

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)

HOTSPOT

You create a script for training a machine learning model in Azure Machine Learning service. You create an estimator by running the following code:

```
from azureml.core import Workspace, Datastore
from azureml.core.compute import ComputeTarget
from azureml.train.estimator import Estimator
work_space = Workspace.from_config()
data_source = work_space.get_default_datastore()
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.

	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.	<input type="radio"/>	<input type="radio"/>
The estimator will mount the local data-folder folder and make it available to the script through a parameter.	<input type="radio"/>	<input type="radio"/>
The train.py script file will be created if it does not exist.	<input type="radio"/>	<input type="radio"/>
The estimator can run Scikit-learn experiments.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Yes

Parameter source_directory is a local directory containing experiment configuration and code files needed for a training job.

Box 2: Yes

script_params is a dictionary of command-line arguments to pass to the training script specified in entry_script.

Box 3: No

Box 4: Yes

The conda_packages parameter is a list of strings representing conda packages to be added to the Python environment for the experiment.

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)
modell = 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.

Code Segment

Evaluation Statement

class_weight=balanced

Automatically select the performance metrics for the classification.
Automatically adjust weights directly proportional to class frequencies in the input data.
Automatically adjust weights inversely proportional to class frequencies in the input data.

C parameter

Penalty parameter
Degree of polynomial kernel function
Size of the kernel cache

- 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.	<input type="radio"/>	<input type="radio"/>
The version number will now be 4.	<input type="radio"/>	<input type="radio"/>
The latest version of the stored model will have a property of value: 87.43.	<input type="radio"/>	<input type="radio"/>

- 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 train a machine learning model.

You must deploy the model as a real-time inference service for testing. The service requires low CPU utilization and less than 48 MB of RAM. The compute target for the deployed service must initialize automatically while minimizing cost and administrative overhead.

Which compute target should you use?

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

Answer: C

Explanation:

Azure Container Instances (ACI) are suitable only for small models less than 1 GB in size. Use it for low-scale CPU-based workloads that require less than 48 GB of RAM.

Note: Microsoft recommends using single-node Azure Kubernetes Service (AKS) clusters for dev-test of larger models.

Reference:

<https://docs.microsoft.com/id-id/azure/machine-learning/how-to-deploy-and-where>

NEW QUESTION 5

- (Exam Topic 3)

You are producing a multiple linear regression model in Azure Machine Learning Studio. Several independent variables are highly correlated.

You need to select appropriate methods for conducting effective feature engineering on all the data.

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.

Action	Answer area
Evaluate the probability function	
Remove duplicate rows	
Use the Filter Based Feature Selection module	⬅️ ➡️
Test the hypothesis using t-Test	⬆️ ⬇️
Compute linear correlation	
Build a counting transform	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Step 1: Use the Filter Based Feature Selection module

Filter Based Feature Selection identifies the features in a dataset with the greatest predictive power.

The module outputs a dataset that contains the best feature columns, as ranked by predictive power. It also outputs the names of the features and their scores from the selected metric.

Step 2: Build a counting transform

A counting transform creates a transformation that turns count tables into features, so that you can apply the transformation to multiple datasets.

Step 3: Test the hypothesis using t-Test

References:
<https://docs.microsoft.com/bs-latn-ba/azure/machine-learning/studio-module-reference/filter-based-feature-selec>

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/build-counting-transform>

NEW QUESTION 6

- (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 (
    script = 'scripts',
    source_directory = 'train.py',
    arguments = py_sk)

experiment = Experiment(workspace=ws, name='training-experiment')
run = experiment.submit(config=script_config)

```

- 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 7

- (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 8

- (Exam Topic 3)

You create a new Azure subscription. No resources are provisioned in the subscription. You need to create an Azure Machine Learning workspace.

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. Run Python code that uses the Azure ML SDK library and calls the Workspace.create method with name, subscription_id, resource_group, and location parameters.
- B. Use an Azure Resource Management template that includes a Microsoft.MachineLearningServices/workspaces resource and its dependencies.

- C. Use the Azure Command Line Interface (CLI) with the Azure Machine Learning extension to call the az group create function with --name and --location parameters, and then the az ml workspace create function, specifying -w and -g parameters for the workspace name and resource group.
- D. Navigate to Azure Machine Learning studio and create a workspace.
- E. Run Python code that uses the Azure ML SDK library and calls the Workspace.get method with name, subscription_id, and resource_group parameters.

Answer: BCD

Explanation:

B: You can use an Azure Resource Manager template to create a workspace for Azure Machine Learning. Example:
{ "type": "Microsoft.MachineLearningServices/workspaces",

C: You can create a workspace for Azure Machine Learning with Azure CLI Install the machine learning extension.

Create a resource group: az group create --name <resource-group-name> --location <location>

To create a new workspace where the services are automatically created, use the following command: az ml workspace create -w <workspace-name> -g <resource-group-name>

D: You can create and manage Azure Machine Learning workspaces in the Azure portal.

- > Sign in to the Azure portal by using the credentials for your Azure subscription.
- > In the upper-left corner of Azure portal, select + Create a resource.
- > Use the search bar to find Machine Learning.
- > Select Machine Learning.
- > In the Machine Learning pane, select Create to begin.

Home > New > Machine Learning >

Machine Learning

Create a machine learning workspace

Basics Networking Advanced Tags Review + create

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * 

Resource group *  [Create new](#)

Workspace details

Specify the name, region, and edition for the workspace.

Workspace name * 

Region * 

Workspace edition *  

 For your convenience, these resources are available: Application Insights, Azure Key Vault

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-create-workspace-template> <https://docs.microsoft.com/en-us/azure/machine-learning/how-to-manage-workspace-cli> <https://docs.microsoft.com/en-us/azure/machine-learning/how-to-manage-workspace>

NEW QUESTION 9

- (Exam Topic 3)

You are running a training experiment on remote compute in Azure Machine Learning.

The experiment is configured to use a conda environment that includes the mlflow and azureml-contrib-run packages.

You must use MLflow as the logging package for tracking metrics generated in the experiment. You need to complete the script for the experiment.

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

NOTE: Each correct selection is worth one point.

```
import numpy as np
# Import library to log metrics

from azureml.core import Run
import mlflow
import logging

# Start logging for this run

run = Run.get_context()
mlflow.start_run()
logger = logging.getLogger('Run')
reg_rate = 0.01
# Log the reg_rate metric

run.log('reg_rate', np.float(reg_rate))
mlflow.log_metric('reg_rate', np.float(reg_rate))
logger.info(np.float(reg_rate))

# Stop logging for this run

run.complete()
mlflow.end_run()
logger.setLevel(logging.INFO)
```

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: import mlflow
 Import the mlflow and Workspace classes to access MLflow's tracking URI and configure your workspace. Box 2: mlflow.start_run()
 Set the MLflow experiment name with set_experiment() and start your training run with start_run(). Box 3: mlflow.log_metric('..')
 Use log_metric() to activate the MLflow logging API and begin logging your training run metrics. Box 4: mlflow.end_run()
 Close the run: run.endRun() Reference:
<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-use-mlflow>

NEW QUESTION 10

- (Exam Topic 3)

You run an experiment that uses an AutoMLConfig class to define an automated machine learning task with a maximum of ten model training iterations. The task will attempt to find the best performing model based on a metric named accuracy.

You submit the experiment with the following code:

You need to create Python code that returns the best model that is generated by the automated machine learning task. Which code segment should you use?

- A) `best_model = automl_run.get_details()`
- B) `best_model = automl_run.get_output()[1]`
- C) `best_model = automl_run.get_file_names()[1]`
- D) `best_model = automl_run.get_metrics()`

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

Answer: B

Explanation:

The get_output method returns the best run and the fitted model. Reference:
<https://notebooks.azure.com/azureml/projects/azureml-getting-started/html/how-to-use-azureml/automated-mach>

NEW QUESTION 10

- (Exam Topic 3)

You plan to use a Deep Learning Virtual Machine (DLVM) to train deep learning models using Compute Unified Device Architecture (CUDA) computations. You need to configure the DLVM to support CUDA. What should you implement?

- A. Intel Software Guard Extensions (Intel SGX) technology
- B. Solid State Drives (SSD)
- C. Graphic Processing Unit (GPU)
- D. Computer Processing Unit (CPU) speed increase by using overclocking
- E. High Random Access Memory (RAM) configuration

Answer: C

Explanation:

A Deep Learning Virtual Machine is a pre-configured environment for deep learning using GPU instances.

References:

<https://azuremarketplace.microsoft.com/en-au/marketplace/apps/microsoft-ads.dsvm-deep-learning>

NEW QUESTION 12

- (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: Remove the entire column that contains the missing data point. 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 17

- (Exam Topic 3)

You are moving a large dataset from Azure Machine Learning Studio to a Weka environment. You need to format the data for the Weka environment. Which module should you use?

- A. Convert to CSV
- B. Convert to Dataset
- C. Convert to ARFF
- D. Convert to SVMLight

Answer: C

Explanation:

Use the Convert to ARFF module in Azure Machine Learning Studio, to convert datasets and results in Azure Machine Learning to the attribute-relation file format used by the Weka toolset. This format is known as ARFF.

The ARFF data specification for Weka supports multiple machine learning tasks, including data preprocessing, classification, and feature selection. In this format, data is organized by entities and their attributes, and is contained in a single text file.

References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/convert-to-arff>

NEW QUESTION 21

- (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 22

- (Exam Topic 3)

You create a Python script that runs a training experiment in Azure Machine Learning. The script uses the Azure Machine Learning SDK for Python. You must add a statement that retrieves the names of the logs and outputs generated by the script. You need to reference a Python class object from the SDK for the statement.

Which class object should you use?

- A. Run
- B. ScripcRunConfig
- C. Workspace
- D. Experiment

Answer: A

Explanation:

A run represents a single trial of an experiment. Runs are used to monitor the asynchronous execution of a trial, log metrics and store output of the trial, and to analyze results and access artifacts generated by the trial.
The run Class get_all_logs method downloads all logs for the run to a directory. Reference:
[https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.run\(class\)](https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.run(class))

NEW QUESTION 27

- (Exam Topic 3)

You create a multi-class image classification deep learning experiment by using the PyTorch framework. You plan to run the experiment on an Azure Compute cluster that has nodes with GPU's.

You need to define an Azure Machine Learning service pipeline to perform the monthly retraining of the image classification model. The pipeline must run with minimal cost and minimize the time required to train the model.

Which three pipeline steps should you run in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions

- Configure a DataTransferStep() to fetch new image data from public web portal, running on the cpu-compute compute target.
- Configure an EstimatorStep() to run an estimator that runs the bird_classifier_train.py model training script on the gpu_compute compute target.
- Configure a PythonScriptStep() to run both image_fetcher.py and image_resize.py on the cpu-compute compute target.
- Configure an EstimatorStep() to run an estimator that runs the bird_classifier_train.py model training script on the cpu_compute compute target.
- Configure a PythonScriptStep() to run image_fetcher.py on the cpu-compute compute target.
- Configure a PythonScriptStep() to run image_resize.py on the cpu-compute compute target.
- Configure a PythonScriptStep() to run bird_classifier_train.py on the cpu-compute compute target.
- Configure a PythonScriptStep() to run bird_classifier_train.py on the gpu-compute compute target.

Answer Area

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Step 1: Configure a DataTransferStep() to fetch new image data...
Step 2: Configure a PythonScriptStep() to run image_resize.y on the cpu-compute compute target. Step 3: Configure the EstimatorStep() to run training script on

the gpu_compute computer target.

The PyTorch estimator provides a simple way of launching a PyTorch training job on a compute target. Reference:
<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-train-pytorch>

NEW QUESTION 29

- (Exam Topic 3)

You create an Azure Machine Learning workspace named ML-workspace. You also create an Azure Databricks workspace named DB-workspace. DB-workspace contains a cluster named DB-cluster.

You must use DB-cluster to run experiments from notebooks that you import into DB-workspace.

You need to use ML-workspace to track MLflow metrics and artifacts generated by experiments running on DB-cluster. The solution must minimize the need for custom code.

What should you do?

- A. From DB-cluster, configure the Advanced Logging option.
- B. From DB-workspace
- C. configure the Link Azure ML workspace option.
- D. From ML-workspace
- E. create an attached compute.
- F. From ML-workspace
- G. create a compute cluster.

Answer: B

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-use-mlflow-azure-databricks>

NEW QUESTION 33

- (Exam Topic 3)

You plan to deliver a hands-on workshop to several students. The workshop will focus on creating data visualizations using Python. Each student will use a device that has internet access.

Student devices are not configured for Python development. Students do not have administrator access to install software on their devices. Azure subscriptions are not available for students.

You need to ensure that students can run Python-based data visualization code. Which Azure tool should you use?

- A. Anaconda Data Science Platform
- B. Azure BatchAI
- C. Azure Notebooks
- D. Azure Machine Learning Service

Answer: C

Explanation:

References:

<https://notebooks.azure.com/>

NEW QUESTION 36

- (Exam Topic 3)

You have a feature set containing the following numerical features: X, Y, and Z.

The Poisson correlation coefficient (r-value) of X, Y, and Z features is shown in the following image:

	X	Y	Z
X	1	0.149676	-0.106276
Y	0.149676	1	0.859122
Z	-0.106276	0.859122	1

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.

What is the r-value for the correlation of Y to Z?

▼

-0.106276

0.149676

0.859122

1

Which type of relationship exists between Z and Y in the feature set?

▼

a positive linear relationship

a negative linear relationship

no linear relationship

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: 0.859122

Box 2: a positively linear relationship

+1 indicates a strong positive linear relationship

-1 indicates a strong negative linear correlation

0 denotes no linear relationship between the two variables. References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/compute-linear-correlation>

NEW QUESTION 37

- (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 38

- (Exam Topic 3)

You create a multi-class image classification deep learning model.

The model must be retrained monthly with the new image data fetched from a public web portal. You create an Azure Machine Learning pipeline to fetch new data, standardize the size of images, and retrain the model.

You need to use the Azure Machine Learning SDK to configure the schedule for the pipeline.

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.

Actions	Answer Area
Publish the pipeline.	
Retrieve the pipeline ID.	
Create a ScheduleRecurrence(frequency= 'Month', interval=1, start_time='2019-01-01T00:00:00') object.	
Define a pipeline parameter named RunDate.	
Define a new Azure Machine Learning pipeline StepRun object with the step ID of the first step in the pipeline.	
Define an Azure Machine Learning pipeline schedule using the schedule.create method with the defined recurrence specification.	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Step 1: Publish the pipeline.

To schedule a pipeline, you'll need a reference to your workspace, the identifier of your published pipeline, and the name of the experiment in which you wish to create the schedule.

Step 2: Retrieve the pipeline ID. Needed for the schedule.

Step 3: Create a ScheduleRecurrence..

To run a pipeline on a recurring basis, you'll create a schedule. A Schedule associates a pipeline, an experiment, and a trigger.

First create a schedule. Example: Create a Schedule that begins a run every 15 minutes: recurrence = ScheduleRecurrence(frequency="Minute", interval=15)

Step 4: Define an Azure Machine Learning pipeline schedule.. Example, continued:

recurring_schedule = Schedule.create(ws, name="MyRecurringSchedule", description="Based on time",

pipeline_id=pipeline_id, experiment_name=experiment_name, recurrence=recurrence)

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-schedule-pipelines>

NEW QUESTION 40

- (Exam Topic 3)

The finance team asks you to train a model using data in an Azure Storage blob container named finance-data. You need to register the container as a datastore in an Azure Machine Learning workspace and ensure that an error will be raised if the container does not exist.

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

NOTE: Each correct selection is worth one point.

```
datastore = Datastore.  (workspace = ws,
register_azure_blob_container
register_azure_file_share
register_azure_data_lake
register_azure_sql_database

datastore_name = 'finance_datastore',
container_name = 'finance-data',
account_name = 'fintrainingdatastorage',
account_key = 'FWUYORRv3XoyNe...',

create_if_not_exists = True
create_if_not_exists = False
overwrite = True
overwrite = False
```

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: register_azure_blob_container

Register an Azure Blob Container to the datastore.

Box 2: create_if_not_exists = False

Create the file share if it does not exists, defaults to False. Reference:

<https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.datastore.datastore>

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 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, Relative Squared Error, and the Coefficient of Determination.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

The following metrics are reported for evaluating regression models. When you compare models, they are ranked by the metric you select for evaluation.

Mean absolute error (MAE) measures how close the predictions are to the actual outcomes; thus, a lower score is better.

Root mean squared error (RMSE) creates a single value that summarizes the error in the model. By squaring the difference, the metric disregards the difference between over-prediction and under-prediction.

Relative absolute error (RAE) is the relative absolute difference between expected and actual values; relative because the mean difference is divided by the arithmetic mean.

Relative squared error (RSE) similarly normalizes the total squared error of the predicted values by dividing by the total squared error of the actual values.

Mean Zero One Error (MZOE) indicates whether the prediction was correct or not. In other words: ZeroOneLoss(x,y) = 1 when x!=y; otherwise 0.

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.

AUC.

References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/evaluate-model>

NEW QUESTION 44

- (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 a classification model by using a logistic regression algorithm.

You must be able to explain the model's predictions by calculating the importance of each feature, both as an overall global relative importance value and as a measure of local importance for a specific set of predictions.

You need to create an explainer that you can use to retrieve the required global and local feature importance values.

Solution: Create a MimicExplainer. Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use Permutation Feature Importance Explainer (PFI).

Note 1: Mimic explainer is based on the idea of training global surrogate models to mimic blackbox models. A global surrogate model is an intrinsically interpretable model that is trained to approximate the predictions of any black box model as accurately as possible. Data scientists can interpret the surrogate model to draw conclusions about the black box model.

Note 2: Permutation Feature Importance Explainer (PFI): Permutation Feature Importance is a technique used to explain classification and regression models. At a high level, the way it works is by randomly shuffling data one feature at a time for the entire dataset and calculating how much the performance metric of interest changes. The larger the change, the more important that feature is. PFI can explain the overall behavior of any underlying model but does not explain individual predictions.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-interpretability>

NEW QUESTION 48

- (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 49

- (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 an Azure Machine Learning service datastore in a workspace. The datastore contains the following files:

- /data/2018/Q1 .csv
- /data/2018/Q2.csv
- /data/2018/Q3.csv
- /data/2018/Q4.csv
- /data/2019/Q1.csv

All files store data in the following format: id,M,f2,I

1,1,2,0

2,1,1,1

32,10

You run the following code:

```
data_store = Datastore.register_azure_blob_container(workspace=ws,
    datastore_name='data_store',
    container_name='quarterly_data',
    account_name='companydata',
    account_key='NRPxk8duxbM3...'
    create_if_not_exists=False)
```

You need to create a dataset named training_data and load the data from all files into a single data frame by using the following code:

```
data_frame = training_data.to_pandas_dataframe()
```

Solution: Run the following code:

```
from azureml.core import Dataset
paths = (data_store, 'data/*/*.csv')
training_data = Dataset.Tabular.from_delimited_files(paths)
```

Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

NEW QUESTION 54

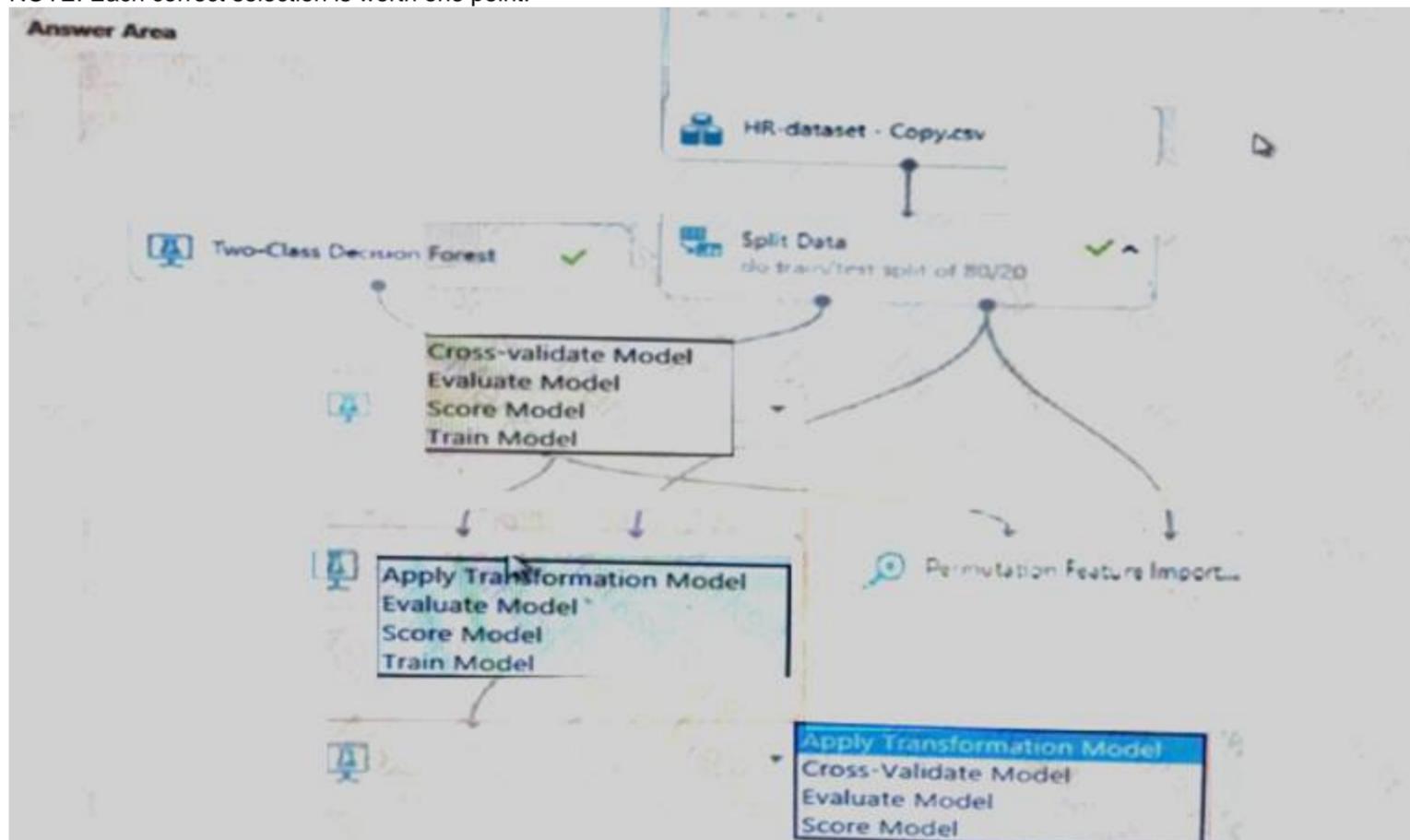
- (Exam Topic 3)

You create a binary classification model using Azure Machine Learning Studio.

You must use a Receiver Operating Characteristic (ROC) curve and an F1 score to evaluate the model. You need to create the required business metrics.

How should you complete the experiment? To answer, select the appropriate options in the dialog box in the answer area.

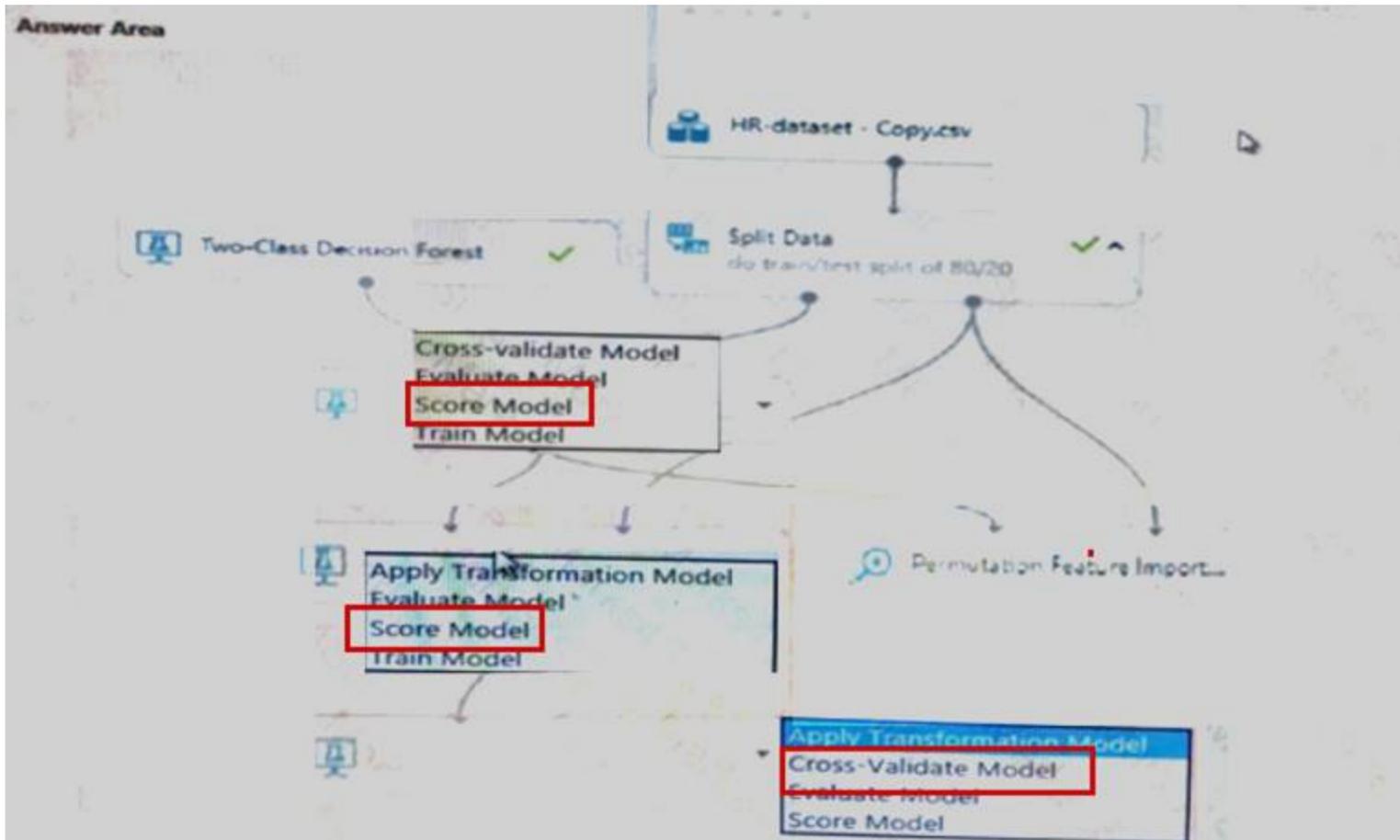
NOTE: Each correct selection is worth one point.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 58

- (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,
from_run	experiment_name='train_and_explain',
list_model_explanations	run_id='train_and_explain_12345')
from_run_id	
download_model_explanation	

```
explanation = client.
```

▼	()
upload_model_explanation	
list_model_explanations	
run	
download_model_explanation	

```
feature_importances = explanation.
```

▼	()
explanation	
explanation_client	
get_feature_important_dict	
download_model_explanation	

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

- 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 60

- (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 63

- (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 67

- (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_output = pd.read_csv("traindata.csv")
process_step = PythonScriptStep(script_name="process.py",
    arguments=["--data_for_train", data_output],
    outputs=[data_output], compute_target=aml_compute,
    source_directory=process_directory)
train_step = PythonScriptStep(script_name="train.py",
    arguments=["--data_for_train", data_output],
    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: A

Explanation:

The two steps are present: process_step and train_step 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.

PipelineData objects are also used when constructing Pipelines to describe step dependencies. To specify that a step requires the output of another step as input, use a PipelineData object in the constructor of both steps.

For 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 70

- (Exam Topic 3)

You are analyzing a dataset by using Azure Machine Learning Studio.

YOU need to generate a statistical summary that contains the p value and the unique value count for each feature column.

Which two modules can you users? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

- A. Execute Python Script
- B. Export Count Table
- C. Convert to Indicator Values
- D. Summarize Data
- E. Compute linear Correlation

Answer: BE

Explanation:

The Export Count Table module is provided for backward compatibility with experiments that use the Build Count Table (deprecated) and Count Featurizer (deprecated) modules.

E: Summarize Data statistics are useful when you want to understand the characteristics of the complete dataset. For example, you might need to know:

How many missing values are there in each column? How many unique values are there in a feature column?

What is the mean and standard deviation for each column?

The module calculates the important scores for each column, and returns a row of summary statistics for each variable (data column) provided as input.

References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/export-count-table> <https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/summarize-data>

NEW QUESTION 71

- (Exam Topic 3)

You must store data in Azure Blob Storage to support Azure Machine Learning. You need to transfer the data into Azure Blob Storage.

What are three possible ways to achieve the goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Bulk Insert SQL Query
- B. AzCopy
- C. Python script
- D. Azure Storage Explorer
- E. Bulk Copy Program (BCP)

Answer: BCD

Explanation:

You can move data to and from Azure Blob storage using different technologies: Azure Storage-Explorer

AzCopy Python SSIS

References:

<https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/move-azure-blob>

NEW QUESTION 73

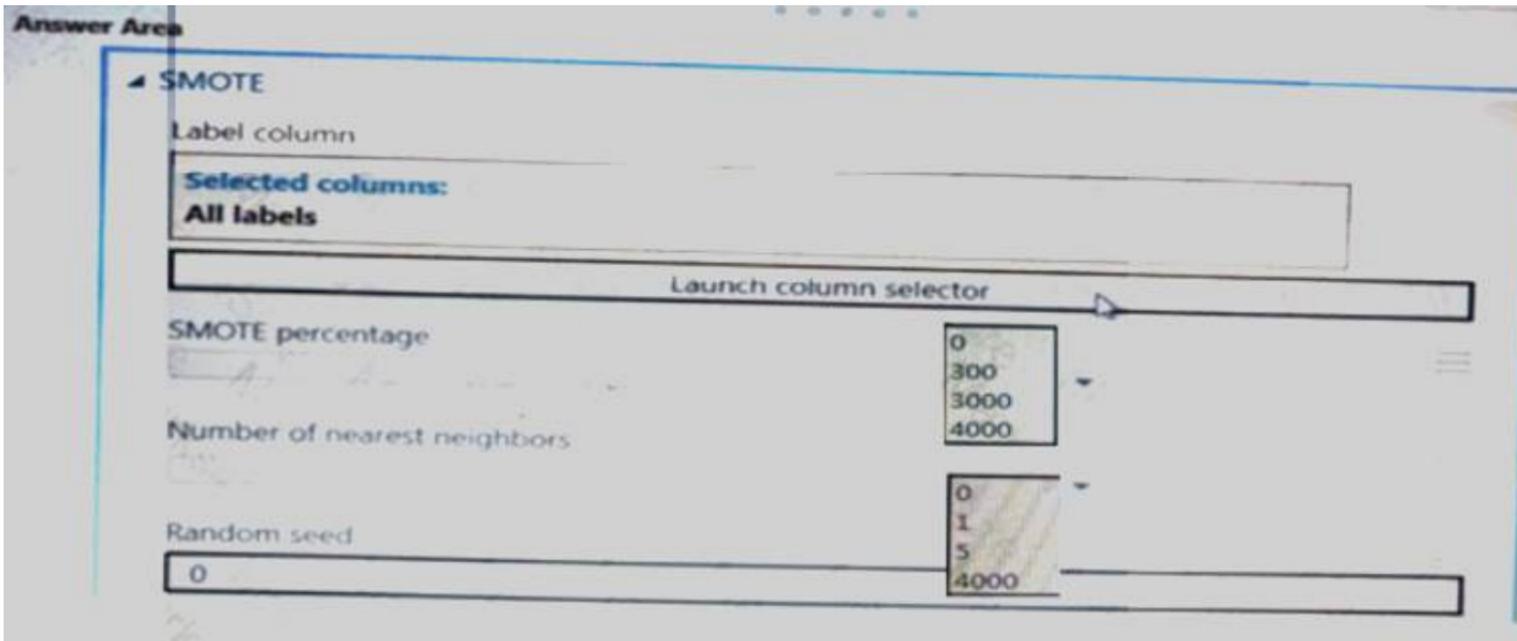
- (Exam Topic 3)

You create an experiment in Azure Machine Learning Studio- You add a training dataset that contains 10,000 rows. The first 9,000 rows represent class 0 (90 percent). The first 1,000 rows represent class 1 (10 percent).

The training set is unbalanced between two Classes. You must increase the number of training examples for class 1 to 4,000 by using data rows. You add the Synthetic Minority Oversampling Technique (SMOTE) module to the experiment.

You need to configure the module.

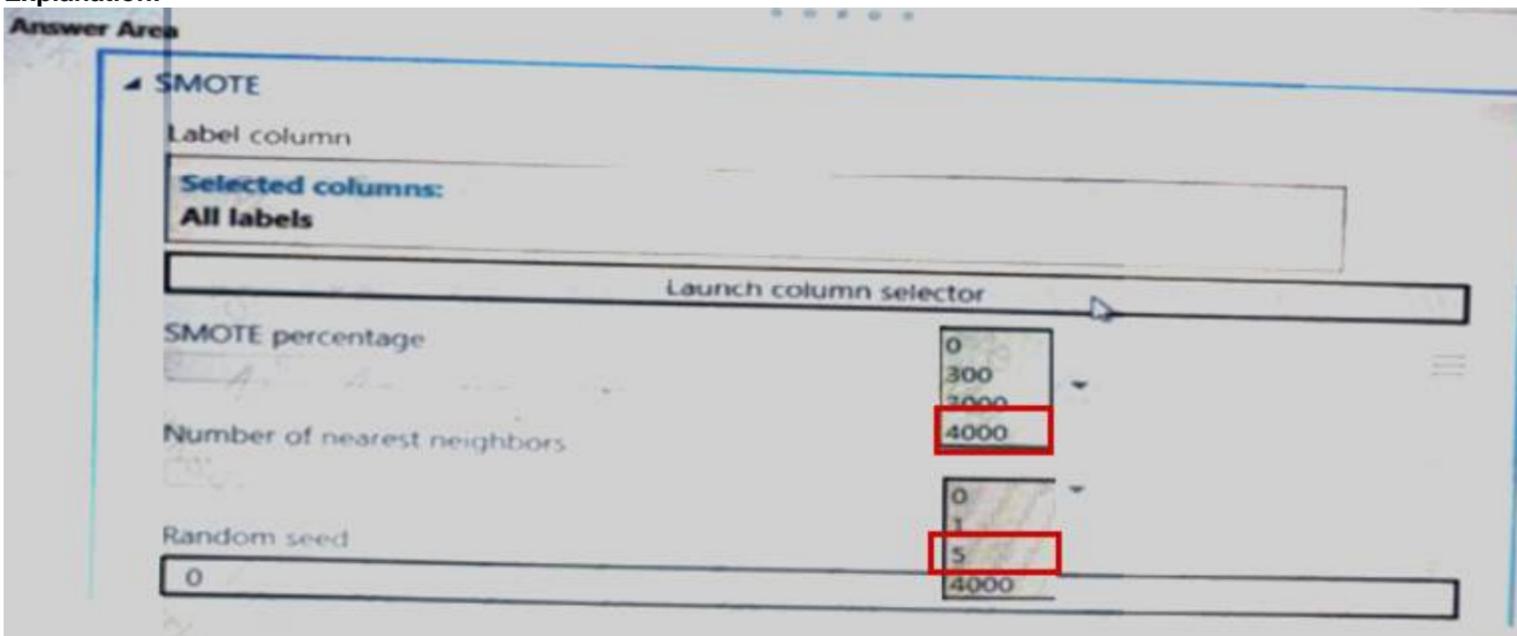
Which values should you use? To answer, select the appropriate options in the dialog box in the answer area. NOTE: Each correct selection is worth one point.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

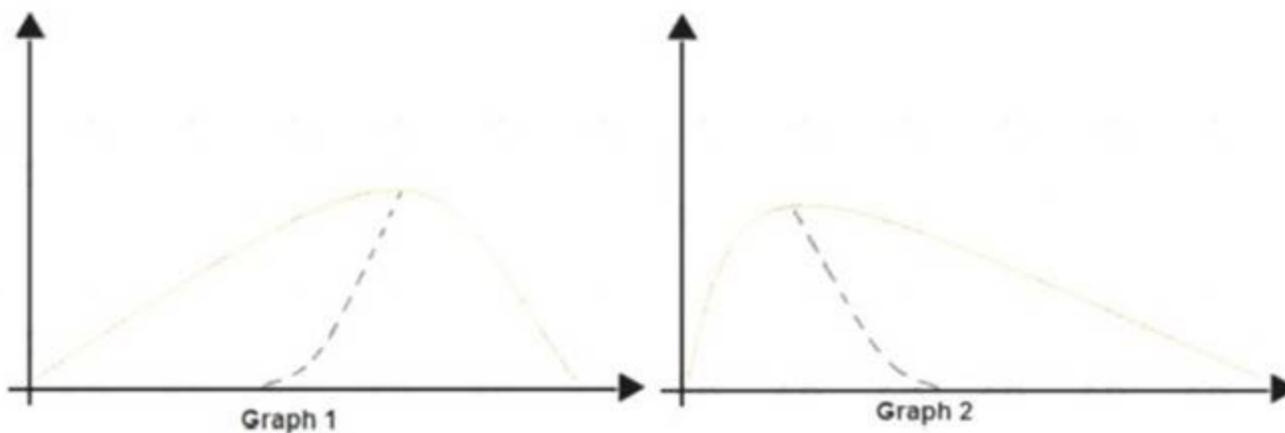


NEW QUESTION 78

- (Exam Topic 3)

You are analyzing the asymmetry in a statistical distribution.

The following image contains two density curves that show the probability distribution of two datasets.



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 type of distribution is shown for the dataset density curve of Graph 1?

▼

- Negative skew
- Positive skew
- Normal distribution
- Bimodal distribution

Which type of distribution is shown for the dataset density curve of Graph 2?

▼

- Negative skew
- Positive skew
- Normal distribution
- Bimodal distribution

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Positive skew

Positive skew values means the distribution is skewed to the right. Box 2: Negative skew

Negative skewness values mean the distribution is skewed to the left. References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/compute-elementary-statistic>

NEW QUESTION 82

- (Exam Topic 3)

HOTSPOT

You collect data from a nearby weather station. You have a pandas dataframe named weather_df that includes the following data:

Temperature	Observation_time	Humidity	Pressure	Visibility	Days_since_last observation
74	2019/10/2 00:00	0.62	29.87	3	0.5
89	2019/10/2 12:00	0.70	28.88	10	0.5
72	2019/10/3 00:00	0.64	30.00	8	0.5
80	2019/10/3 12:00	0.66	29.75	7	0.5

The data is collected every 12 hours: noon and midnight.

You plan to use automated machine learning to create a time-series model that predicts temperature over the next seven days. For the initial round of training, you want to train a maximum of 50 different models.

You must use the Azure Machine Learning SDK to run an automated machine learning experiment to train these models.

You need to configure the automated machine learning run.

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

NOTE: Each correct selection is worth one point.

```

automl_config = AutoMLConfig(task="
                                regression
                                forecasting
                                classification
                                deep learning
                                ",
                                training_data=weather_df,
                                label_column_name="
                                humidity
                                pressure
                                visibility
                                temperature
                                days_since_last
                                observation_time
                                ",
                                time_column_name="
                                humidity
                                pressure
                                visibility
                                temperature
                                days_since_last
                                observation_time
                                ",
                                max_horizon=
                                2
                                6
                                7
                                12
                                14
                                50
                                ",
                                iterations=
                                2
                                6
                                7
                                12
                                14
                                50
                                ",
                                iteration_timeout_minutes=5,
                                primary_metric="r2_score")

```

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: forecasting

Task: The type of task to run. Values can be 'classification', 'regression', or 'forecasting' depending on the type of automated ML problem to solve.

Box 2: temperature

The training data to be used within the experiment. It should contain both training features and a label column (optionally a sample weights column).

Box 3: observation_time

time_column_name: The name of the time column. This parameter is required when forecasting to specify the datetime column in the input data used for building the time series and inferring its frequency. This setting is being deprecated. Please use forecasting_parameters instead.

Box 4: 7

"predicts temperature over the next seven days"

max_horizon: The desired maximum forecast horizon in units of time-series frequency. The default value is 1. Units are based on the time interval of your training data, e.g., monthly, weekly that the forecaster should predict out. When task type is forecasting, this parameter is required.

Box 5: 50

"For the initial round of training, you want to train a maximum of 50 different models."

Iterations: The total number of different algorithm and parameter combinations to test during an automated ML experiment. Reference:

<https://docs.microsoft.com/en-us/python/api/azureml-train-automl-client/azureml.train.automl.automlconfig.auto>

NEW QUESTION 86

- (Exam Topic 3)

You are analyzing a raw dataset that requires cleaning.

You must perform transformations and manipulations by using Azure Machine Learning Studio. You need to identify the correct modules to perform the transformations.

Which modules should you choose? To answer, drag the appropriate modules to the correct scenarios. Each module may be used once, more than once, or not at all.

You may need to drag the split bar between panes or scroll to view content. NOTE: Each correct selection is worth one point.

Answer Area

Methods	Scenario	Module
Clean Missing Data	Replace missing values by removing rows and columns.	
SMOTE	Increase the number of low-incidence examples in the dataset.	
Convert to Indicator Values	Convert a categorical feature into a binary indicator.	
Remove Duplicate Rows	Remove potential duplicates from a dataset.	
Threshold Filter		

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Clean Missing Data Box 2: SMOTE

Use the SMOTE module in Azure Machine Learning Studio to increase the number of underrepresented cases in a dataset used for machine learning. SMOTE is a better way of increasing the number of rare cases than simply duplicating existing cases.

Box 3: Convert to Indicator Values

Use the Convert to Indicator Values module in Azure Machine Learning Studio. The purpose of this module is to convert columns that contain categorical values into a series of binary indicator columns that can more easily be used as features in a machine learning model.

Box 4: Remove Duplicate Rows References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/smote> <https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/convert-to-indicator-values>

NEW QUESTION 90

- (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: for label_val in label_vals:

run.log('Label Values', label_val) Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

The run_log function is used 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 93

- (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 94

- (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 a classification model by using a logistic regression algorithm.

You must be able to explain the model's predictions by calculating the importance of each feature, both as an overall global relative importance value and as a measure of local importance for a specific set of predictions.

You need to create an explainer that you can use to retrieve the required global and local feature importance values.

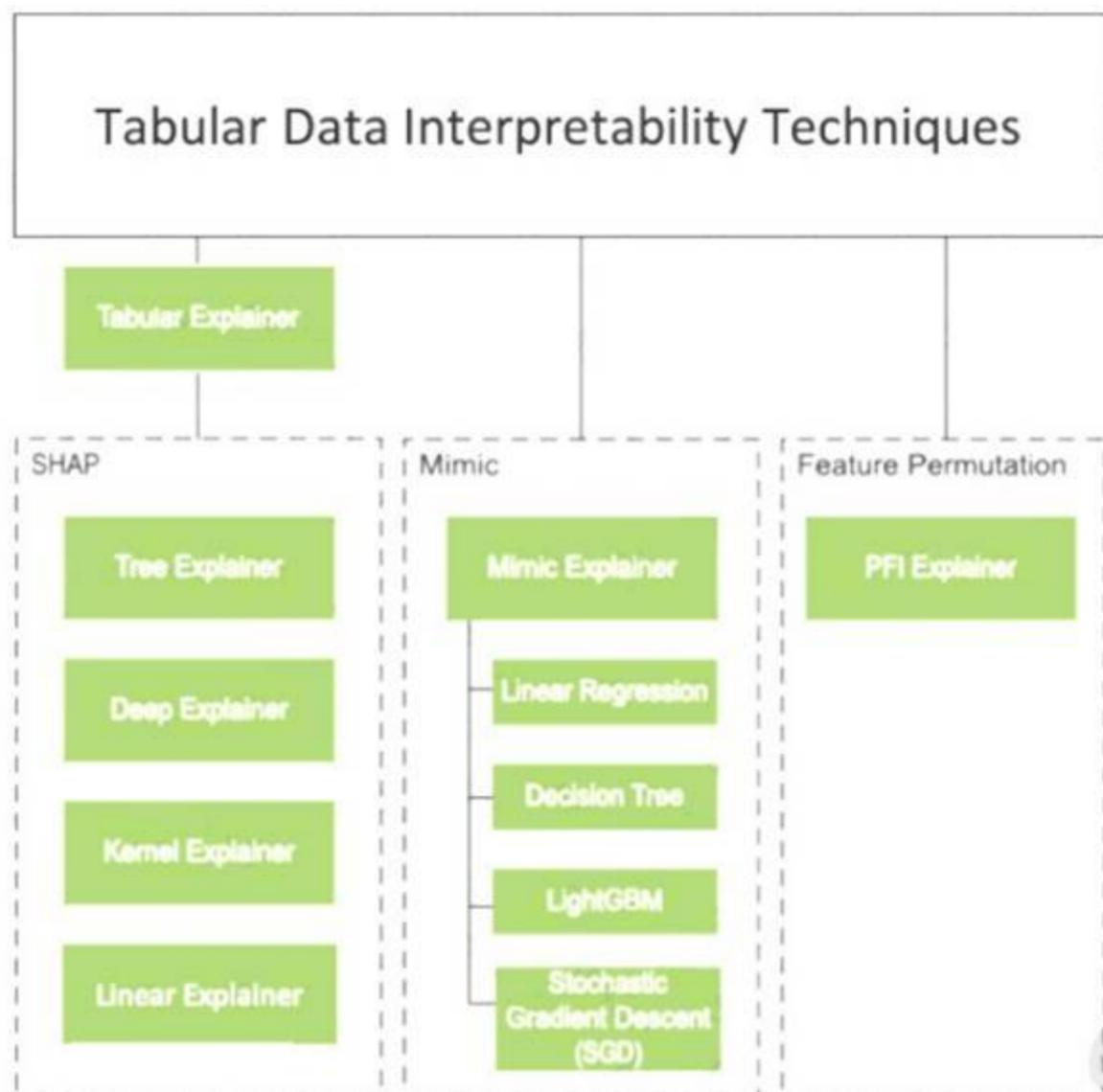
Solution: Create a TabularExplainer. Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Instead use Permutation Feature Importance Explainer (PFI). Note 1:



Note 2: Permutation Feature Importance Explainer (PFI): Permutation Feature Importance is a technique used to explain classification and regression models. At a high level, the way it works is by randomly shuffling data one feature at a time for the entire dataset and calculating how much the performance metric of interest changes. The larger the change, the more important that feature is. PFI can explain the overall behavior of any underlying model but does not explain individual predictions.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-machine-learning-interpretability>

NEW QUESTION 95

- (Exam Topic 3)

You are a data scientist building a deep convolutional neural network (CNN) for image classification. The CNN model you built shows signs of overfitting. You need to reduce overfitting and converge the model to an optimal fit.

Which two actions should you perform? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Reduce the amount of training data.
- B. Add an additional dense layer with 64 input units
- C. Add L1/L2 regularization.
- D. Use training data augmentation
- E. Add an additional dense layer with 512 input units.

Answer: AC

Explanation:

References:

<https://machinelearningmastery.com/how-to-reduce-overfitting-in-deep-learning-with-weight-regularization/>

https://en.wikipedia.org/wiki/Convolutional_neural_network

NEW QUESTION 100

- (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

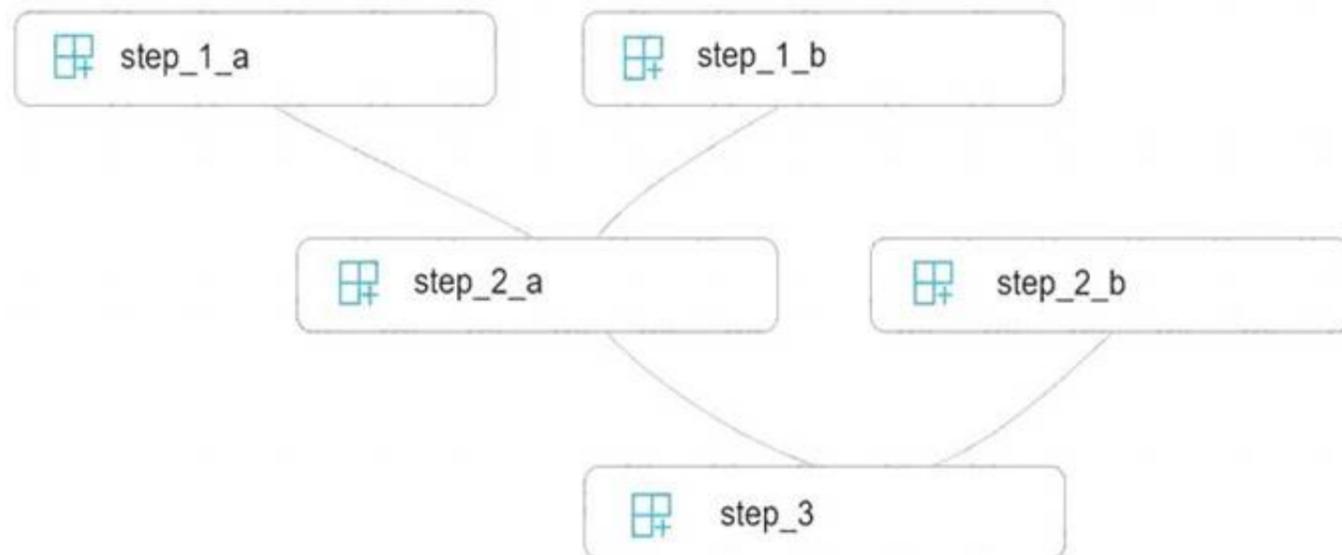
NEW QUESTION 102

- (Exam Topic 3)

You write five Python scripts that must be processed in the order specified in Exhibit A – which allows the same modules to run in parallel, but will wait for modules with dependencies.

You must create an Azure Machine Learning pipeline using the Python SDK, because you want to script to create the pipeline to be tracked in your version control

system. You have created five PythonScriptSteps and have named the variables to match the module names.



You need to create the pipeline shown. Assume all relevant imports have been done. Which Python code segment should you use?

- A. `p = Pipeline(ws, steps=[[[[step_1_a, step_1_b], step_2_a], step_2_b], step_3])`
- B.

```

pipeline_steps = {
  "Pipeline": {
    "run": step_3,
    "run_after": [{
      "run": step_2_a,
      "run_after": [
        {"run": step_1_a},
        {"run": step_1_b}
      ]
    }],
    {"run": step_2_b}
  ]
}
p = Pipeline(ws, steps=pipeline_steps)

```
- C. `step_2_a.run_after(step_1_b)`
`step_2_a.run_after(step_1_a)`
`step_3.run_after(step_2_b)`
`step_3.run_after(step_2_a)`
`p = Pipeline(ws, steps=[step_3])`
- D. `p = Pipeline(ws, steps=[step_1_a, step_1_b, step_2_a, step_2_b, step_3])`

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

Answer: A

Explanation:

The steps parameter is an array of steps. To build pipelines that have multiple steps, place the steps in order in this array.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-use-parallel-run-step>

NEW QUESTION 105

- (Exam Topic 3)

You use the Azure Machine Learning designer to create and run a training pipeline. You then create a real-time inference pipeline.

You must deploy the real-time inference pipeline as a web service.

What must you do before you deploy the real-time inference pipeline?

- A. Run the real-time inference pipeline.
- B. Create a batch inference pipeline.
- C. Clone the training pipeline.
- D. Create an Azure Machine Learning compute cluster.

Answer: D

Explanation:

You need to create an inferencing cluster. Deploy the real-time endpoint

After your AKS service has finished provisioning, return to the real-time inferencing pipeline to complete deployment.

- > Select Deploy above the canvas.
- > Select Deploy new real-time endpoint.
- > Select the AKS cluster you created.
- > Select Deploy. Reference:

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

NEW QUESTION 107

- (Exam Topic 3)

You plan to preprocess text from CSV files. You load the Azure Machine Learning Studio default stop words list. You need to configure the Preprocess Text module to meet the following requirements:

- Ensure that multiple related words from a single canonical form.
- Remove pipe characters from text.
- Remove words to optimize information retrieval.

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

Preprocess Text

Language
English

Remove by part of speech
False

Text column to clean
Selected columns:
Column names: String, Feature
Launch column selector

- Remove stop words
- Lemmatization
- Detect sentences
- Normalize case to lowercase
- Remove numbers
- Remove special characters
- Remove duplicate characters
- Remove email addresses
- Remove URLs
- Expand verb contractions
- Normalize backslashes to slashes
- Split tokens on special characters

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Remove stop words

Remove words to optimize information retrieval.

Remove stop words: Select this option if you want to apply a predefined stopword list to the text column. Stop word removal is performed before any other processes.

Box 2: Lemmatization

Ensure that multiple related words from a single canonical form. Lemmatization converts multiple related words to a single canonical form

Box 3: Remove special characters
Remove special characters: Use this option to replace any non-alphanumeric special characters with the pipe | character.

References:

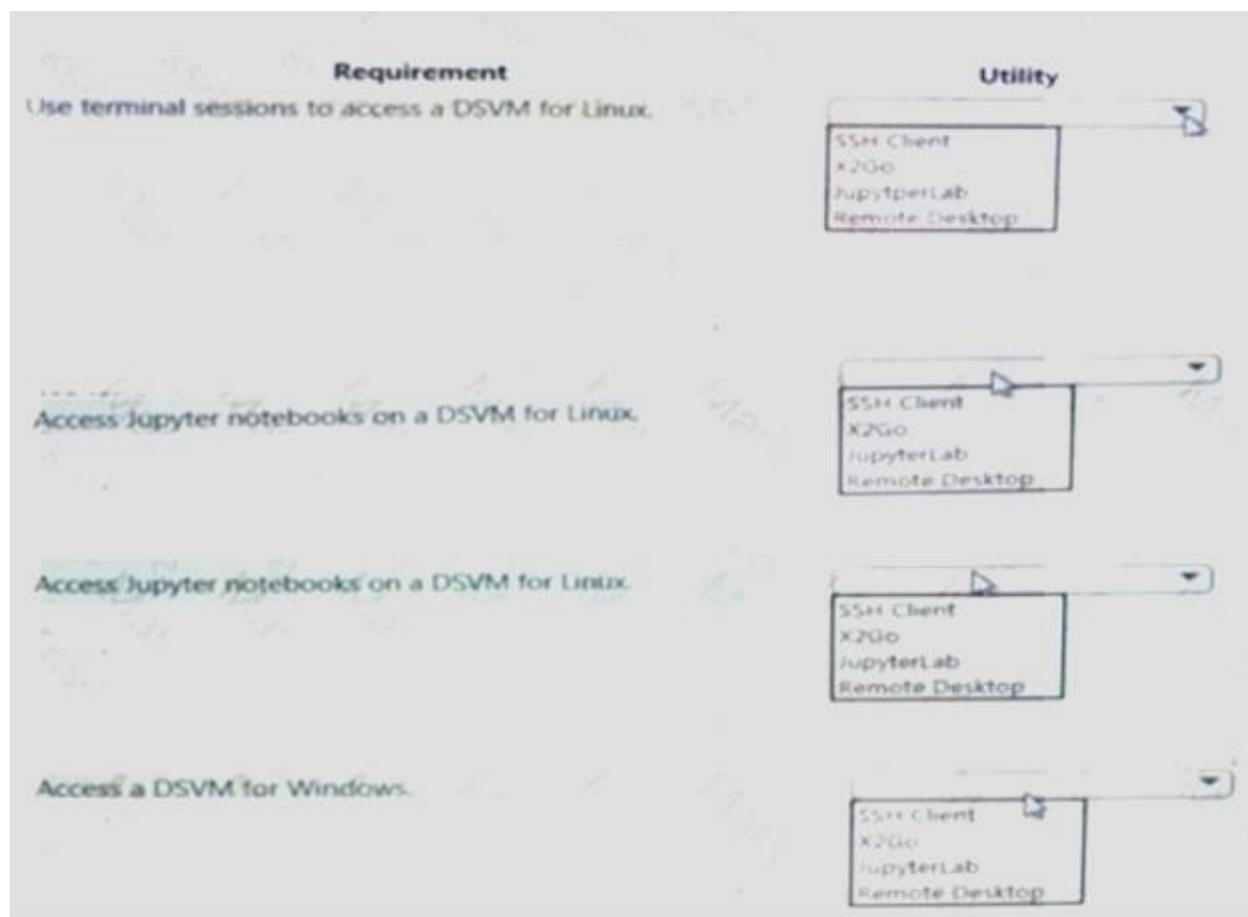
<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/preprocess-text>

NEW QUESTION 111

- (Exam Topic 3)

You use Data Science Virtual Machines (DSVMs) for Windows and Linux in Azure. You need to access the DSVMs.

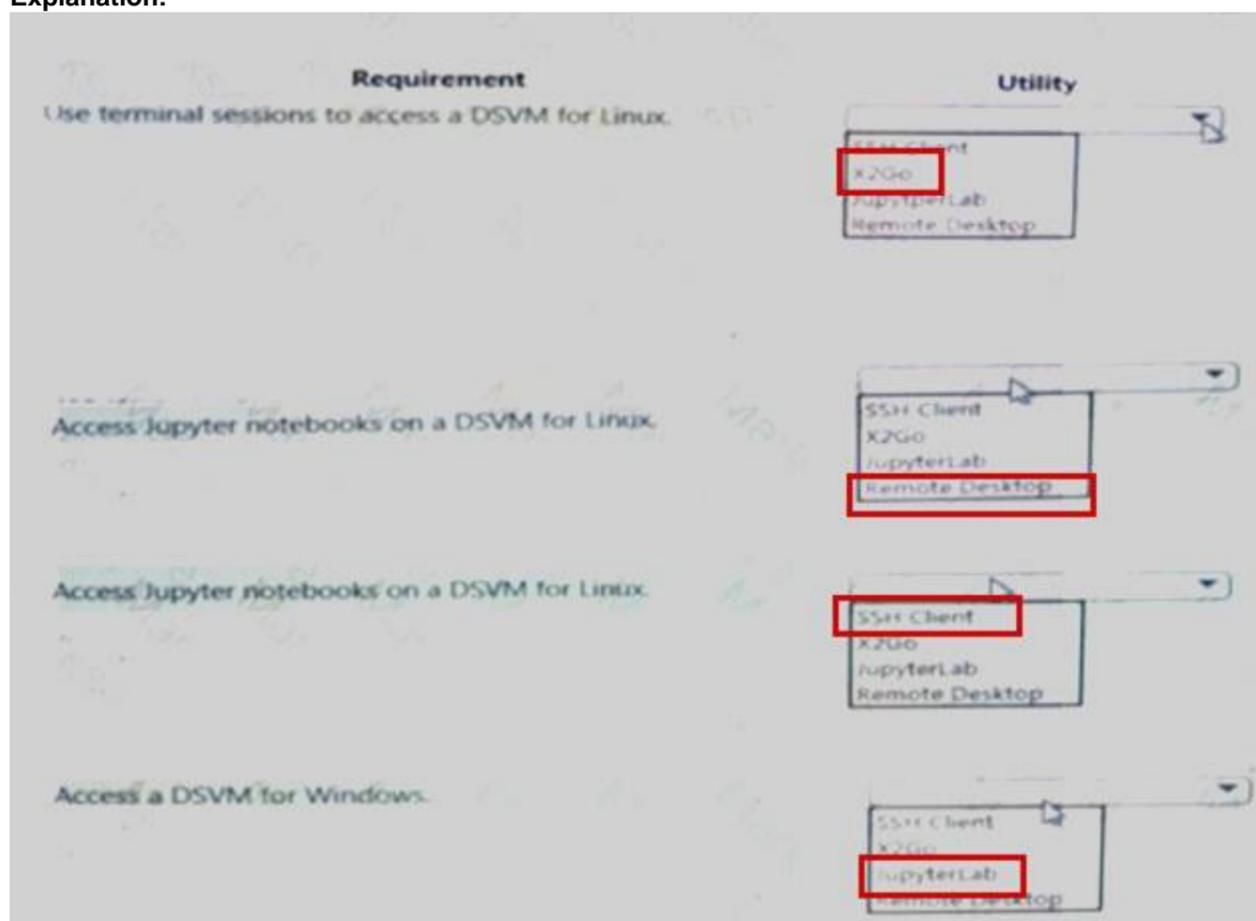
Which utilities should you use? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 114

- (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 Studio to perform feature engineering on a dataset. You need to normalize values to produce a feature column grouped into bins.

Solution: Apply an Entropy Minimum Description Length (MDL) binning mode. Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

Entropy MDL binning mode: This method requires that you select the column you want to predict and the column or columns that you want to group into bins. It

then makes a pass over the data and attempts to determine the number of bins that minimizes the entropy. In other words, it chooses a number of bins that allows the data column to best predict the target column. It then returns the bin number associated with each row of your data in a column named <colname>quantized.

References:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/group-data-into-bins>

NEW QUESTION 118

- (Exam Topic 3)

You use Azure Machine Learning designer to create a real-time service endpoint. You have a single Azure Machine Learning service compute resource. You train the model and prepare the real-time pipeline for deployment. You need to publish the inference pipeline as a web service. Which compute type should you use?

- A. HDInsight
- B. Azure Databricks
- C. Azure Kubernetes Services
- D. the existing Machine Learning Compute resource
- E. a new Machine Learning Compute resource

Answer: C

Explanation:

Azure Kubernetes Service (AKS) can be used real-time inference. Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/concept-compute-target>

NEW QUESTION 119

- (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 120

- (Exam Topic 3)

You create a binary classification model to predict whether a person has a disease. You need to detect possible classification errors.

Which error type should you choose for each description? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Description

Error type

A person has a disease. The model classifies the case as having a disease.

▼

True Positives
True Negatives
False Positives
False Negatives

A person does not have a disease. The model classifies the case as having no disease.

▼

True Positives
True Negatives
False Positives
False Negatives

A person does not have a disease. The model classifies the case as having a disease.

▼

True Positives
True Negatives
False Positives
False Negatives

A person has a disease. The model classifies the case as having no disease.

▼

True Positives
True Negatives
False Positives
False Negatives

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: True Positive

A true positive is an outcome where the model correctly predicts the positive class Box 2: True Negative

A true negative is an outcome where the model correctly predicts the negative class. Box 3: False Positive

A false positive is an outcome where the model incorrectly predicts the positive class. Box 4: False Negative

A false negative is an outcome where the model incorrectly predicts the negative class. Note: Let's make the following definitions:

"Wolf" is a positive class. "No wolf" is a negative class.

We can summarize our "wolf-prediction" model using a 2x2 confusion matrix that depicts all four possible outcomes:

Reference:

<https://developers.google.com/machine-learning/crash-course/classification/true-false-positive-negative>

NEW QUESTION 125

- (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 ws 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.	<input type="radio"/>	<input type="radio"/>
Any experiments configured to use the_cluster will run on ComputeOne.	<input type="radio"/>	<input type="radio"/>
The text Step1 will be printed to the screen.	<input type="radio"/>	<input type="radio"/>

- 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 129

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

NEW QUESTION 134

- (Exam Topic 3)

You are working on a classification task. You have a dataset indicating whether a student would like to play soccer and associated attributes. The dataset includes the following columns:

Name	Description
IsPlaySoccer	Values can be 1 and 0.
Gender	Values can be M or F.
PrevExamMarks	Stores values from 0 to 100
Height	Stores values in centimeters
Weight	Stores values in kilograms

You need to classify variables by type.

Which variable should you add to each category? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Category	Variables
Categorical variables	<div style="border: 1px solid black; padding: 5px;"> <p>Gender, IsPlaySoccer</p> <p>Gender, PrevExamMarks, Height, Weight</p> <p>PrevExamMarks, Height, Weight</p> <p>IsPlaySoccer</p> </div>
Continuous variables	<div style="border: 1px solid black; padding: 5px;"> <p>Gender, IsPlaySoccer</p> <p>Gender, PrevExamMarks, Height, Weight</p> <p>PrevExamMarks, Height, Weight</p> <p>IsPlaySoccer</p> </div>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

References: <https://www.edureka.co/blog/classification-algorithms/>

NEW QUESTION 137

- (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 138

- (Exam Topic 3)

You create a script that trains a convolutional neural network model over multiple epochs and logs the validation loss after each epoch. The script includes arguments for batch size and learning rate.

You identify a set of batch size and learning rate values that you want to try.

You need to use Azure Machine Learning to find the combination of batch size and learning rate that results in the model with the lowest validation loss.

What should you do?

- A. Run the script in an experiment based on an AutoMLConfig object
- B. Create a PythonScriptStep object for the script and run it in a pipeline
- C. Use the Automated Machine Learning interface in Azure Machine Learning studio
- D. Run the script in an experiment based on a ScriptRunConfig object
- E. Run the script in an experiment based on a HyperDriveConfig object

Answer: E

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-tune-hyperparameters>

NEW QUESTION 143

- (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 147

- (Exam Topic 3)

You create the following config.json file.

```
{  
  "workspace_name" : "ml-workspace"  
}
```

You must use the Azure Machine Learning SDK to interact with data and experiments in the workspace. You need to configure the config.json file to connect to the workspace from the Python environment. Which two additional parameters must you add to the config.json file in order to connect to the workspace?

Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. subscription_id
- B. Key
- C. resource_group
- D. region
- E. Login

Answer: AC

Explanation:

To use the same workspace in multiple environments, create a JSON configuration file. The configuration file saves your subscription (subscription_id), resource (resource_group), and workspace name so that it can be easily loaded.

The following sample shows how to create a workspace. `from azureml.core import Workspace`

`ws = Workspace.create(name='myworkspace', subscription_id='<azure-subscription-id>', resource_group='myresourcegroup', create_resource_group=True, location='eastus2')`

)

Reference:

<https://docs.microsoft.com/en-us/python/api/azureml-core/azureml.core.workspace.workspace>

NEW QUESTION 152

- (Exam Topic 3)

An organization creates and deploys a multi-class image classification deep learning model that uses a set of labeled photographs.

The software engineering team reports there is a heavy inferencing load for the prediction web services during the summer. The production web service for the model fails to meet demand despite having a fully-utilized compute cluster where the web service is deployed.

You need to improve performance of the image classification web service with minimal downtime and minimal administrative effort.

What should you advise the IT Operations team to do?

- A. Increase the minimum node count of the compute cluster where the web service is deployed.
- B. Create a new compute cluster by using larger VM sizes for the nodes, redeploy the web service to that cluster, and update the DNS registration for the service endpoint to point to the new cluster.
- C. Increase the VM size of nodes in the compute cluster where the web service is deployed.
- D. Increase the node count of the compute cluster where the web service is deployed.

Answer: D

Explanation:

The Azure Machine Learning SDK does not provide support scaling an AKS cluster. To scale the nodes in the cluster, use the UI for your AKS cluster in the Azure Machine Learning studio. You can only change the node count, not the VM size of the cluster.

Reference:
<https://docs.microsoft.com/en-us/azure/machine-learning/how-to-create-attach-kubernetes>

NEW QUESTION 154

- (Exam Topic 2)

You need to configure the Edit Metadata module so that the structure of the datasets match.

Which configuration options should you select? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Properties Project

▲ **Edit Metadata**

Column

Selected columns:

Column names: MedianValue

Launch column selector

Floating point
DateTime
TimeSpan
Integer

Unchanged
Make Categorical
Make Uncategorical

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Floating point

Need floating point for Median values.

Scenario: An initial investigation shows that the datasets are identical in structure apart from the MedianValue column. The smaller Paris dataset contains the MedianValue in text format, whereas the larger London dataset contains the MedianValue in numerical format.

Box 2: Unchanged

Note: Select the Categorical option to specify that the values in the selected columns should be treated as categories.

For example, you might have a column that contains the numbers 0,1 and 2, but know that the numbers actually mean "Smoker", "Non smoker" and "Unknown". In that case, by flagging the column as categorical you can ensure that the values are not used in numeric calculations, only to group data.

NEW QUESTION 157

- (Exam Topic 2)

You need to identify the methods for dividing the data according to the testing requirements. Which properties should you select? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Properties Project

Partition and Sample

▼

Assign to Folds
Sampling
Head

Partition or sample mode

Use replacement in the partitioning

Randomized split

Random seed

0

▼

True
False
Partition evenly
Partition with custom partitions

Specify the partitioner method

Partition evenly

Specify number of folds to split evenly into

3

Stratified split

Stratification key column

Selected columns:

Column names: NextToRiver

Launch column selector

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Scenario: Testing

You must produce multiple partitions of a dataset based on sampling using the Partition and Sample module in Azure Machine Learning Studio.

Box 1: Assign to folds

Use Assign to folds option when you want to divide the dataset into subsets of the data. This option is also useful when you want to create a custom number of folds for cross-validation, or to split rows into several groups.

Not Head: Use Head mode to get only the first n rows. This option is useful if you want to test a pipeline on a small number of rows, and don't need the data to be balanced or sampled in any way.

Not Sampling: The Sampling option supports simple random sampling or stratified random sampling. This is useful if you want to create a smaller representative sample dataset for testing.

Box 2: Partition evenly

Specify the partitioner method: Indicate how you want data to be apportioned to each partition, using these options:

> Partition evenly: Use this option to place an equal number of rows in each partition. To specify the number of output partitions, type a whole number in the Specify number of folds to split evenly into text box.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/algorithm-module-reference/partition-and-sample>

NEW QUESTION 161

- (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.

Properties Project

Clean Missing Data

Columns to be cleaned

Selected columns:

Column names: AccessibilityToHighway

Launch column selector

Minimum missing value ratio

0

Maximum missing value ratio

1

Cleaning mode

Replace using MICE
Replace with Mean
Replace with Median
Replace with Mode

Cols with all missing values.

Propagate
Remove

Generate missing value indicator column

Number of iterations

5

- 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 165

- (Exam Topic 2)

You need to implement early stopping criteria as suited in the model training requirements.

Which three code segments should you use to develop the solution? To answer, move the appropriate code segments from the list of code segments to the answer area and arrange them in the correct order.

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Code segments	Answer Area
<pre>early_termination_policy = TruncationSelectionPolicy(evaluation_interval=1, truncation_percentage=20, delay_evaluation=5)</pre>	
<pre>import TruncationSelectionPolicy</pre>	
<pre>from azureml.train.hyperdrive</pre>	
<pre>import BanditPolicy</pre>	
<pre>early_termination_policy = BanditPolicy (slack_factor = 0.1, evaluation_interval=1, delay_evaluation=5)</pre>	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

You need to implement an early stopping criterion on models that provides savings without terminating promising jobs. Truncation selection cancels a given percentage of lowest performing runs at each evaluation interval. Runs are compared based on their performance on the primary metric and the lowest X% are terminated. Example:

```
from azureml.train.hyperdrive import TruncationSelectionPolicy
early_termination_policy = TruncationSelectionPolicy(evaluation_interval=1, truncation_percentage=20, delay_evaluation=5)
```

NEW QUESTION 166

- (Exam Topic 1)

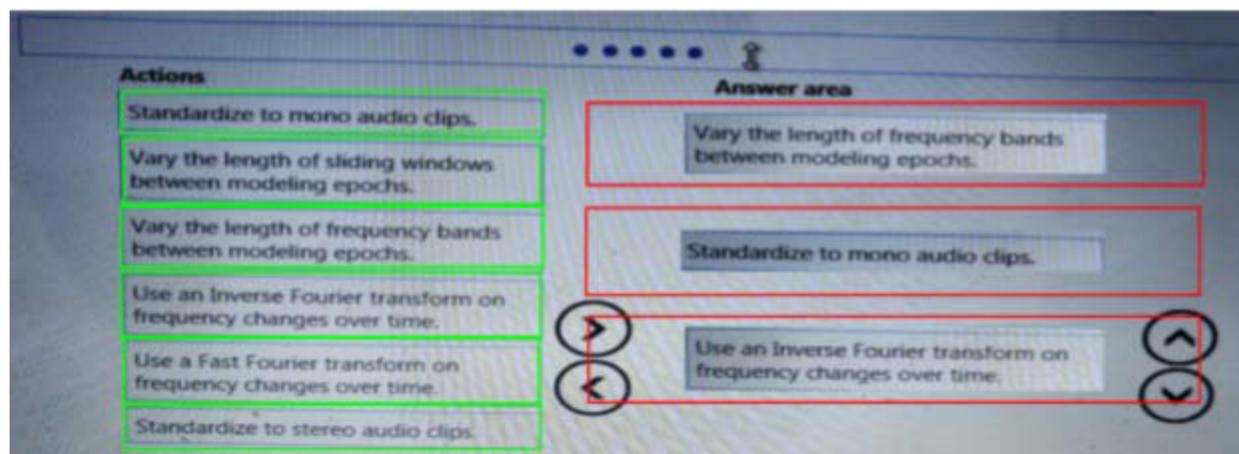
You need to define a process for penalty event detection.

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 167

- (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_sampler = deeplearninglib.DistributedSampler(penalty_video_dataset)
train_sampler = deeplearninglib.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_sampler, 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.DistributedDataParallel(model)
model = deeplearninglib.keras.Model([
model = deeplearninglib.keras.Sequential([
...
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 exclusivity between local and global segmentation models that share the same features.

Box 3: optimizer = deeplearninglib.train. GradientDescentOptimizer(learning_rate=0.10)

NEW QUESTION 169

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