Exam Questions Databricks-Certified-Data-Engineer-Associate

Databricks Certified Data Engineer Associate Exam

https://www.2passeasy.com/dumps/Databricks-Certified-Data-Engineer-Associate/

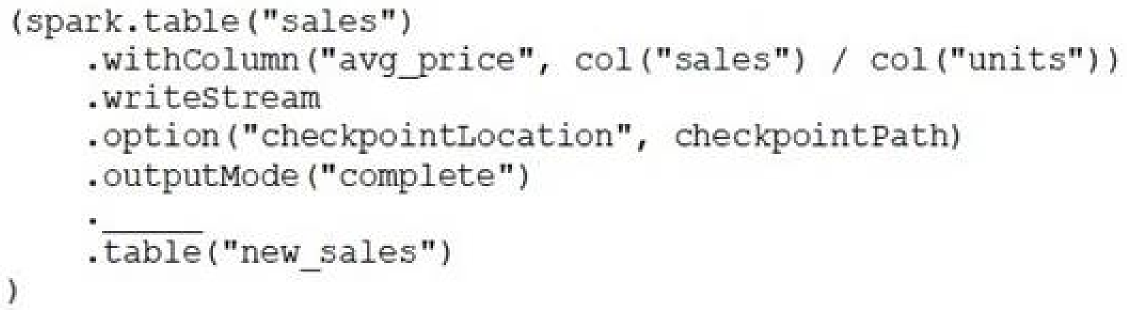
NEW QUESTION 1
Which of the following commands will return the location of database customer360?

A. DESCRIBE LOCATION customer360;
B. DROP DATABASE customer360;
C. DESCRIBE DATABASE customer360;
D. ALTER DATABASE customer360 SET DBPROPERTIES ('location' = '/user'};
E. USE DATABASE customer360;

Answer: C

Explanation:
To retrieve the location of a database named "customer360" in a database management system like Hive or Databricks, you can use the DESCRIBE DATABASE command followed by the database name. This command will provide information about the database, including its location.

NEW QUESTION 2
A data engineer has configured a Structured Streaming job to read from a table, manipulate the data, and then perform a streaming write into a new table.
The cade block used by the data engineer is below:



```
(spark.table("sales")
    .withColumn("avg_price", col("sales") / col("units"))
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("complete")
    ._____
    .table("new_sales")
)
```

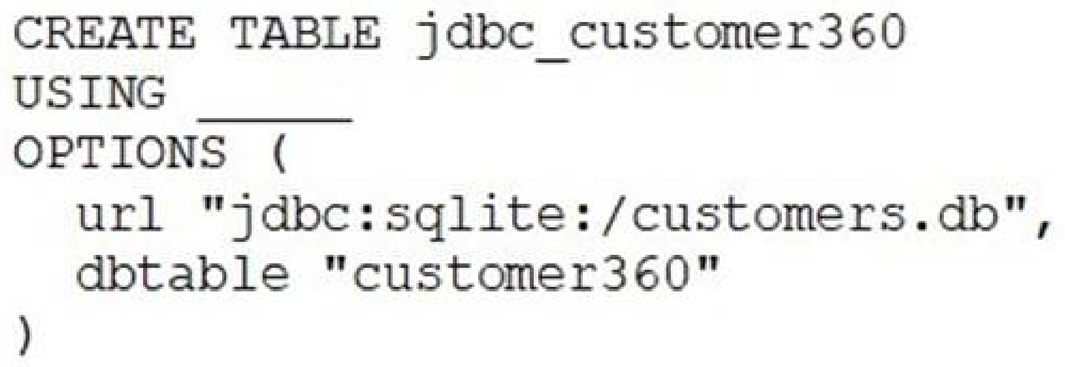
If the data engineer only wants the query to execute a micro-batch to process data every 5 seconds, which of the following lines of code should the data engineer use to fill in the blank?

A. trigger("5 seconds")
B. trigger()
C. trigger(once="5 seconds")
D. trigger(processingTime="5 seconds")
E. trigger(continuous="5 seconds")

Answer: D

Explanation:
# ProcessingTime trigger with two-seconds micro-batch interval df.writeStream \
format("console") \ trigger(processingTime='2 seconds') \ start()
https://spark.apache.org/docs/latest/structured-streaming-programming-guide.html#triggers

NEW QUESTION 3
A data engineer needs to create a table in Databricks using data from their organization's existing SQLite database.
They run the following command:



```
CREATE TABLE jdbc_customer360
USING _____
OPTIONS (
  url "jdbc:sqlite:/customers.db",
  dbtable "customer360"
)
```

Which of the following lines of code fills in the above blank to successfully complete the task?

A. org.apache.spark.sql.jdbc
B. autoloader
C. DELTA
D. sqlite
E. org.apache.spark.sql.sqlite

Answer: A

Explanation:
CREATE TABLE new_employees_table USING JDBC
OPTIONS (
url "<jdbc_url>",
dbtable "<table_name>", user '<username>', password '<password>'
) AS
SELECT * FROM employees_table_vw https://docs.databricks.com/external-data/jdbc.html#language-sql

NEW QUESTION 4
A data analysis team has noticed that their Databricks SQL queries are running too slowly when connected to their always-on SQL endpoint. They claim that this

issue is present when many members of the team are running small queries simultaneously. They ask the data engineering team for help. The data engineering team notices that each of the team's queries uses the same SQL endpoint.
Which of the following approaches can the data engineering team use to improve the latency of the team's queries?

A. They can increase the cluster size of the SQL endpoint.
B. They can increase the maximum bound of the SQL endpoint's scaling range.
C. They can turn on the Auto Stop feature for the SQL endpoint.
D. They can turn on the Serverless feature for the SQL endpoint.
E. They can turn on the Serverless feature for the SQL endpoint and change the Spot Instance Policy to "Reliability Optimized."

Answer: A

Explanation:
When many users are running small queries simultaneously on a SQL endpoint, the database can become overloaded, causing slow query execution times. By increasing the cluster size of the SQL endpoint, the database can handle more simultaneous queries, resulting in faster query execution times.

NEW QUESTION 5
Which of the following must be specified when creating a new Delta Live Tables pipeline?

A. A key-value pair configuration
B. The preferred DBU/hour cost
C. A path to cloud storage location for the written data
D. A location of a target database for the written data
E. At least one notebook library to be executed

Answer: E

Explanation:
https://docs.databricks.com/en/delta-live-tables/tutorial-pipelines.html

NEW QUESTION 6
Which of the following benefits is provided by the array functions from Spark SQL?

A. An ability to work with data in a variety of types at once
B. An ability to work with data within certain partitions and windows
C. An ability to work with time-related data in specified intervals
D. An ability to work with complex, nested data ingested from JSON files
E. An ability to work with an array of tables for procedural automation

Answer: D

Explanation:
Array functions in Spark SQL are primarily used for working with arrays and complex, nested data structures, such as those often encountered when ingesting JSON files. These functions allow you to manipulate and query nested arrays and structures within your data, making it easier to extract and work with specific elements or values within complex data formats. While some of the other options (such as option A for working with different data types) are features of Spark SQL or SQL in general, array functions specifically excel at handling complex, nested data structures like those found in JSON files.

NEW QUESTION 7
A data analyst has created a Delta table sales that is used by the entire data analysis team. They want help from the data engineering team to implement a series of tests to ensure the data is clean. However, the data engineering team uses Python for its tests rather than SQL.
Which of the following commands could the data engineering team use to access sales in PySpark?

A. SELECT * FROM sales
B. There is no way to share data between PySpark and SQL.
C. spark.sql("sales")
D. spark.delta.table("sales")
E. spark.table("sales")

Answer: E

Explanation:
https://spark.apache.org/docs/3.2.1/api/python/reference/api/pyspark.sql.SparkSession.tabl e.html

NEW QUESTION 8
A new data engineering team team has been assigned to an ELT project. The new data engineering team will need full privileges on the table sales to fully manage the project.
Which of the following commands can be used to grant full permissions on the database to the new data engineering team?

A. GRANT ALL PRIVILEGES ON TABLE sales TO team;
B. GRANT SELECT CREATE MODIFY ON TABLE sales TO team;
C. GRANT SELECT ON TABLE sales TO team;
D. GRANT USAGE ON TABLE sales TO team;
E. GRANT ALL PRIVILEGES ON TABLE team TO sales;

Answer: A

NEW QUESTION 9

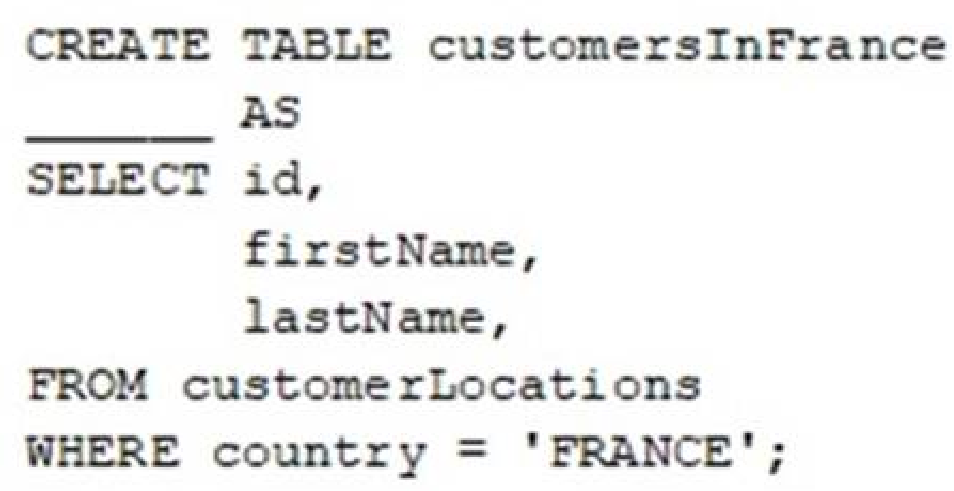
A new data engineering team has been assigned to work on a project. The team will need access to database customers in order to see what tables already exist. The team has its own group team.
Which of the following commands can be used to grant the necessary permission on the entire database to the new team?

A. GRANT VIEW ON CATALOG customers TO team;
B. GRANT CREATE ON DATABASE customers TO team;
C. GRANT USAGE ON CATALOG team TO customers;
D. GRANT CREATE ON DATABASE team TO customers;
E. GRANT USAGE ON DATABASE customers TO team;

Answer: E

Explanation:
The GRANT statement is used to grant privileges on a database, table, or view to a user or role. The ALL PRIVILEGES option grants all possible privileges on the specified object, such as CREATE, SELECT, MODIFY, and USAGE. The syntax of the GRANT statement is:
GRANT privilege_type ON object TO user_or_role;
Therefore, to grant full permissions on the database customers to the new data engineering team, the command should be:
GRANT ALL PRIVILEGES ON DATABASE customers TO team;

NEW QUESTION 10
A data engineer wants to create a new table containing the names of customers that live in France.
They have written the following command:



```
CREATE TABLE customersInFrance
______ AS
SELECT id,
       firstName,
       lastName,
FROM customerLocations
WHERE country = 'FRANCE';
```

A senior data engineer mentions that it is organization policy to include a table property indicating that the new table includes personally identifiable information (PII).
Which of the following lines of code fills in the above blank to successfully complete the task?

A. There is no way to indicate whether a table contains PII.
B. "COMMENT PII"
C. TBLPROPERTIES PII
D. COMMENT "Contains PII"
E. PII

Answer: D

Explanation:
Ref:https://www.databricks.com/discover/pages/data-quality-management CREATE TABLE my_table (id INT COMMENT 'Unique Identification Number', name STRING COMMENT 'PII', age INT COMMENT 'PII') TBLPROPERTIES
('contains_pii'=True) COMMENT 'Contains PII';

NEW QUESTION 10
Which of the following is hosted completely in the control plane of the classic Databricks architecture?

A. Worker node
B. JDBC data source
C. Databricks web application
D. Databricks Filesystem
E. Driver node

Answer: C

Explanation:
In the classic Databricks architecture, the control plane includes components like the Databricks web application, the Databricks REST API, and the Databricks Workspace. These components are responsible for managing and controlling the Databricks environment, including cluster provisioning, notebook management, access control, and job scheduling. The other options, such as worker nodes, JDBC data sources, Databricks Filesystem (DBFS), and driver nodes, are typically part of the data plane or the execution environment, which is separate from the control plane. Worker nodes are responsible for executing tasks and computations, JDBC data sources are used to connect to external databases, DBFS is a distributed file system for data storage, and driver nodes are responsible for coordinating the execution of Spark jobs.

NEW QUESTION 11
A new data engineering team team. has been assigned to an ELT project. The new data engineering team will need full privileges on the database customers to fully manage the project.
Which of the following commands can be used to grant full permissions on the database to the new data engineering team?

A. GRANT USAGE ON DATABASE customers TO team;
B. GRANT ALL PRIVILEGES ON DATABASE team TO customers;

C. GRANT SELECT PRIVILEGES ON DATABASE customers TO teams;
D. GRANT SELECT CREATE MODIFY USAGE PRIVILEGES ON DATABASE customersTO team;
E. GRANT ALL PRIVILEGES ON DATABASE customers TO team;

Answer: E

Explanation:
To grant full privileges on the database "customers" to the new data engineering team, you can use the GRANT ALL PRIVILEGES command as shown in option E. This command provides the team with all possible privileges on the specified database, allowing them to fully manage it.

NEW QUESTION 16
A data engineer has three tables in a Delta Live Tables (DLT) pipeline. They have configured the pipeline to drop invalid records at each table. They notice that some data is being dropped due to quality concerns at some point in the DLT pipeline. They would like to determine at which table in their pipeline the data is being dropped.
Which of the following approaches can the data engineer take to identify the table that is dropping the records?

A. They can set up separate expectations for each table when developing their DLT pipeline.
B. They cannot determine which table is dropping the records.
C. They can set up DLT to notify them via email when records are dropped.
D. They can navigate to the DLT pipeline page, click on each table, and view the data quality statistics.
E. They can navigate to the DLT pipeline page, click on the “Error” button, and review the present errors.

Answer: D

Explanation:
To identify the table in a Delta Live Tables (DLT) pipeline where data is being dropped due to quality concerns, the data engineer can navigate to the DLT pipeline page, click on each table in the pipeline, and view the data quality statistics. These statistics often include information about records dropped, violations of expectations, and other data quality metrics. By examining the data quality statistics for each table in the pipeline, the data engineer can determine at which table the data is being dropped.

NEW QUESTION 19
A data engineer needs to use a Delta table as part of a data pipeline, but they do not know if they have the appropriate permissions.
In which of the following locations can the data engineer review their permissions on the table?

A. Databricks Filesystem
B. Jobs
C. Dashboards
D. Repos
E. Data Explorer

Answer: E

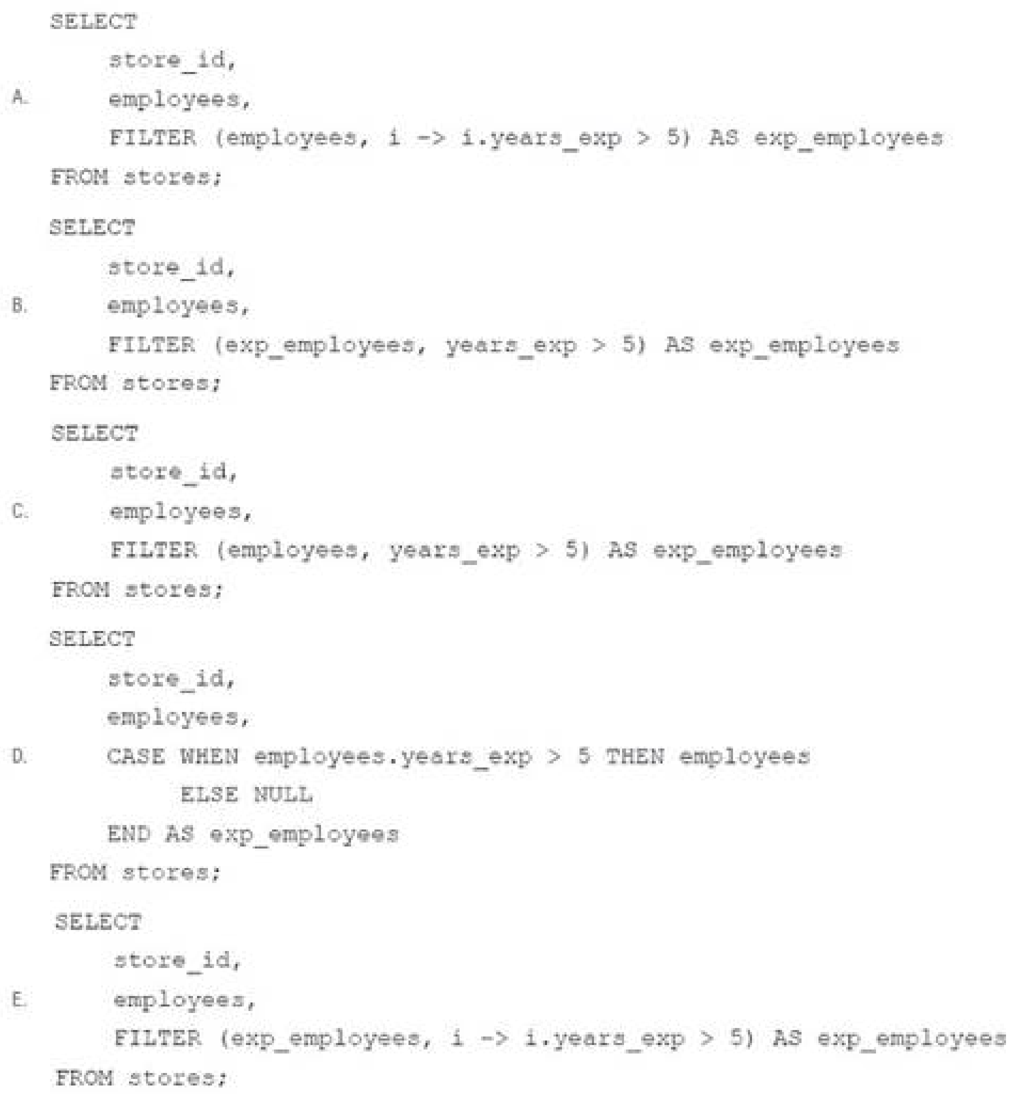
NEW QUESTION 20
Which of the following benefits of using the Databricks Lakehouse Platform is provided by Delta Lake?

A. The ability to manipulate the same data using a variety of languages
B. The ability to collaborate in real time on a single notebook
C. The ability to set up alerts for query failures
D. The ability to support batch and streaming workloads
E. The ability to distribute complex data operations

Answer: D

Explanation:
Delta Lake is a key component of the Databricks Lakehouse Platform that provides several benefits, and one of the most significant benefits is its ability to support both batch and streaming workloads seamlessly. Delta Lake allows you to process and analyze data in real-time (streaming) as well as in batch, making it a versatile choice for various data processing needs. While the other options may be benefits or capabilities of Databricks or the Lakehouse Platform in general, they are not specifically associated with Delta Lake.

NEW QUESTION 22
A data engineer needs to apply custom logic to identify employees with more than 5 years of experience in array column employees in table stores. The custom logic should create a new column exp_employees that is an array of all of the employees with more than 5 years of experience for each row. In order to apply this custom logic at scale, the data engineer wants to use the FILTER higher-order function.
Which of the following code blocks successfully completes this task?



```
    SELECT
        store_id,
A.      employees,
        FILTER (employees, i -> i.years_exp > 5) AS exp_employees
    FROM stores;

    SELECT
        store_id,
B.      employees,
        FILTER (exp_employees, years_exp > 5) AS exp_employees
    FROM stores;

    SELECT
        store_id,
C.      employees,
        FILTER (employees, years_exp > 5) AS exp_employees
    FROM stores;

    SELECT
        store_id,
        employees,
D.      CASE WHEN employees.years_exp > 5 THEN employees
             ELSE NULL
        END AS exp_employees
    FROM stores;

    SELECT
        store_id,
E.      employees,
        FILTER (exp_employees, i -> i.years_exp > 5) AS exp_employees
    FROM stores;
```

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

Answer: A

NEW QUESTION 24
A data engineer has realized that they made a mistake when making a daily update to a table. They need to use Delta time travel to restore the table to a version that is 3 days old. However, when the data engineer attempts to time travel to the older version, they are unable to restore the data because the data files have been deleted.
Which of the following explains why the data files are no longer present?

A. The VACUUM command was run on the table
B. The TIME TRAVEL command was run on the table
C. The DELETE HISTORY command was run on the table
D. The OPTIMIZE command was nun on the table
E. The HISTORY command was run on the table

Answer: A

Explanation:
The VACUUM command in Delta Lake is used to clean up and remove unnecessary data files that are no longer needed for time travel or query purposes. When you run VACUUMwith certain retention settings, it can delete older data files, which might include versions of data that are older than the specified retention period. If the data engineer is unable to restore the table to a version that is 3 days old because the data files have been deleted, it's likely because the VACUUM command was run on the table, removing the older data files as part of data cleanup.

NEW QUESTION 28
A data engineer has a Python variable table_name that they would like to use in a SQL query. They want to construct a Python code block that will run the query using table_name.
They have the following incomplete code block:
(f"SELECT customer_id, spend FROM {table_name}")
Which of the following can be used to fill in the blank to successfully complete the task?

A. spark.delta.sql
B. spark.delta.table
C. spark.table
D. dbutils.sql
E. spark.sql

Answer: E

NEW QUESTION 29
A Delta Live Table pipeline includes two datasets defined using STREAMING LIVE TABLE. Three datasets are defined against Delta Lake table sources using LIVE TABLE.

The table is configured to run in Production mode using the Continuous Pipeline Mode. Assuming previously unprocessed data exists and all definitions are valid, what is the
expected outcome after clicking Start to update the pipeline?

A. All datasets will be updated at set intervals until the pipeline is shut dow
B. The compute resources will persist to allow for additional testing.
C. All datasets will be updated once and the pipeline will persist without any processin
D. The compute resources will persist but go unused.
E. All datasets will be updated at set intervals until the pipeline is shut dow
F. The compute resources will be deployed for the update and terminated when the pipeline is stopped.
G. All datasets will be updated once and the pipeline will shut dow
H. The compute resources will be terminated.
I. All datasets will be updated once and the pipeline will shut dow
J. The compute resources will persist to allow for additional testing.

Answer: C

Explanation:
In a Delta Live Table pipeline running in Continuous Pipeline Mode, when you click Start to update the pipeline, the following outcome is expected: All datasets defined using STREAMING LIVE TABLE and LIVE TABLE against Delta Lake table sources will be updated at set intervals. The compute resources will be deployed for the update process and will be active during the execution of the pipeline. The compute resources will be terminated when the pipeline is stopped or shut down. This mode allows for continuous and periodic updates to the datasets as new data arrives or changes in the
underlying Delta Lake tables occur. The compute resources are provisioned and utilized during the update intervals to process the data and perform the necessary operations.

NEW QUESTION 30
A data engineer has been given a new record of data:
id STRING = 'a1'
rank INTEGER = 6 rating FLOAT = 9.4
Which of the following SQL commands can be used to append the new record to an existing Delta table my_table?

A. INSERT INTO my_table VALUES ('a1', 6, 9.4)
B. my_table UNION VALUES ('a1', 6, 9.4)
C. INSERT VALUES ('a1' , 6, 9.4) INTO my_table
D. UPDATE my_table VALUES ('a1', 6, 9.4)
E. UPDATE VALUES ('a1', 6, 9.4) my_table

Answer: A

NEW QUESTION 34
A data engineer is maintaining a data pipeline. Upon data ingestion, the data engineer notices that the source data is starting to have a lower level of quality. The data engineer would like to automate the process of monitoring the quality level.
Which of the following tools can the data engineer use to solve this problem?

A. Unity Catalog
B. Data Explorer
C. Delta Lake
D. Delta Live Tables
E. Auto Loader

Answer: D

Explanation:
https://docs.databricks.com/delta-live-tables/expectations.html
Delta Live Tables is a tool provided by Databricks that can help data engineers automate the monitoring of data quality. It is designed for managing data pipelines, monitoring data quality, and automating workflows. With Delta Live Tables, you can set up data quality checks and alerts to detect issues and anomalies in your data as it is ingested and processed in real-time. It provides a way to ensure that the data quality meets your desired standards and can trigger actions or notifications when issues are detected. While the other tools mentioned may have their own purposes in a data engineeringenvironment, Delta Live Tables is specifically designed for data quality monitoring and automation within the Databricks ecosystem.

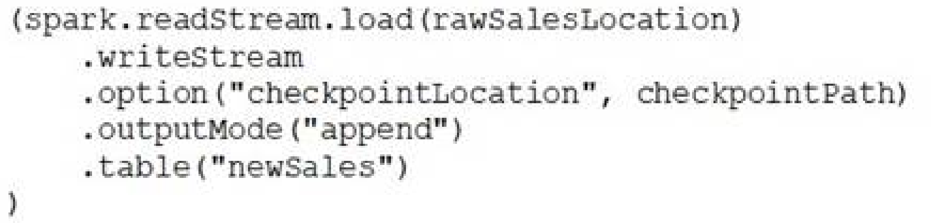
NEW QUESTION 35
A data engineer wants to create a data entity from a couple of tables. The data entity must be used by other data engineers in other sessions. It also must be saved to a physical location.
Which of the following data entities should the data engineer create?

A. Database
B. Function
C. View
D. Temporary view
E. Table

Answer: E

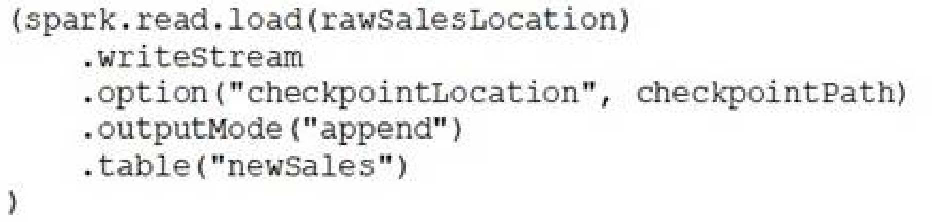
Explanation:
In the context described, creating a "Table" is the most suitable choice. Tables in SQL are data entities that exist independently of any session and are saved in a physical location. They can be accessed and manipulated by other data engineers in different sessions, which aligns with the requirements stated. A "Database" is a collection of tables, views, and other database objects. A "Function" is a stored procedure that performs an operation. A "View" is a virtual table based on the result-set of an SQL statement, but it is not stored physically. A "Temporary view" is a feature that allows you to store the result of a query as a view that disappears once your session with the database is closed.

NEW QUESTION 37
Which of the following Structured Streaming queries is performing a hop from a Silver table to a Gold table?
A.



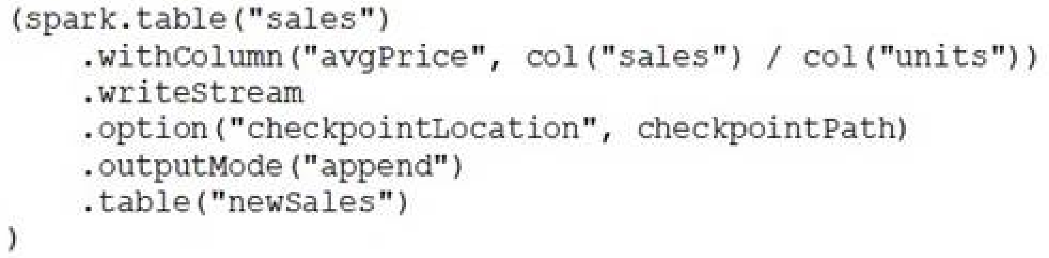
```
(spark.readStream.load(rawSalesLocation)
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("append")
    .table("newSales")
)
```

B.



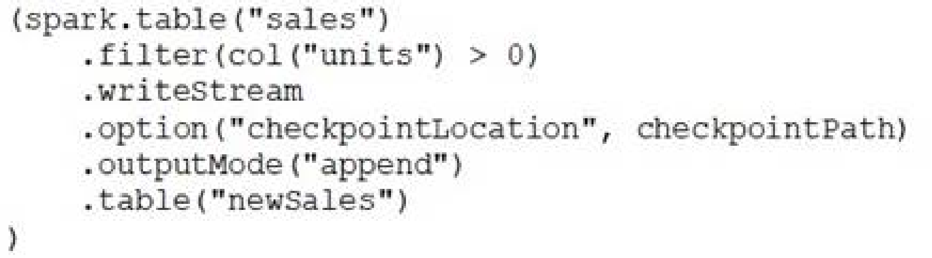
```
(spark.read.load(rawSalesLocation)
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("append")
    .table("newSales")
)
```

C.



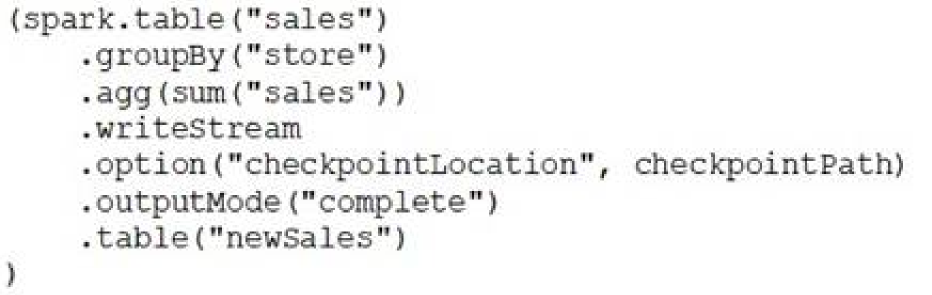
```
(spark.table("sales")
    .withColumn("avgPrice", col("sales") / col("units"))
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("append")
    .table("newSales")
)
```

D.



```
(spark.table("sales")
    .filter(col("units") > 0)
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("append")
    .table("newSales")
)
```

E.



```
(spark.table("sales")
    .groupBy("store")
    .agg(sum("sales"))
    .writeStream
    .option("checkpointLocation", checkpointPath)
    .outputMode("complete")
    .table("newSales")
)
```

A.

Answer: E

NEW QUESTION 41
A data engineer has a single-task Job that runs each morning before they begin working. After identifying an upstream data issue, they need to set up another task to run a new notebook prior to the original task.
Which of the following approaches can the data engineer use to set up the new task?

A. They can clone the existing task in the existing Job and update it to run the new notebook.
B. They can create a new task in the existing Job and then add it as a dependency of the original task.
C. They can create a new task in the existing Job and then add the original task as a dependency of the new task.
D. They can create a new job from scratch and add both tasks to run concurrently.
E. They can clone the existing task to a new Job and then edit it to run the new notebook.

Answer: B

Explanation:
To set up the new task to run a new notebook prior to the original task in a single-task Job, the data engineer can use the following approach: In the existing Job, create a new task that corresponds to the new notebook that needs to be run. Set up the new task with the appropriate configuration, specifying the notebook to be executed and any necessary parameters or dependencies. Once the new task is created, designate it as a dependency of the original task in the Job configuration. This ensures that the new task is executed before the original task.

NEW QUESTION 46
A data engineer has a Job with multiple tasks that runs nightly. Each of the tasks runs slowly because the clusters take a long time to start.
Which of the following actions can the data engineer perform to improve the start up time for the clusters used for the Job?

A. They can use endpoints available in Databricks SQL
B. They can use jobs clusters instead of all-purpose clusters
C. They can configure the clusters to be single-node
D. They can use clusters that are from a cluster pool
E. They can configure the clusters to autoscale for larger data sizes

Answer: D

Explanation:
Cluster pools are a way to pre-provision clusters that are ready to use. This can reduce the start up time for clusters, as they do not have to be created from scratch. All-purpose clusters are not pre-provisioned, so they will take longer to start up. Jobs clusters are a type of cluster pool, but they are not the best option for this use case. Jobs clusters are designed for long-running jobs, and they can be more expensive than other types of cluster pools. Single-node clusters are the smallest type of cluster, and they will start up the fastest. However, they may not be powerful enough to run the Job's tasks. Autoscaling clusters can scale up or down based on demand. This can help to improve the start up time for clusters, as they will only be created when they are needed. However, autoscaling clusters can also be more expensive than other types of cluster pool https://docs.databricks.com/en/clusters/pool-best-practices.html

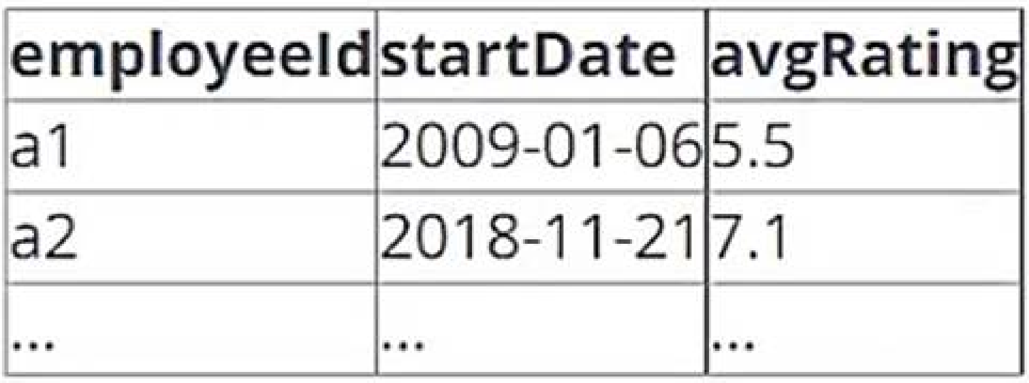
NEW QUESTION 49
In which of the following file formats is data from Delta Lake tables primarily stored?

A. Delta
B. CSV
C. Parquet
D. JSON
E. A proprietary, optimized format specific to Databricks

Answer: C

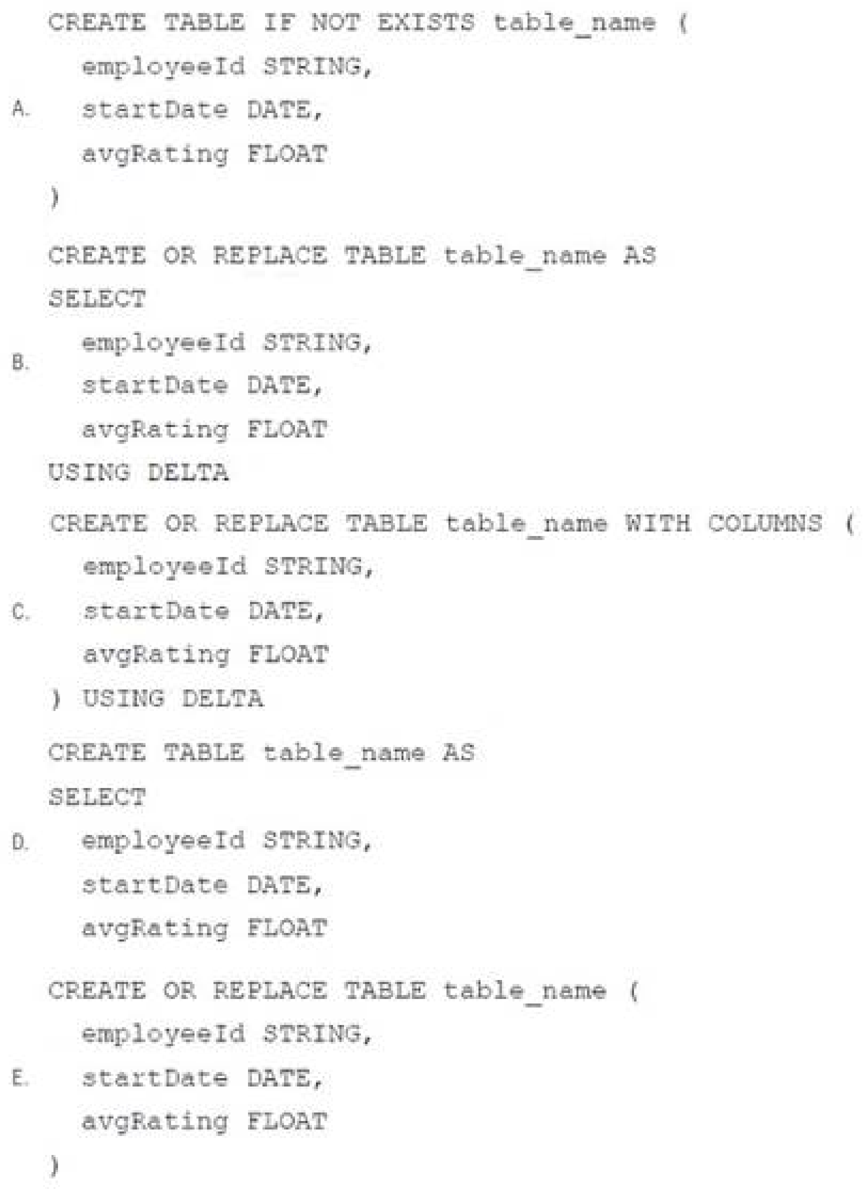
Explanation:
https://docs.delta.io/latest/delta-faq.html

NEW QUESTION 51
A data architect has determined that a table of the following format is necessary:



employeeId	startDate	avgRating
a1	2009-01-06	5.5
a2	2018-11-21	7.1
...	...	...

Which of the following code blocks uses SQL DDL commands to create an empty Delta table in the above format regardless of whether a table already exists with this name?



A.
```
CREATE TABLE IF NOT EXISTS table_name (
  employeeId STRING,
  startDate DATE,
  avgRating FLOAT
)
```

B.
```
CREATE OR REPLACE TABLE table_name AS
SELECT
  employeeId STRING,
  startDate DATE,
  avgRating FLOAT
USING DELTA
```

C.
```
CREATE OR REPLACE TABLE table_name WITH COLUMNS (
  employeeId STRING,
  startDate DATE,
  avgRating FLOAT
) USING DELTA
```

D.
```
CREATE TABLE table_name AS
SELECT
  employeeId STRING,
  startDate DATE,
  avgRating FLOAT
```

E.
```
CREATE OR REPLACE TABLE table_name (
  employeeId STRING,
  startDate DATE,
  avgRating FLOAT
)
```

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

E. Option E

Answer: E

NEW QUESTION 56

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