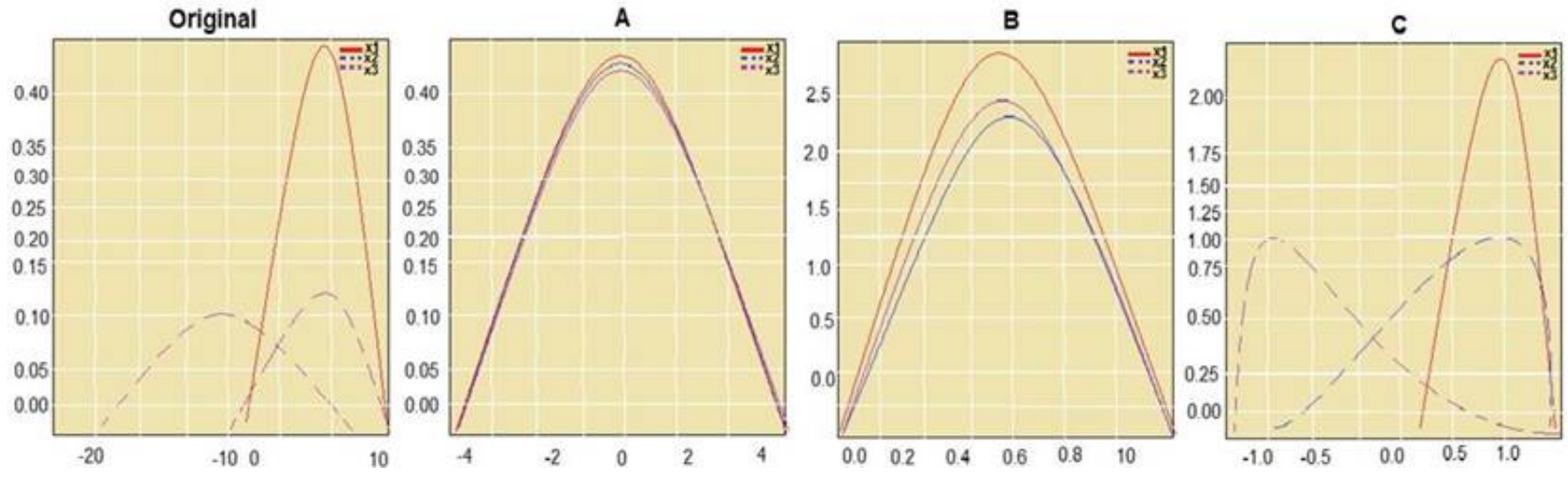


A. Mastered
B. Not Mastered

Answer: A

Explanation:
Text, application Description automatically generated
Box 1: Local web service
The Local web service compute target is used for testing/debugging. Use it for limited testing and troubleshooting. Hardware acceleration depends on use of libraries in the local system.
Box 2: Azure Kubernetes Service (AKS)
Azure Kubernetes Service (AKS) is used for Real-time inference. Recommended for production workloads.
Use it for high-scale production deployments. Provides fast response time and autoscaling of the deployed service
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/concept-compute-target

NEW QUESTION 207
- (Exam Topic 3)
You are performing feature scaling by using the scikit-learn Python library for x.1 x2, and x3 features. Original and scaled data is shown in the following image.



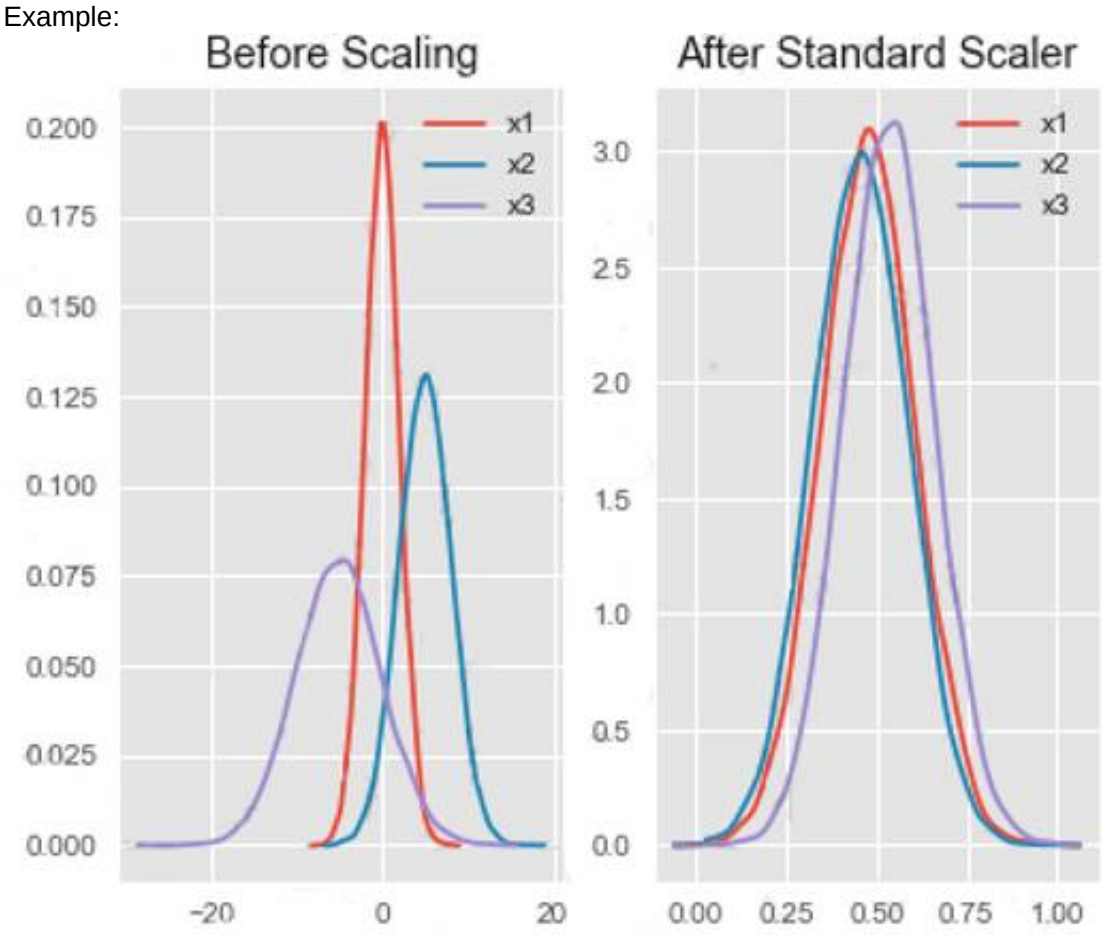
Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.

Question	Answer choice
Which scaler is used in graph A?	Standard Scaler / Min Max Scale / Normalizer
Which scaler is used in graph B?	Standard Scaler / Min Max Scale / Normalizer
Which scaler is used in graph C?	Standard Scaler / Min Max Scale / Normalizer

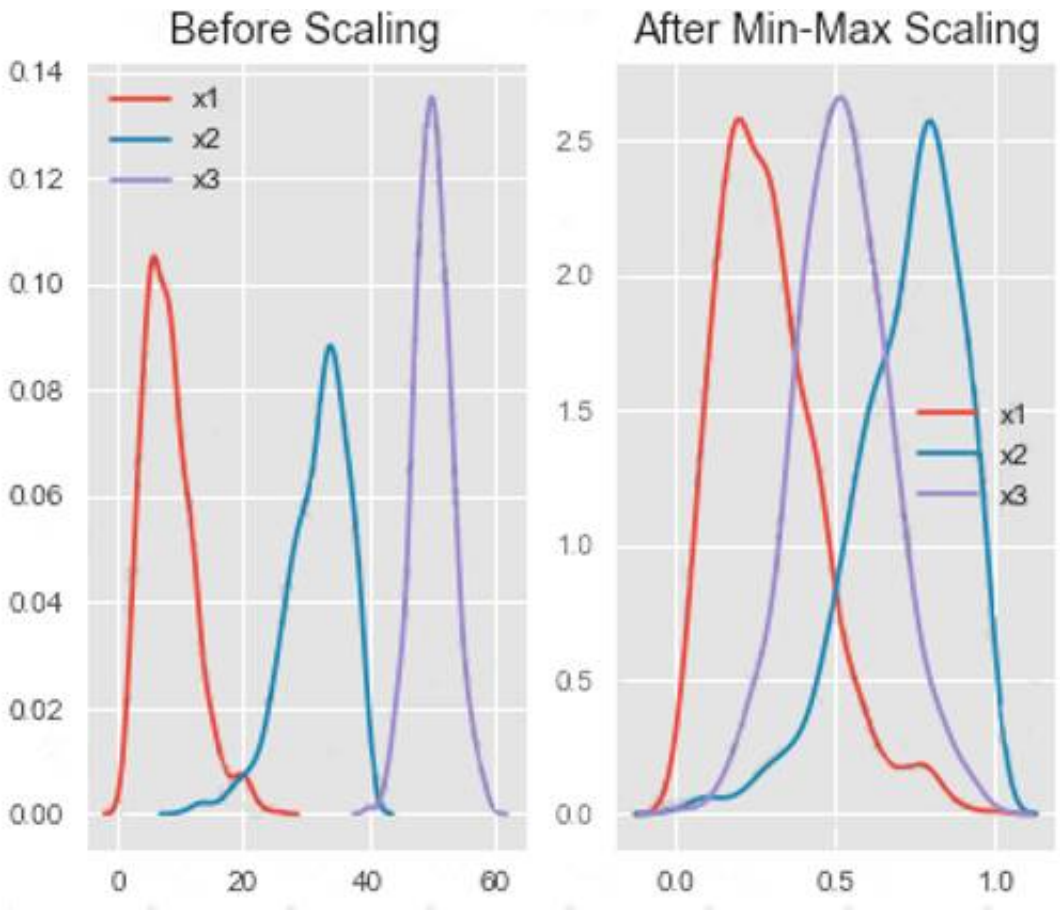
A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: StandardScaler
The StandardScaler assumes your data is normally distributed within each feature and will scale them such that the distribution is now centred around 0, with a standard deviation of 1.
Example:



All features are now on the same scale relative to one another. Box 2: Min Max Scaler



Notice that the skewness of the distribution is maintained but the 3 distributions are brought into the same scale so that they overlap.
Box 3: Normalizer
References:
http://benalexkeen.com/feature-scaling-with-scikit-learn/

NEW QUESTION 211
- (Exam Topic 3)
You use Azure Machine Learning to train a model based on a dataset named dataset1. You define a dataset monitor and create a dataset named dataset2 that contains new data.
You need to compare dataset1 and dataset2 by using the Azure Machine Learning SDK for Python. Which method of the DataDriftDetector class should you use?

A. run
B. get
C. backfill
D. update

Answer: C

Explanation:
A backfill run is used to see how data changes over time. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-datadrift/azureml.datadrift.datadriftdetector.datadriftdetect

NEW QUESTION 216
- (Exam Topic 3)
You create a binary classification model. The model is registered in an Azure Machine Learning workspace. You use the Azure Machine Learning Fairness SDK to assess the model fairness.
You develop a training script for the model on a local machine.
You need to load the model fairness metrics into Azure Machine Learning studio. What should you do?

A. Implement the download_dashboard_by_upload_id function
B. Implement the creace_group_metric_sec function
C. Implement the upload_dashboard_dictionary function
D. Upload the training script

Answer: C

Explanation:
import azureml.contrib.fairness package to perform the upload:
from azureml.contrib.fairness import upload_dashboard_dictionary, download_dashboard_by_upload_id Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-fairness-aml

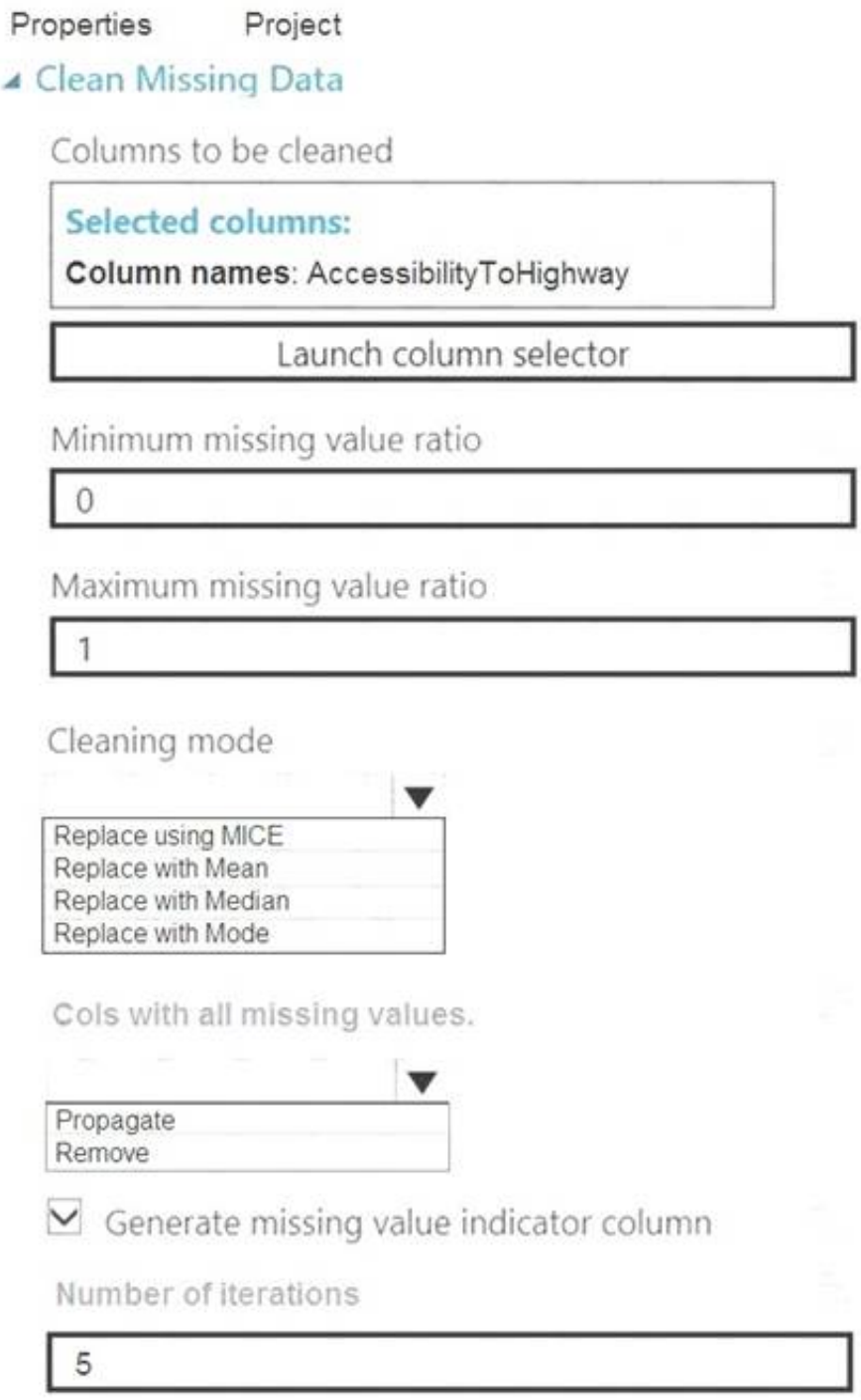
NEW QUESTION 218
- (Exam Topic 3)
You run a script as an experiment in Azure Machine Learning.
You have a Run object named run that references the experiment run. You must review the log files that were generated during the experiment run.
You need to download the log files to a local folder for review.
Which two code segments can you run to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. run.get_details()
B. run.get_file_names()
C. run.get_metrics()
D. run.download_files(output_directory='./runfiles')
E. run.get_all_logs(destination='./runlogs')

Answer: AE

Explanation:
The run Class get_all_logs method downloads all logs for the run to a directory.
The run Class get_details gets the definition, status information, current log files, and other details of the run. Reference:
https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.run(class)

NEW QUESTION 220
- (Exam Topic 2)
You need to replace the missing data in the AccessibilityToHighway columns.
How should you configure the Clean Missing Data module? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Replace using MICE
Replace using MICE: For each missing value, this option assigns a new value, which is calculated by using a method described in the statistical literature as "Multivariate Imputation using Chained Equations" or "Multiple Imputation by Chained Equations". With a multiple imputation method, each variable with missing data is modeled conditionally using the other variables in the data before filling in the missing values.
Scenario: The AccessibilityToHighway column in both datasets contains missing values. The missing data must be replaced with new data so that it is modeled conditionally using the other variables in the data before filling in the missing values.
Box 2: Propagate
Cols with all missing values indicate if columns of all missing values should be preserved in the output. References:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/clean-missing-data

NEW QUESTION 221
- (Exam Topic 1)
You need to implement a feature engineering strategy for the crowd sentiment local models. What should you do?

A. Apply an analysis of variance (ANOVA).
B. Apply a Pearson correlation coefficient.
C. Apply a Spearman correlation coefficient.
D. Apply a linear discriminant analysis.

Answer: D

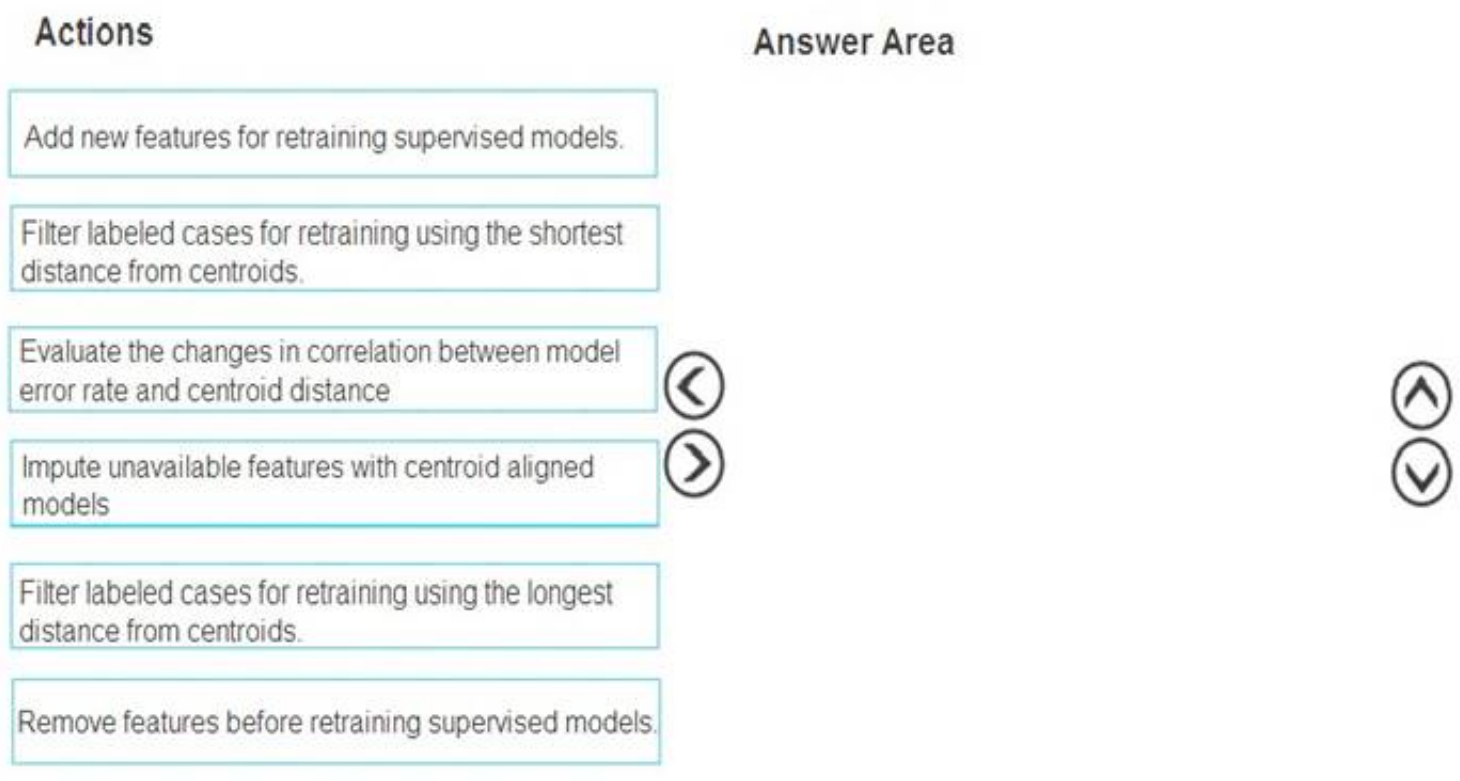
Explanation:
The linear discriminant analysis method works only on continuous variables, not categorical or ordinal variables.
Linear discriminant analysis is similar to analysis of variance (ANOVA) in that it works by comparing the means of the variables.
Scenario:
Data scientists must build notebooks in a local environment using automatic feature engineering and model building in machine learning pipelines.
Experiments for local crowd sentiment models must combine local penalty detection data. All shared features for local models are continuous variables.

NEW QUESTION 223
- (Exam Topic 1)
You need to select an environment that will meet the business and data requirements. Which environment should you use?

A. Azure HDInsight with Spark MLlib
B. Azure Cognitive Services
C. Azure Machine Learning Studio
D. Microsoft Machine Learning Server

Answer: D

NEW QUESTION 224
- (Exam Topic 1)
You need to define an evaluation strategy for the crowd sentiment models.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

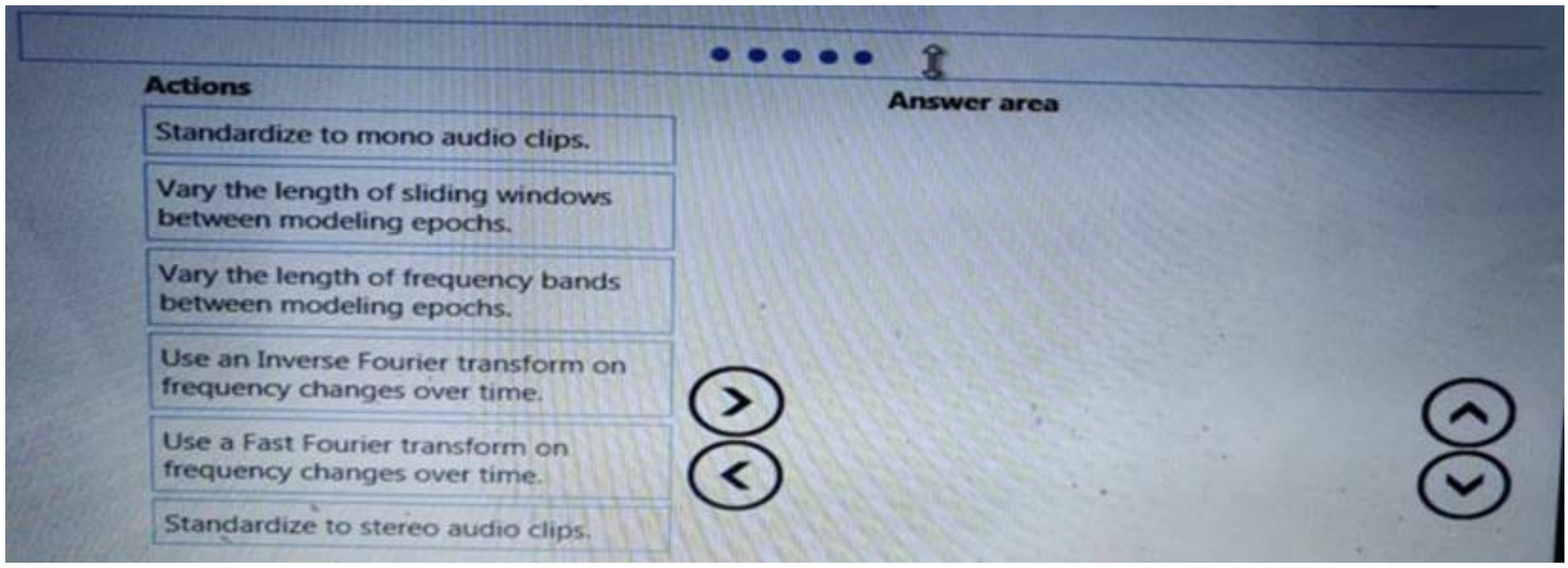


A. Mastered
B. Not Mastered

Answer: A

Explanation:
Scenario:
Experiments for local crowd sentiment models must combine local penalty detection data.
Crowd sentiment models must identify known sounds such as cheers and known catch phrases. Individual crowd sentiment models will detect similar sounds.
Note: Evaluate the changed in correlation between model error rate and centroid distance
In machine learning, a nearest centroid classifier or nearest prototype classifier is a classification model that assigns to observations the label of the class of training samples whose mean (centroid) is closest to the observation.
References: https://en.wikipedia.org/wiki/Nearest_centroid_classifier
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/sweep-clustering

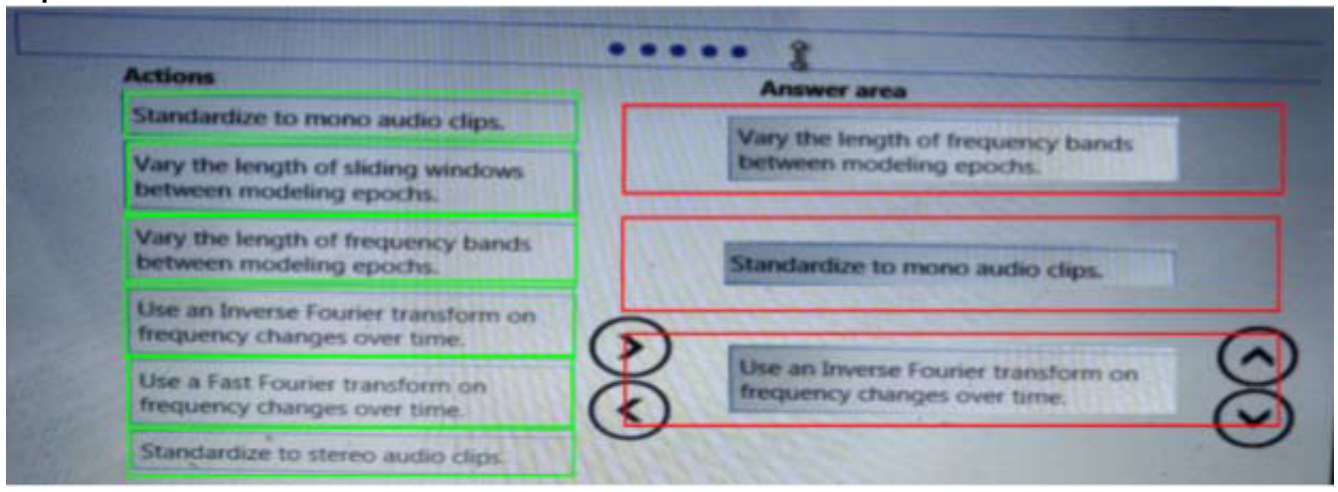
NEW QUESTION 228
- (Exam Topic 1)
You need to define a process for penalty event detection.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



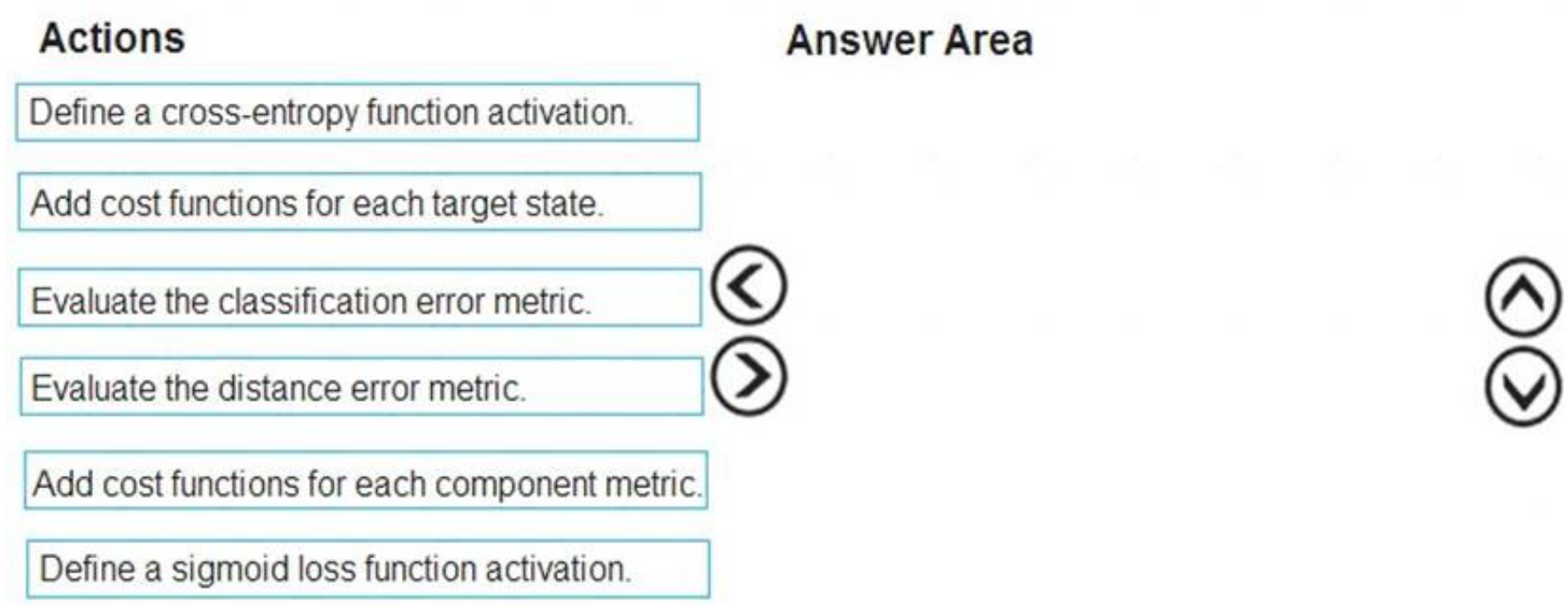
A. Mastered
B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 232
- (Exam Topic 1)
You need to define an evaluation strategy for the crowd sentiment models.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: Define a cross-entropy function activation
When using a neural network to perform classification and prediction, it is usually better to use cross-entropy error than classification error, and somewhat better to use cross-entropy error than mean squared error to evaluate the quality of the neural network.
Step 2: Add cost functions for each target state. Step 3: Evaluated the distance error metric. References:
https://www.analyticsvidhya.com/blog/2018/04/fundamentals-deep-learning-regularization-techniques/

NEW QUESTION 235
- (Exam Topic 1)
You need to implement a new cost factor scenario for the ad response models as illustrated in the performance curve exhibit.
Which technique should you use?

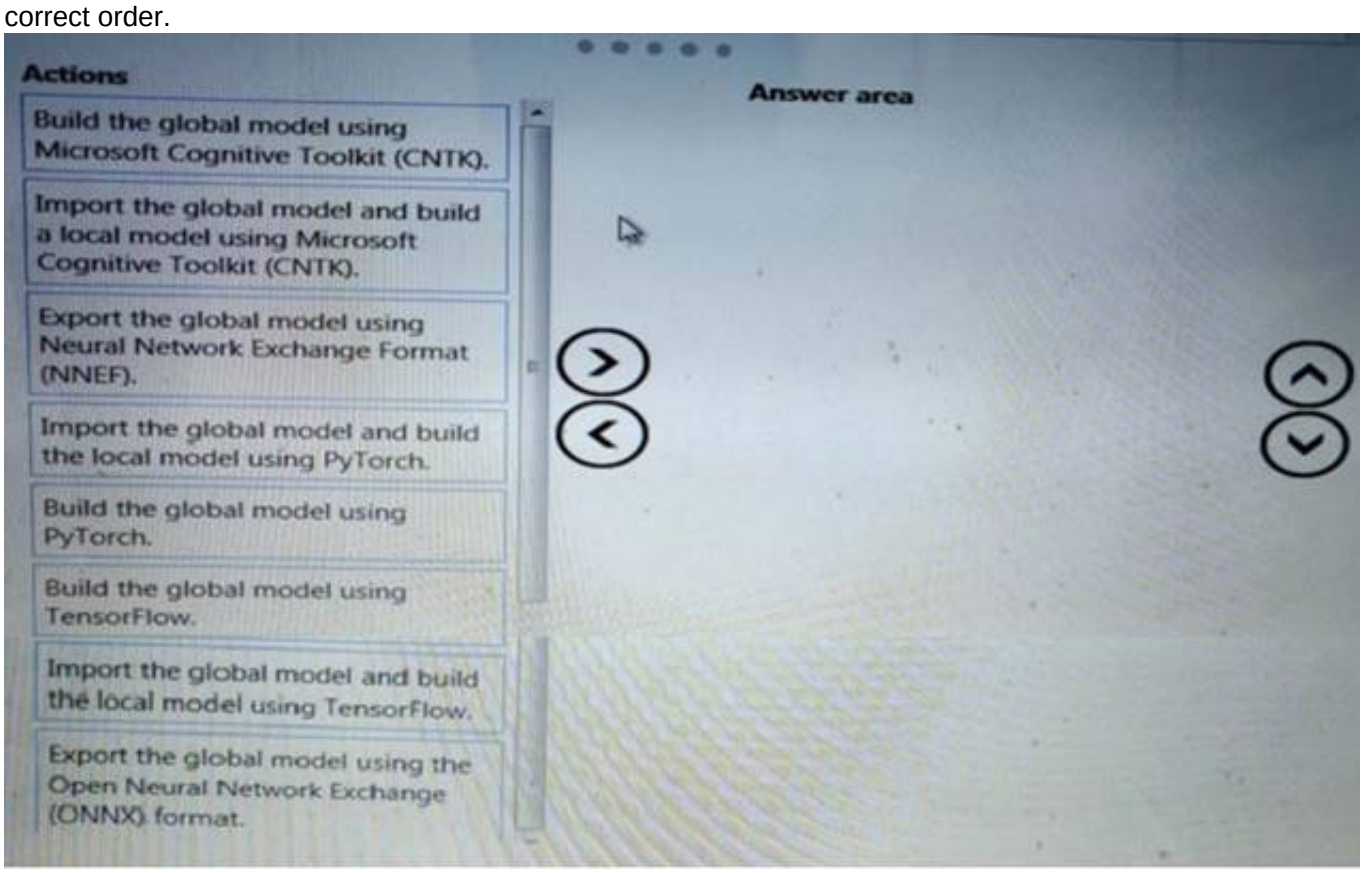
A. Set the threshold to 0.5 and retrain if weighted Kappa deviates +/- 5% from 0.45.
B. Set the threshold to 0.05 and retrain if weighted Kappa deviates +/- 5% from 0.5.
C. Set the threshold to 0.2 and retrain if weighted Kappa deviates +/- 5% from 0.6.
D. Set the threshold to 0.75 and retrain if weighted Kappa deviates +/- 5% from 0.15.

Answer: A

Explanation:
Scenario:
Performance curves of current and proposed cost factor scenarios are shown in the following diagram:

The ad propensity model uses a cut threshold is 0.45 and retrains occur if weighted Kappa deviated from 0.1 +/- 5%.

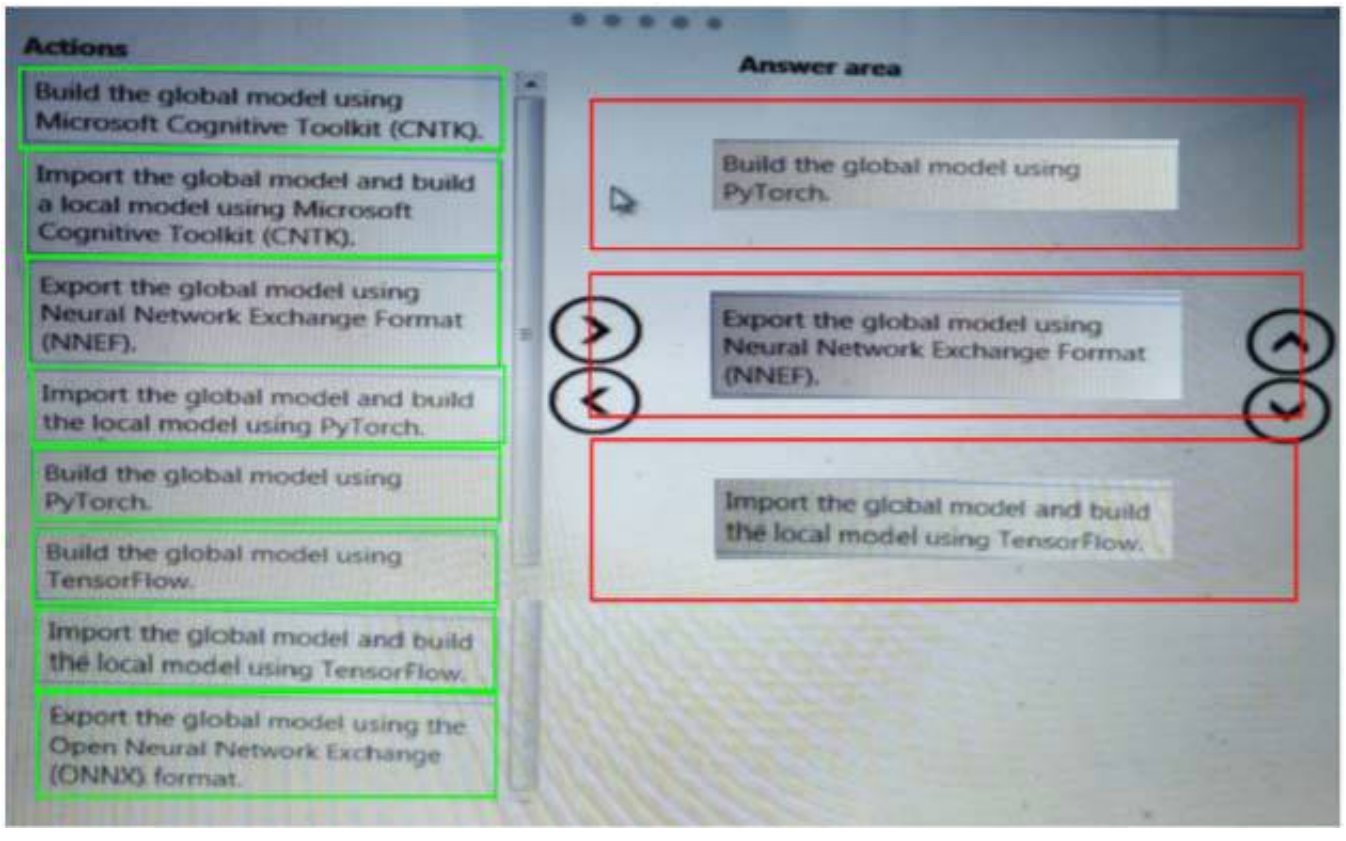
NEW QUESTION 239
- (Exam Topic 1)
You need to define a process for penalty event detection.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



A. Mastered
B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 242
- (Exam Topic 1)
You need to use the Python language to build a sampling strategy for the global penalty detection models. How should you complete the code segment? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

```
import pytorch as deeplearninglib
import tensorflow as deeplearninglib
import cntk as deeplearninglib

train_smapler = deeplearminglib.DistributedSampler.(penalty_video_dataset)
train_sampler = deeplearminglib.log_uniform_candidate_sampler.(penalty_video_dataset)
train_sampler = deeplearninglib.WeightedRandomSampler.(penalty_video_dataset)
train_sampler = deeplearninglib.all_candidate_sampler.(penalty_video_dataset)

…
train loader -
…
(train_smapler, penalty_video_dataset)

optimizer = deeplearninglib.optim.SGD(model.parameters().lr=0,01)
optimizer = deeplearninglib.train.GradientDescentOptimizer(learning_rate=0.10)

model = deeplearninglib.parallel.Distributed(DataParallel(model)
model = deeplearninglib.nn.parallel.DistributedDataParallelCPU(model)
model = deeplearninglib.keras.Model([
model = deeplearninglib.keras.Sequental([
…
train_sampler.set_epoch(epoch)
  for data, target in train_loader:
        data, target = data.to(device), target.to(device)
```

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: import pytorch as deeplearninglib Box 2: ..DistributedSampler(Sampler).. DistributedSampler(Sampler):
Sampler that restricts data loading to a subset of the dataset.
It is especially useful in conjunction with class:`torch.nn.parallel.DistributedDataParallel`. In such case, each process can pass a DistributedSampler instance as a DataLoader sampler, and load a subset of the original dataset that is exclusive to it.
Scenario: Sampling must guarantee mutual and collective exclusively between local and global segmentation models that share the same features.
Box 3: optimizer = deeplearninglib.train. GradientDescentOptimizer(learning_rate=0.10)

NEW QUESTION 246
.....

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