Question #1 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Descriptive analytics tells you [▼]

what is most likely to occur in the future.
what occurred in the past.
which actions you can perform to affect outcomes.
why something occurred in the past.

Correct
Answer:
Answer Area

Descriptive analytics tells you [▼]

what is most likely to occur in the future.
what occurred in the past.
which actions you can perform to affect outcomes.
why something occurred in the past.

Reference:
https://demand-planning.com/2020/01/20/the-differences-between-descriptive-diagnostic-predictive-cognitive-analytics/

Question #2 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Normalization involves eliminating relationships between database tables.	○	○
Normalizing a database reduces data redundancy.	○	○
Normalization improves data integrity.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Normalization involves eliminating relationships between database tables.	○	◉
Normalizing a database reduces data redundancy.	◉	○
Normalization improves data integrity.	◉	○

Reference:
https://www.sqlshack.com/what-is-database-normalization-in-sql-server/

Question #3 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

An extract, transform, and load (ETL) process requires ▼

| a matching schema in the data source and the data target. |
| a target data store powerful enough to transform data. |
| data that is fully processed before being loaded to the target data store. |
| that the data target be a relational database. |

Correct Answer:

Answer Area

An extract, transform, and load (ETL) process requires ▼

| a matching schema in the data source and the data target. |
| **a target data store powerful enough to transform data.** |
| data that is fully processed before being loaded to the target data store. |
| that the data target be a relational database. |

In the ELT pipeline, the transformation occurs in the target data store. ELT only works well when the target system is powerful enough to transform the data efficiently.

Incorrect Answers:

☞ The data does not need to be fully processed: Often, the three ETL phases are run in parallel to save time. For example, while data is being extracted, a transformation process could be working on data already received and prepare it for loading, and a loading process can begin working on the prepared data, rather than waiting for the entire extraction process to complete.

☞ The target does need to be a relational database.

Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/etl

Question #4 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

In batch processing,

| data is always inserted one row at a time. |
| data is processed in real-time. |
| latency is expected. |
| processing can only execute serially. |

Correct Answer:

Answer Area

In batch processing,

| data is always inserted one row at a time. |
| data is processed in real-time. |
| **latency is expected.** |
| processing can only execute serially. |

Reference:
https://www.bmc.com/blogs/what-is-batch-processing-batch-processing-explained/

Question #5 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.

Hot Area:

Answer Area

Transcribing audio files is an example of [▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

Correct Answer:

Answer Area

Transcribing audio files is an example of [▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

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

Question #6 *Topic 1*
DRAG DROP -
Match the types of analytics that can be used to answer the business questions.
To answer, drag the appropriate analytics type from the column on the left to its question on the right. Each analytics type may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Analytics Types	Answer Area	
Cognitive		Why did sales increase last month?
Diagnostic		How do I allocate my budget to buy different inventory items?
Descriptive		Which people are mentioned in a company's business documents?
Predictive		
Prescriptive		

Correct Answer: *Incorrect Answer:*
Box 1: Diagnostic -

Diagnostic Analytics: At this stage you can begin to answer some of those why questions. Historical data can begin to be measured against other data to answer the question of why something happened in the past. This is the process of gathering and interpreting different data sets to identify anomalies, detect patters, and determine relationships.

Box 2: Prescriptive -
Prescriptive analytics is a combination of data, mathematical models, and various business rules to infer actions to influence future desired outcomes.
Predictive analytics, broadly speaking, is a category of business intelligence that uses descriptive and predictive variables from the past to analyze and identify the likelihood of an unknown future outcome

Box 3: Descriptive -
➳ Generally speaking, data analytics comes in four types:
➳ Descriptive, to answer the question: What҅€™s happening?
➳ Diagnostic, to answer the question: Why҅€™s happening?
➳ Predictive, to answer the question: What will happen?
➳ Prescriptive, to answer the question: What actions should we take?

Reference:
https://demand-planning.com/2020/01/20/the-differences-between-descriptive-diagnostic-predictive-cognitive-analytics/ https://azure.microsoft.com/en-us/blog/answering-whats-happening-whys-happening-and-what-will-happen-with-iot-analytics/

Question #7 *Topic 1*
HOTSPOT -
You have the following JSON document.

```
"customer" : {
    "first name" : "Ben",
    "last name" : "Smith",
    "address" : {
        "line 1" : "161 Azure Ln",
        "line 2" : "Palo Alto",
        "ZIP code" : "54762"
    },
    "social media": [
        {
            "service" : "twitter",
            "handle" : "@bensmith"
        },
        {
            "service" : "linkedin",
            "handle" : "bensmith"
        }
    ],
    "phone numbers": [
        {
            "type" : "mobile",
            "number" : "555-555-555"
        }
    ]
}
```

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

Hot Area:

Answer Area

Customer is [answer choice].

a nested array
a nested object
a root object

Address is [answer choice].

a nested array
a nested object
a root object

Social media is [answer choice].

a nested array
a nested object
a root object

Correct

Answer Area

Customer is [answer choice].

a nested array
a nested object
a root object

Address is [answer choice].

a nested array
a nested object
a root object

Social media is [answer choice].

a nested array
a nested object
a root object

Answer:
Reference:

Question #8 *Topic 1*
HOTSPOT -
You are reviewing the data model shown in the following exhibit.
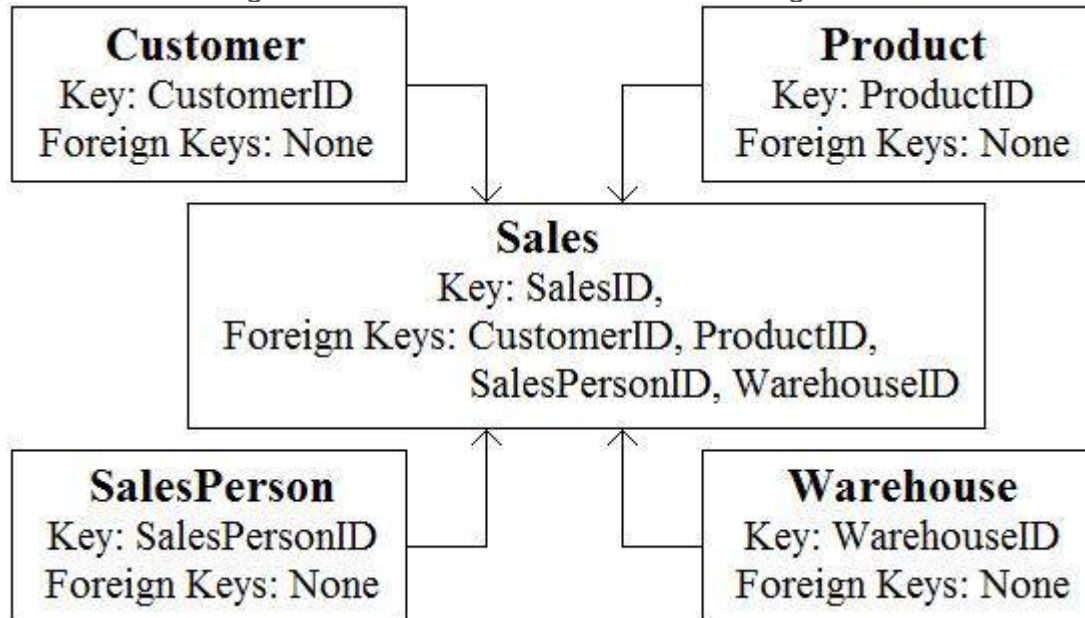
Customer		**Product**
Key: CustomerID		Key: ProductID
Foreign Keys: None		Foreign Keys: None

Sales
Key: SalesID,
Foreign Keys: CustomerID, ProductID,
SalesPersonID, WarehouseID

SalesPerson		**Warehouse**
Key: SalesPersonID		Key: WarehouseID
Foreign Keys: None		Foreign Keys: None

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

Answer Area

The data model is a [answer choice].

▼
transactional model
star schema
snowflake schema

Customer is a [answer choice] table.

▼
fact
dimension
bridge

Correct
Answer:

Answer Area

The data model is a [answer choice].

| transactional model |
|---|
| star schema |
| snowflake schema |

Customer is a [answer choice] table.

fact
dimension
bridge

Box 1: star schema -
In computing, the star schema is the simplest style of data mart schema and is the approach most widely used to develop data warehouses and dimensional data marts. The star schema consists of one or more fact tables referencing any number of dimension tables. The star schema is an important special case of the snowflake schema, and is more effective for handling simpler queries.
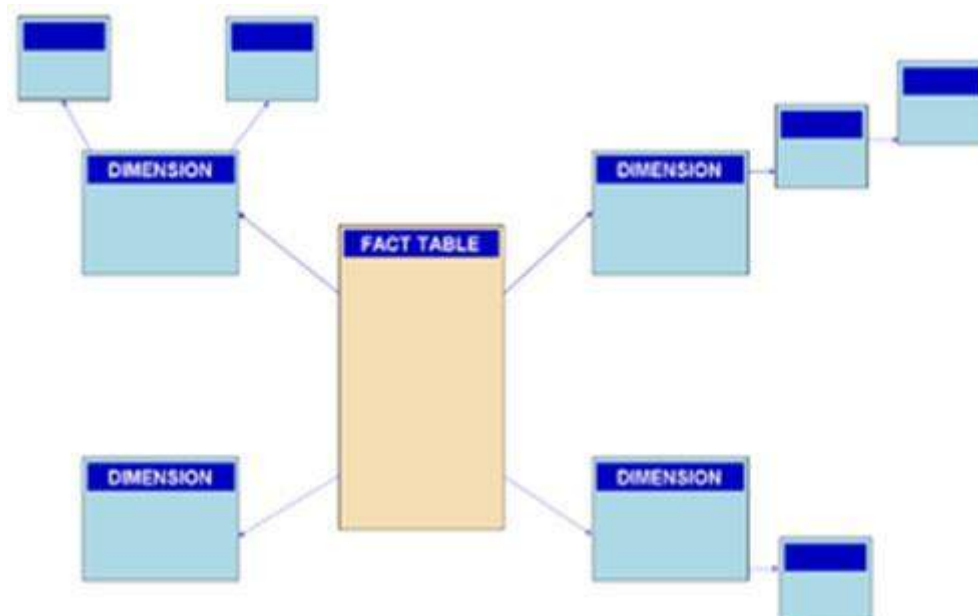Example:
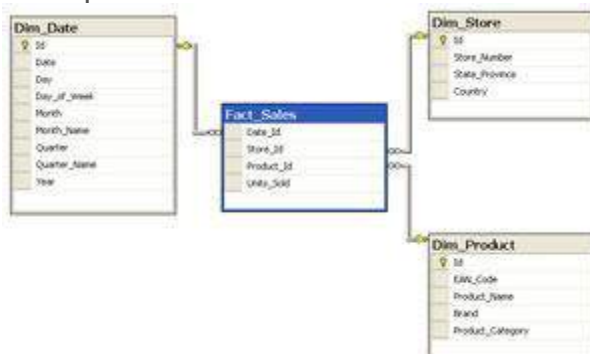
Incorrect Answers:
The data in the question is not normalized.
The snowflake schema is a variation of the star schema, featuring normalization of dimension tables. Example:

Note: A snowflake schema is a logical arrangement of tables in a multidimensional database such that the entity relationship diagram resembles a snowflake shape. The snowflake schema is represented by centralized fact tables which are connected to multiple dimensions.[citation needed]. "Snowflaking" is a method of normalizing the dimension tables in a star schema. When it is completely normalized along all the dimension tables, the resultant structure resembles a snowflake with the fact table in the middle.

Box 2: dimension -
The star schema consists of one or more fact tables referencing any number of dimension tables.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-overview https://en.wikipedia.org/wiki/Star_schema https://en.wikipedia.org/wiki/Snowflake_schema https://azure.microsoft.com/en-us/blog/data-models-within-azure-analysis-services-and-power-bi/

Question #9 Topic 1
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

The massively parallel processing (MPP) engine of Azure Synapse Analytics ▼

distributes processing across compute nodes.
distributes processing across control nodes.
redirects client connections across compute nodes.
redirects client connections across control nodes.

Correct
Answer:

Answer Area

The massively parallel processing (MPP) engine of Azure
Synapse Analytics [▼]

distributes processing across compute nodes.
distributes processing across control nodes.
redirects client connections across compute nodes.
redirects client connections across control nodes.

Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-
warehouse/massively-parallel-processing-mpp-architecture

Question #10 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

[▼]
A clustered index
A FileTable
A foreign key
A stored procedure

is an object associated with a table that sorts
and stores the data rows in the table based on
their key values.

Correct
Answer:

Answer Area

[▼]
A clustered index
A FileTable
A foreign key
A stored procedure

is an object associated with a table that sorts
and stores the data rows in the table based on
their key values.

Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/indexes/clustered-and-
nonclustered-indexes-described?view=sql-server-ver15

Question #11 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A relational database is appropriate for scenarios that involve a high volume of

▼
changes to relationships between entities
geographically distributed writes
transactional writes
writes that have varying data structures

Hide Solution   Discussion   6
Correct Answer:

Answer Area

A relational database is appropriate for scenarios that involve a high volume of

▼
changes to relationships between entities
geographically distributed writes
transactional writes
writes that have varying data structures

Disadvantages of non-relational databases include: Data Consistency ג€" non-relational databases do not perform ACID transactions.
Note: Relational databases are optimized for writes. They are optimized for consistency and availability. Advantages of relational databases include simplicity, ease of data retrieval, data integrity, and flexibility.
Incorrect Answers:
Use a relational database when data that you work with is structured, and the structure is not subject to frequent changes.
Use Cloud storage (no relational database) for geographically distributed writes.
Reference:
https://towardsdatascience.com/choosing-the-right-database-c45cd3a28f77

Question #12 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Batch processing can output data to a file store	○	○
Batch processing can output data to a relational database	○	○
Batch processing can output data to a NoSQL database	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Batch processing can output data to a file store	◉	○
Batch processing can output data to a relational database	○	◉
Batch processing can output data to a NoSQL database	○	◉

Box 1: Yes -
Big data solutions often use long-running batch jobs to filter, aggregate, and otherwise prepare the data for analysis. Usually these jobs involve reading source files from scalable storage (like HDFS, Azure Data Lake Store, and Azure Storage), processing them, and writing the output to new files in scalable storage.

Box 2: No -

Box 3: No -
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/batch-processing

Question #13 *Topic 1*
DRAG DROP -
Your company plans to load data from a customer relationship management (CRM) system to a data warehouse by using an extract, load, and transform (ELT) process. Where does data processing occur for each stage of the ELT process? To answer, drag the appropriate locations to the correct stages. Each location may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Select and Place:

Locations	Answer Area
An in-memory data integration tool	Extract: Location
The CRM system	Load: Location
The data warehouse	Transform: Location

Correct Answer:

| Locations	Answer Area
An in-memory data integration tool	Extract: The CRM system
The CRM system	Load: The data warehouse
The data warehouse	Transform: An in-memory data integration tool

Box 1: The CRM system -
Data is extracted from the CRM system.

Box 2: The data warehouse -
Data is loaded to the data warehouse.
Box 3: An in-memory data integration tool
The data transformation that takes place usually involves various operations, such as filtering, sorting, aggregating, joining data, cleaning data, deduplicating, and validating data.
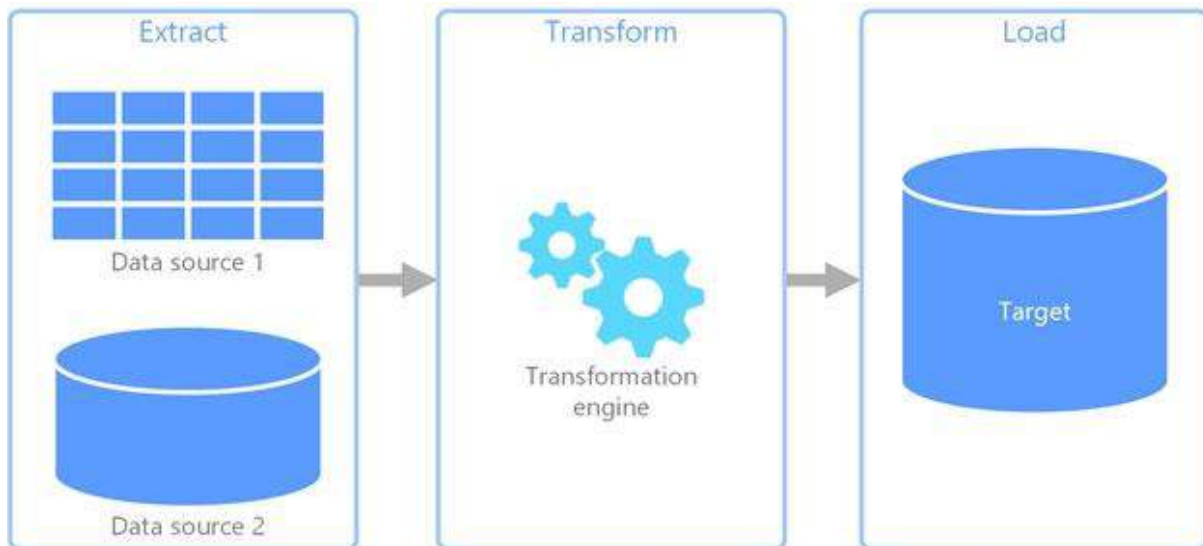
Question #14 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A visualization that shows a university's current student enrollment versus the maximum capacity is an example of [▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

Correct Answer:

Answer Area

A visualization that shows a university's current student enrollment versus the maximum capacity is an example of [▼] analytics.

| cognitive |
| **descriptive** |
| predictive |
| prescriptive |

Generally speaking, data analytics comes in four types (Figure 1):
Descriptive, to answer the question: What€™s happening?
Diagnostic, to answer the question: Why€™s happening?
Predictive, to answer the question: What will happen?
Prescriptive, to answer the question: What actions should we take?

Reference:
https://azure.microsoft.com/en-us/blog/answering-whats-happening-whys-happening-and-what-will-happen-with-iot-analytics/

Question #15 *Topic 1*
DRAG DROP -
Match the types of visualizations to the appropriate descriptions.
To answer, drag the appropriate visualization type from the column on the left to its description on the right. Each visualization type may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

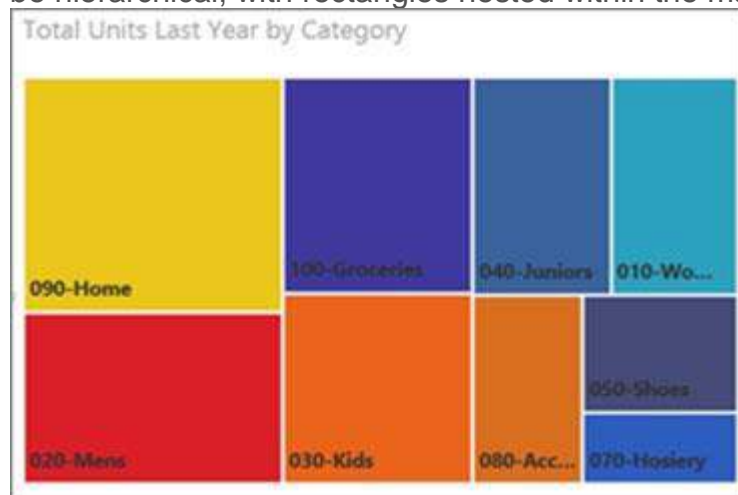| Visualizations	Answer Area	
Key influencer	Visualization	A chart of colored, nested rectangles that displays individual data points represented by the size and color of a relative rectangle.
Scatter	Visualization	A chart that displays the major contributors of a selected result or value.
Treemap	Visualization	A chart that shows the relationship between two numerical values.

Hide Solution **Discussion** **10**
Correct
Answer:

Visualizations	Answer Area	
Key influencer	Treemap	A chart of colored, nested rectangles that displays individual data points represented by the size and color of a relative rectangle.
Scatter	Key influencer	A chart that displays the major contributors of a selected result or value.
Treemap	Scatter	A chart that shows the relationship between two numerical values.

Box 1: Tree map -
Treemaps are charts of colored rectangles, with size representing value. They can be hierarchical, with rectangles nested within the main rectangles.

Total Units Last Year by Category

090-Home
100-Groceries
040-Juniors
010-Wo...
020-Mens
030-Kids
080-Acc...
050-Shoes
070-Hosiery

Box 2: Key influencer -
A key influencer chart displays the major contributors to a selected result or value.

Box 3: Scatter -
Scatter and Bubble charts display relationships between 2 (scatter) or 3 (bubble) quantitative measures -- whether or not, in which order, etc.

Question #16 *Topic 1*
You need to create an Azure Storage account.
Data in the account must replicate outside the Azure region automatically.
Which two types of replication can you use for the storage account? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. zone-redundant storage (ZRS)
- B. read-access geo-redundant storage (RA-GRS)
- C. locally-redundant storage (LRS)
- D. geo-redundant storage (GRS)

Hide Solution   Discussion   **10**
Correct Answer: *BD*
D: Azure Storage offers two options for copying your data to a secondary region:
☞ Geo-redundant storage (GRS)
☞ Geo-zone-redundant storage (GZRS)
B: With GRS or GZRS, the data in the secondary region isn't available for read or write access unless there is a failover to the secondary region. For read access to the secondary region, configure your storage account to use read-access geo-redundant storage (RA-GRS) or read-access geo-zone-redundant storage (RA-GZRS).
Reference:
https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy#redundancy-in-a-secondary-region

Question #17 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure require less setup and configuration effort than infrastructure as a service (IaaS) database offerings.	○	○
Platform as a service (PaaS) database offerings in Azure provide administrators with the ability to control and update the operating system version.	○	○
All relation and non-relational platform as a service (PaaS) database offerings in Azure can be paused to reduce costs.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure require less setup and configuration effort than infrastructure as a service (IaaS) database offerings.	●	○
Platform as a service (PaaS) database offerings in Azure provide administrators with the ability to control and update the operating system version.	●	○
All relation and non-relational platform as a service (PaaS) database offerings in Azure can be paused to reduce costs.	○	●

Box 1: Yes -
Like IaaS, PaaS includes infrastructure ›€" servers, storage, and networking ›€" but also middleware, development tools, business intelligence (BI) services, database management systems, and more. PaaS is designed to support the complete web application lifecycle: building, testing, deploying, managing, and updating.
PaaS allows you to avoid the expense and complexity of buying and managing software licenses, the underlying application infrastructure and middleware, container orchestrators such as Kubernetes, or the development tools and other resources

Box 2: Yes -
You manage the applications and services you develop, and the cloud service provider typically manages everything else.
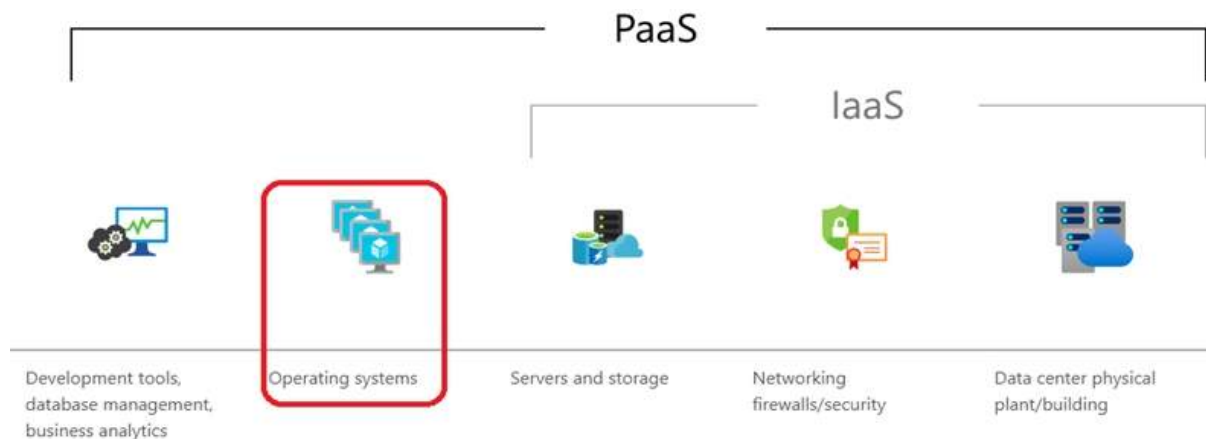
Box 3: No -

There really is no way to pause / stop billing for your Azure SQL Database. Microsoft's official answer "Yes, you can export your database. Delete the Azure SQL database and that will pause billing. Then when you need it you can create a new database and import your previously exported DB."

Reference:

https://azure.microsoft.com/en-us/overview/what-is-paas

https://feedback.azure.com/forums/217321-sql-database/suggestions/6931152-please-add-ability-to-temporarily-turn-off-on-sql

Question #18 *Topic 1*

Which statement is an example of Data Manipulation Language (DML)?

- A. REVOKE
- B. DISABLE
- C. INSERT
- D. GRANT

Hide Solution   Discussion   11

Correct Answer: *C*

Data Manipulation Language (DML) statements:

☞ DELETE

☞ INSERT

☞ UPDATE

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-reference-tsql-statements

Question #19 *Topic 1*

You have a SQL query that combines customer data and order data. The query includes calculated columns.

You need to create a database object that would allow other users to rerun the same SQL query.

What should you create?

- A. an index

- B. a view
- C. a scalar function
- D. a table

Correct Answer: *B*
A view is a virtual table whose contents are defined by a query. A view acts as a filter on the underlying tables referenced in the view. The query that defines the view can be from one or more tables or from other views in the current or other databases.
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/views/views

Question #20 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A key/value data store is optimized for

| enforcing constraints |
| simple lookups |
| table joins |
| transactions |

Correct Answer:

Answer Area

A key/value data store is optimized for

| enforcing constraints |
| **simple lookups** |
| table joins |
| transactions |

Box 1: simple lookups -
A key/value store associates each data value with a unique key. Most key/value stores only support simple query, insert, and delete operations. To modify a value (either partially or completely), an application must overwrite the existing data for the entire value. In most implementations, reading or writing a single value is an atomic operation.
An application can store arbitrary data as a set of values. Any schema information must be provided by the application. The key/value store simply retrieves or stores the value by key.
Reference:

https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/data-store-overview

Question #21 *Topic 1*
DRAG DROP -
Match the types of data to the appropriate Azure data services.
To answer, drag the appropriate data type from the column on the left to its service on the right. Each data type may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Data Types	Answer Area	
Image files	Data type	Azure Blob storage
Key/value pairs	Data type	Azure Cosmos DB Gremlin API
Relationships between employees	Data type	Azure Table storage

Hide Solution   Discussion   25
Correct
Answer:

Data Types	Answer Area	
Image files	Image files	Azure Blob storage
Key/value pairs	Key/value pairs	Azure Cosmos DB Gremlin API
Relationships between employees	Relationships between employees	Azure Table storage

Box 1: Image files -
Azure Blob storage is suitable for image files.

Box 2:Key/value pairs -
Azure CosmosDB table API is a key-value storage hosted in the cloud.
Box 3: Relationship between employees
One-to-many relationships between business domain objects occur frequently: for example, one department has many employees. There are several ways to implement one-to-many relationships in the Azure Table service.
Reference:
https://docs.microsoft.com/en-us/azure/storage/tables/table-storage-design-modeling

Question #22 *Topic 1*
DRAG DROP -
Match the Azure Data Lake Storage Gen2 terms to the appropriate levels in the hierarchy.
To answer, drag the appropriate term from the column on the left to its level on the right. Each term may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
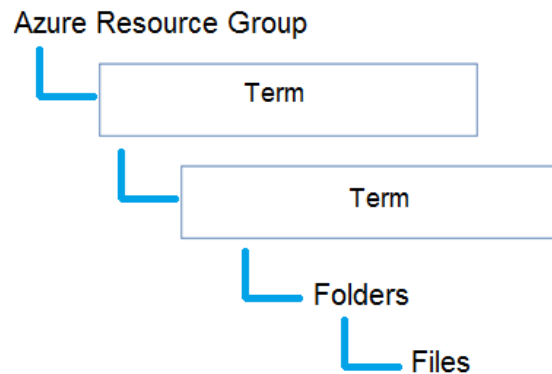
Select and Place:

Terms

| Azure Storage account |
| File share |
| Container |

Answer Area

Azure Resource Group
└ Term
  └ Term
    └ Folders
      └ Files

Correct Answer:

Terms

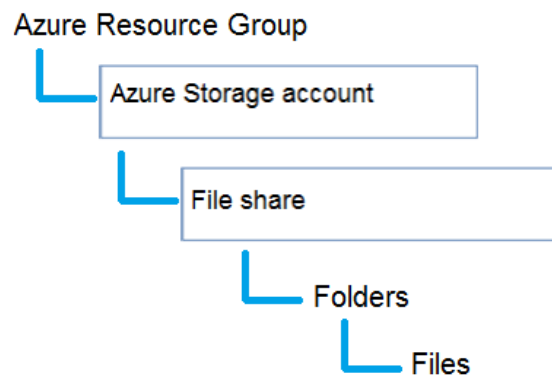| Azure Storage account |
| File share |
| Container |

Answer Area

Azure Resource Group
└ Azure Storage account
  └ File share
    └ Folders
      └ Files

Box 1: Azure Storage account -
Azure file shares are deployed into storage accounts, which are top-level objects that represent a shared pool of storage.

Box 2: File share -
Reference:
https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-create-file-share

Question #23 Topic 1
What are two characteristics of real-time data processing? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Data is processed periodically
- B. Low latency is expected
- C. High latency is acceptable
- D. Data is processed as it is created

Discussion 14
Correct Answer: *BD*
Real time processing deals with streams of data that are captured in real-time and processed with minimal latency to generate real-time (or near-real-time) reports or automated responses.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/real-time-processing

Question #24 *Topic 1*
DRAG DROP -
Match the Azure Data Factory components to the appropriate descriptions.
To answer, drag the appropriate component from the column on the left to its description on the right. Each component may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Components		Answer Area	
Dataset		Component	A representation of data structures within data stores
Linked service		Component	The information used to connect to external resources
Mapping data flow		Component	A logical grouping of activities that performs a unit of work and can be scheduled
Pipeline			

Discussion 7
Correct Answer:

Components		Answer Area	
Dataset		Dataset	A representation of data structures within data stores
Linked service		Linked service	The information used to connect to external resources
Mapping data flow		Pipeline	A logical grouping of activities that performs a unit of work and can be scheduled
Pipeline			

Box 1: Dataset -
Datasets must be created from paths in Azure datastores or public web URLs, for the data to be accessible by Azure Machine Learning.

Box 2: Linked service -
Linked services are much like connection strings, which define the connection information needed for Data Factory to connect to external resources.

Box 3: Pipeline -
A pipeline is a logical grouping of activities that together perform a task.
Reference:
https://k21academy.com/microsoft-azure/dp-100/datastores-and-datasets-in-azure/
https://docs.microsoft.com/en-us/azure/data-factory/concepts-linked-services
https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipelines-activities

Question #25 Topic 1
DRAG DROP -
Match the types of workloads to the appropriate scenarios.
To answer, drag the appropriate workload type from the column on the left to its
scenario on the right. Each workload type may be used once, more than once, or not
at all.
NOTE: Each correct match is worth one point.
Select and Place:

Workload Types	Answer Area	
Batch	Workload type	Data for a product catalog will be loaded every 12 hours to a data warehouse.
Streaming	Workload type	Thousands of data sets per second for online purchases will be loaded into a data warehouse in real time
	Workload type	Updates to inventory data will be loaded to a data warehouse every 1 million transactions.

Hide Solution   Discussion   1
**Correct
Answer:**

Workload Types	Answer Area	
Batch	Batch	Data for a product catalog will be loaded every 12 hours to a data warehouse.
Streaming	Streaming	Thousands of data sets per second for online purchases will be loaded into a data warehouse in real time
	Batch	Updates to inventory data will be loaded to a data warehouse every 1 million transactions.

Box 1: Batch -
Batch processing refers to the processing of blocks of data that have already been
stored over a period of time.

Box 2: Streaming -
Stream processing is a big data technology that allows us to process data in real-
time as they arrive and detect conditions within a small period of time from the point
of receiving the data. It allows us to feed data into analytics tools as soon as they get
generated and get instant analytics results.

Box 3: Batch -
Reference:

Question #26 *Topic 1*
DRAG DROP -
Your company plans to load data from a customer relationship management (CRM) system to a data warehouse by using an extract, load, and transform (ELT) process. Where does data processing occur for each stage of the ELT process? To answer, drag the appropriate locations to the correct stages. Each location may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.
Select and Place:

Locations	Answer Area
A standalone data analysis tool	Extract:
The CRM system	Load:
The data warehouse	Transform:

Hide Solution   Discussion   2
Correct
Answer:

| Locations	Answer Area	
	Extract:	The CRM system
	Load:	The data warehouse
	Transform:	A standalone data analysis tool

Box 1: The CRM system -
Data is extracted from the CRM system.

Box 2: The data warehouse -
Data is loaded to the data warehouse.
Box 3: A standalone data analysis tool
The data transformation that takes place usually involves various operations, such as filtering, sorting, aggregating, joining data, cleaning data, deduplicating, and validating data.
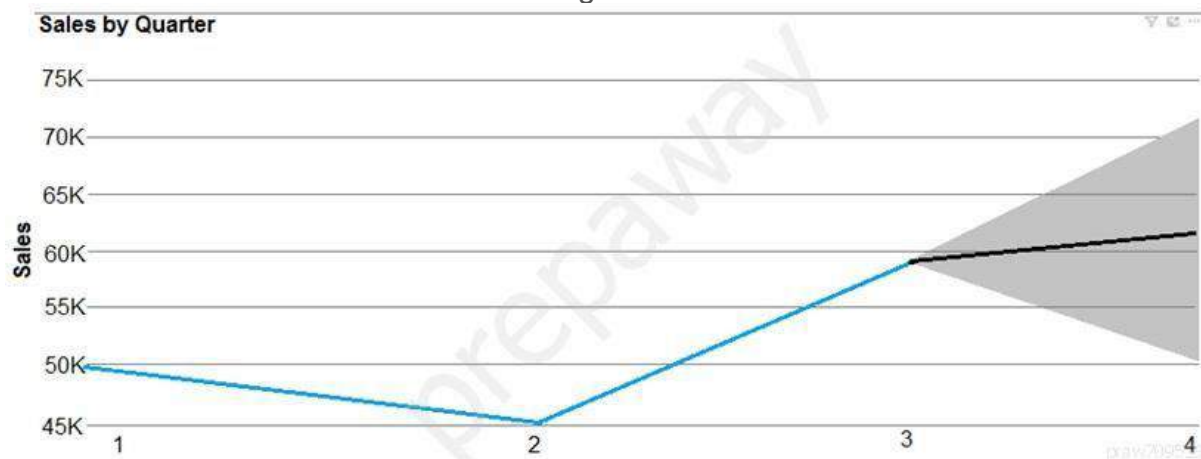
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/etl
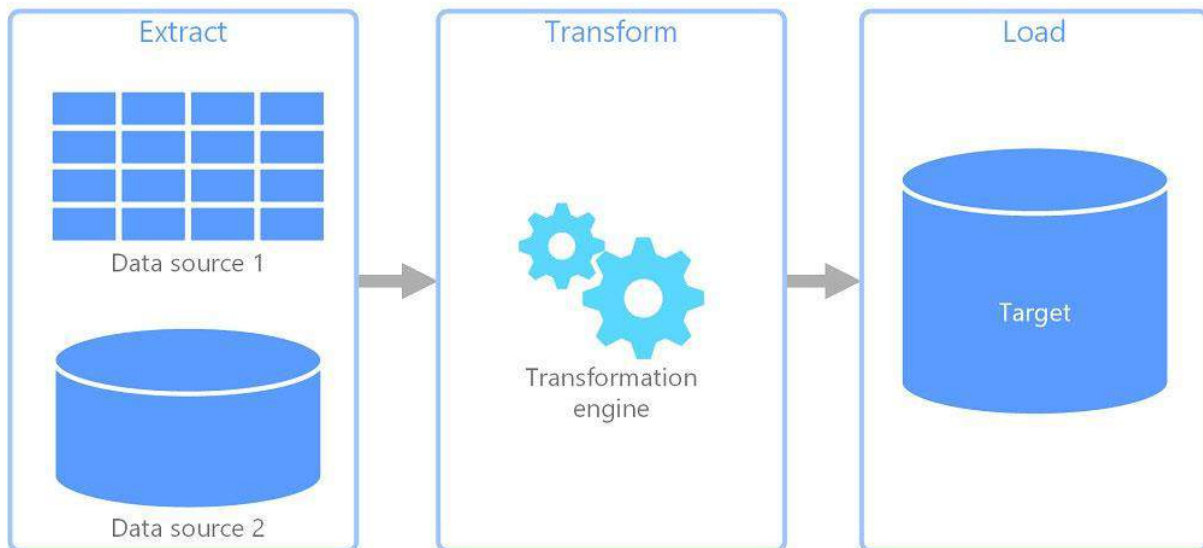
Question #27 *Topic 1*
Your company recently reported sales from the third quarter.
You have the chart shown in the following exhibit.

Which type of analysis is shown in the fourth quarter?

- A. predictive
- B. prescriptive
- C. descriptive
- D. diagnostic

Correct Answer: *A*
Predictive, to answer the question: What will happen?

Reference:
https://demand-planning.com/2020/01/20/the-differences-between-descriptive-diagnostic-predictive-cognitive-analytics/ https://azure.microsoft.com/en-us/blog/answering-whats-happening-whys-happening-and-what-will-happen-with-iot-analytics/

Question #28 *Topic 1*
Which statement is an example of Data Manipulation Language (DML)?

- A. REVOKE
- B. DISABLE
- C. CREATE
- D. UPDATE

Hide Solution   Discussion
Correct Answer: *D*
Data Manipulation Language (DML) affect the information stored in the database.
Use these statements to insert, update, and change the rows in the database.

BULK INSERT -

DELETE -

INSERT -

SELECT -

UPDATE -

MERGE -
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/statements

Question #29 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.

Hot Area:

Answer Area

Creating closed caption text for audio files is an example of [▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

Correct Answer:

Answer Area

Creating closed caption text for audio files is an example of [▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

Descriptive, to answer the question: What's happening?

Descriptive — What's happening?
Diagnostic — Why's happening?
Predictive — What will happen?
Prescriptive — What actions should we take?

Note: Azure Media Indexer enables you to make content of your media files searchable and to generate a full-text transcript for closed captioning and keywords. You can process one media file or multiple media files in a batch.

Reference:
https://demand-planning.com/2020/01/20/the-differences-between-descriptive-diagnostic-predictive-cognitive-analytics/ https://azure.microsoft.com/en-us/blog/answering-whats-happening-whys-happening-and-what-will-happen-with-iot-
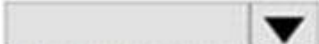
Question #30 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A visualization that illustrates a university's current student enrollment per department is an example of [____ ▼] analytics.

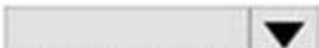| cognitive |
| descriptive |
| predictive |
| prescriptive |

Hide Solution   Discussion

Correct Answer:

Answer Area

A visualization that illustrates a university's current student enrollment per department is an example of [____ ▼] analytics.

| cognitive |
| descriptive |
| predictive |
| prescriptive |

Generally speaking, data analytics comes in four types:
1. Descriptive, to answer the question: What's happening?
2. Diagnostic, to answer the question: Why's happening?
3. Predictive, to answer the question: What will happen?
4. Prescriptive, to answer the question: What actions should we take?

Descriptive — What's happening?
Diagnostic — Why's happening?
Predictive — What will happen?
Prescriptive — What actions should we take?

Reference:
https://azure.microsoft.com/en-us/blog/answering-whats-happening-whys-happening-and-what-will-happen-with-iot-analytics/

Question #31 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Transparent Data Encryption (TDE) encrypts	▼
	a column to protect data at rest and in transit.
	queries and their results in order to protect data in transit.
	the database to protect data at rest.
	the server to protect data at rest.

Hide Solution   Discussion   10
Correct Answer:

Answer Area

Transparent Data Encryption (TDE) encrypts	▼
	a column to protect data at rest and in transit.
	queries and their results in order to protect data in transit.
	the database to protect data at rest.
	the server to protect data at rest.

Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/transparent-data-encryption-tde-overview?tabs=azure-portal

Question #32 *Topic 1*
You need to ensure that users use multi-factor authentication (MFA) when connecting to an Azure SQL database.
Which type of authentication should you use?

- A. service principal authentication
- B. Azure Active Directory (Azure AD) authentication

- C. SQL authentication
- D. certificate authentication

Hide Solution   **Discussion**   **7**

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/authentication-mfa-ssms-overview

Question #33 *Topic 1*
What is a benefit of hosting a database on Azure SQL managed instance as compared to an Azure SQL database?

- A. built-in high availability
- B. native support for cross-database queries and transactions
- C. system-initiated automatic backups
- D. support for encryption at rest

Hide Solution   **Discussion**   **10**

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/features-comparison

Question #34 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

By default, each Azure SQL database is protected by ▼

| a network security group (NSG). |
| a server-level firewall. |
| Azure Firewall. |
| Azure Front Door. |

Hide Solution   **Discussion**   **30**

Correct
Answer:
Answer Area

By default, each Azure SQL database is protected by ▼

| a network security group (NSG). |
| a server-level firewall. |
| Azure Firewall. |
| Azure Front Door. |

When you create a new server in Azure SQL Database or Azure Synapse Analytics named mysqlserver, for example, a server-level firewall blocks all access to the

public endpoint for the server
Reference:
https://docs.microsoft.com/en-us/azure/security/fundamentals/infrastructure-sql

Question #35 *Topic 1*
You need to design and model a database by using a graphical tool that supports project-oriented offline database development.
What should you use?

- A. Microsoft SQL Server Data Tools (SSDT)
- B. Microsoft SQL Server Management Studio (SSMS)
- C. Azure Databricks
- D. Azure Data Studio

Hide Solution   **Discussion**   **18**
Correct Answer: *A*
Reference:
https://docs.microsoft.com/en-us/sql/ssdt/project-oriented-offline-database-development?view=sql-server-ver15

Question #36 *Topic 1*
DRAG DROP -
Match the security components to the appropriate scenarios.
To answer, drag the appropriate component from the column on the left to its scenario on the right. Each component may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Components		Answer Area
Authentication		[ ] Prevent access to an Azure SQL database from another network.
Firewall		[ ] Support Azure Active Directory (Azure AD) sign-ins to an Azure SQL database.
Encryption		[ ] Ensure that sensitive data never appears as plain text in an Azure SQL database.

Hide Solution   **Discussion**   **18**
Correct Answer:

Components		Answer Area
Authentication		Firewall Prevent access to an Azure SQL database from another network.
Firewall		Authentication Support Azure Active Directory (Azure AD) sign-ins to an Azure SQL database.
Encryption		Encryption Ensure that sensitive data never appears as plain text in an Azure SQL database.

Reference:
https://docs.microsoft.com/en-us/sql/database-engine/configure-windows/configure-a-windows-firewall-for-database-engine-access?view=sql-server-ver15
https://docs.microsoft.com/en-us/azure/azure-sql/database/authentication-aad-overview https://docs.microsoft.com/en-us/azure/azure-sql/database/always-encrypted-certificate-store-configure

Question #37 *Topic 1*
You have a transactional application that stores data in an Azure SQL managed instance.
When should you implement a read-only database replica?

- A. You need to generate reports without affecting the transactional workload.
- B. You need to audit the transactional application.
- C. You need to implement high availability in the event of a regional outage.
- D. You need to improve the recovery point objective (RPO).

Hide Solution   Discussion   43
Correct Answer: *A*
Use read-only replicas to offload read-only query workloads.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/read-scale-out

Question #38 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

A relational database must be used when   ▼

| a dynamic schema is required. |
| data will be stored as key/value pairs. |
| storing large images and videos. |
| strong consistency guarantees are required. |

Hide Solution   Discussion   8
Correct Answer:

Answer Area

A relational database must be used when   ▼

| a dynamic schema is required. |
| data will be stored as key/value pairs. |
| storing large images and videos. |
| **strong consistency guarantees are required.** |

Question #39 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.

Hot Area:

Answer Area

Relational data uses [▼] to enforce relationships between different tables.

| collections |
| columns |
| keys |
| partitions |

Correct Answer:

Answer Area

Relational data uses [▼] to enforce relationships between different tables.

| collections |
| columns |
| **keys** |
| partitions |

Reference:
https://teachcomputerscience.com/relational-databases/

Question #40 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

[▼] is a virtual table that contains content defined by a query.

| A heap |
| A stored procedure |
| A view |
| An index |

Correct Answer:

Answer Area

[▼] is a virtual table that contains content defined by a query.

| A heap |
| A stored procedure |
| **A view** |
| An index |

Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/views/views

Question #41 *Topic 1*
You need to query a table named Products in an Azure SQL database.
Which three requirements must be met to query the table from the internet? Each correct answer presents part of the solution. (Choose three.)
NOTE: Each correct selection is worth one point.

- A. You must be assigned the Reader role for the resource group that contains the database.
- B. You must have SELECT access to the Products table.
- C. You must have a user in the database.
- D. You must be assigned the Contributor role for the resource group that contains the database.
- E. Your IP address must be allowed to connect to the database.

Hide Solution   Discussion   55
Correct Answer: *BCE*
Incorrect Answers:
A, D: Resource group permissions is not required to query an Azure SQL database table.
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/security/authentication-access/getting-started-with-database-engine-permissions?view=sql-server-ver15

Question #42 *Topic 1*
You have an inventory management database that contains the following table.

ProductName	Quantity
Product1	100
Product2	129
Product3	176

Which statement should you use in a SQL query to change the inventory quantity of Product1 to 270?

- A. INSERT
- B. MERGE
- C. UPDATE
- D. CREATE

Hide Solution   Discussion 10
Correct Answer: *C*
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/queries/update-transact-sql?view=sql-server-ver15

Question #43 *Topic 1*

Your company needs to implement a relational database in Azure. The solution must minimize ongoing maintenance.
Which Azure service should you use?

- A. Azure HDInsight
- B. Azure SQL Database
- C. Azure Cosmos DB
- D. SQL Server on Azure virtual machines

Correct Answer: *B*
Reference:
https://azure.microsoft.com/en-us/services/sql-database/#features

Question #44 *Topic 1*
You are writing a set of SQL queries that administrators will use to troubleshoot an Azure SQL database.
You need to embed documents and query results into a SQL notebook.
What should you use?

- A. Microsoft SQL Server Management Studio (SSMS)
- B. Azure Data Studio
- C. Azure CLI
- D. Azure PowerShell

Correct Answer: *B*
Reference:
https://www.mssqltips.com/sqlservertip/5997/create-sql-server-notebooks-in-azure-data-studio/

Question #45 *Topic 1*
DRAG DROP -
Match the terms to the appropriate descriptions.
To answer, drag the appropriate term from the column on the left to its description on the right. Each term may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Terms	Answer Area	
Index		A database object that holds data
View		A database object whose content is defined by a query
Table		A database object that helps improve the speed of data retrieval

Correct
Answer:

Terms

| Index |
| View |
| Table |

Answer Area

Table	A database object that holds data
View	A database object whose content is defined by a query
Index	A database object that helps improve the speed of data retrieval

Reference:
https://en.wikipedia.org/wiki/Table_(database)#:~:text=A%20table%20is%20a%20collection,table%20format%20within%20a%20database.&text=In%20relational%20databases%2C%20and%20flat,a%20row%20and%20column%20intersect.
https://en.wikipedia.org/wiki/View_(SQL)
https://en.wikipedia.org/wiki/Database_index#:~:text=A%20database%20index%20is%20a,maintain%20the%20index%20data%20structure.

Question #46 *Topic 1*
You have an e-commerce application that reads and writes data to an Azure SQL database.
Which type of processing does the application use?

- A. stream processing
- B. batch processing
- C. Online Analytical Processing (OLAP)
- D. Online Transaction Processing (OLTP)

Hide Solution   Discussion   6

Correct Answer: *D*
OLTP is designed to serve as a persistent data store for business or front-end applications. OLTP administers day to day transaction of an organization.
Reference:
https://sqlwizard.blog/2020/03/15/sql-server-oltp-vs-olap/

Question #47 *Topic 1*
When can you use an Azure Resource Manager template?

- A. to automate the creation of an interdependent group of Azure resources in a repeatable way
- B. to apply Azure policies for multi-tenant deployments
- C. to provision Azure subscriptions
- D. to control which services and feature administrators and developers can deploy from the Azure portal

Hide Solution   Discussion   4

Correct Answer: *A*
You can automate deployments and use the practice of infrastructure as code. In code, you define the infrastructure that needs to be deployed
To implement infrastructure as code for your Azure solutions, use Azure Resource Manager templates (ARM templates). The template is a JavaScript Object Notation (JSON) file that defines the infrastructure and configuration for your project. The template uses declarative syntax, which lets you state what you intend to deploy

without having to write the sequence of programming commands to create it. In the template, you specify the resources to deploy and the properties for those resources.
Reference:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/overview

Question #48 *Topic 1*
You have an Azure SQL database that you access directly from the Internet.
You recently changed your external IP address.
After changing the IP address, you can no longer access the database. You can connect to other resources in Azure.
What is a possible cause of the issue?

- A. role-based access control (RBAC)
- B. Dynamic Host Configuration Protocol (DHCP)
- C. Domain Name Service (DNS)
- D. a database-level firewall

Hide Solution   Discussion   7
Correct Answer: *D*
The Azure SQL Database firewall lets you decide which IP addresses may or may not have access to either your Azure SQL Server or your Azure SQL database.
When creating an Azure SQL Database, the firewall needs to be configured before anyone will be able to access the database. By default, no external access to your SQL Database will be allowed until you explicitly assign permission by creating a firewall rule.
Reference:
https://www.sqlshack.com/configuring-the-azure-sql-database-firewall/

Question #49 *Topic 1*
DRAG DROP -
Match the tools to the appropriate descriptions.
To answer, drag the appropriate tool from the column on the left to its description on the right. Each tool may be used once, more than once, or not at all.
Select and Place:

Tools	Answer Area	
Azure Data Studio	Tool	A graphical tool for managing SQL Server or Azure SQL databases that supports access, configuration, management, and administration tasks.
Microsoft SQL Server Data Tools (SSDT)	Tool	A lightweight source code editor with an mssql extension that supports connections to SQL Server and a rich editing experience for T-SQL.
Microsoft SQL Server Management Studio (SSMS)	Tool	A lightweight editor that can run on-demand SQL queries and view and save results as text, JSON, or Microsoft Excel files.
Microsoft Visual Studio Code	Tool	A development tool for building Azure SQL databases, Microsoft SQL Server relational databases, SQL Server Analysis Services (SSAS) data models, SQL Server Integration Services (SSIS) packages, and SQL Server Reporting Services (SSRS) reports.

Hide Solution   Discussion   8
Correct
Answer:

Tools	Answer Area	
Azure Data Studio	Microsoft SQL Server Management Studio (SSMS)	A graphical tool for managing SQL Server or Azure SQL databases that supports access, configuration, management, and administration tasks.
Microsoft SQL Server Data Tools (SSDT)	Microsoft Visual Studio Code	A lightweight source code editor with an mssql extension that supports connections to SQL Server and a rich editing experience for T-SQL.
Microsoft SQL Server Management Studio (SSMS)	Azure Data Studio	A lightweight editor that can run on-demand SQL queries and view and save results as text, JSON, or Microsoft Excel files.
Microsoft Visual Studio Code	Microsoft SQL Server Data Tools (SSDT)	A development tool for building Azure SQL databases, Microsoft SQL Server relational databases, SQL Server Analysis Services (SSAS) data models, SQL Server Integration Services (SSIS) packages, and SQL Server Reporting Services (SSRS) reports.

Box 1: Microsoft SQL Server Management Studio (SSMS)
SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure, from SQL Server to Azure SQL Database.
Box 2: Microsoft Visual Studio Code
Visual Studio Code is a streamlined code editor with support for development operations like debugging, task running, and version control. It aims to provide just the tools a developer needs for a quick code-build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE.

Box 3: Azure Data Studio -
Azure Data Studio offers a modern, keyboard-focused SQL coding experience that makes your everyday tasks easier with built-in features, such as multiple tab windows, a rich SQL editor, IntelliSense, keyword completion, code snippets, code navigation, and source control integration (Git). Run on-demand SQL queries, view and save results as text, JSON, or Excel. Edit data, organize your favorite database connections, and browse database objects in a familiar object browsing experience.
Box 4: Microsoft SQL Server Data Tools (SSDT)
SQL Server Data Tools (SSDT) is a modern development tool for building SQL Server relational databases, databases in Azure SQL, Analysis Services (AS) data models, Integration Services (IS) packages, and Reporting Services (RS) reports. With SSDT, you can design and deploy any SQL Server content type with the same ease as you would develop an application in Visual Studio.
Reference:
https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms https://code.visualstudio.com/docs/supporting/FAQ
https://docs.microsoft.com/en-us/sql/azure-data-studio/what-is-azure-data-studio
https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt

Question #50 Topic 1
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Relational database tables contain columns and rows	○	○
Indexes in a relational database describe the data types in a table	○	○
A database view is a virtual table whose content is defined by a query	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Relational database tables contain columns and rows	◉	○
Indexes in a relational database describe the data types in a table	○	◉
A database view is a virtual table whose content is defined by a query	◉	○

Box 1: Yes -
Tables are database objects that contain all the data in a database. In tables, data is logically organized in a row-and-column format similar to a spreadsheet.
Each row represents a unique record, and each column represents a field in the record.

Box 2: No -
An index is an on-disk structure associated with a table or view that speeds retrieval of rows from the table or view.

Box 3: Yes -
A view is a virtual table whose contents are defined by a query. Like a table, a view consists of a set of named columns and rows of data.
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/tables/tables
https://docs.microsoft.com/en-us/sql/relational-databases/indexes/clustered-and-nonclustered-indexes-described https://docs.microsoft.com/en-us/sql/relational-databases/views/views?view=sql-server-ver15

Question #51 *Topic 1*
Which command-line tool can you use to query Azure SQL databases?

- A. sqlcmd
- B. bcp
- C. azdata
- D. Azure CLI

Correct Answer: *A*

The sqlcmd utility lets you enter Transact-SQL statements, system procedures, and script files at the command prompt.

Incorrect Answers:

B: The bulk copy program utility (bcp) bulk copies data between an instance of Microsoft SQL Server and a data file in a user-specified format.

D: The Azure CLI is the defacto tool for cross-platform and command-line tools for building and managing Azure resources.

Reference:

https://docs.microsoft.com/en-us/sql/tools/overview-sql-tools?view=sql-server-ver15

Question #52 *Topic 1*

HOTSPOT -

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Azure SQL Database includes a managed backup service.	○	○
Azure SQL Database has built-in high availability.	○	○
Azure SQL Database can use Azure Defender.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
Azure SQL Database includes a managed backup service.	○	○
Azure SQL Database has built-in high availability.	○	○
Azure SQL Database can use Azure Defender.	○	○

Box 1: Yes -

Box 2: Yes -

Box 3: Yes -
Azure Defender provides security alerts and advanced threat protection for virtual machines, SQL databases, containers, web applications, your network, and more. Azure Defender provides security alerts and advanced threat protection for virtual machines, SQL databases, containers, web applications, your network, and more. Reference: https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-database-paas-overview https://azure.microsoft.com/en-us/blog/announcing-sql-atp-and-sql-vulnerability-assessment-general-availability/ https://docs.microsoft.com/en-us/azure/security-center/azure-defender

Question #53 Topic 1
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
You can use Azure Data Studio to query a Microsoft SQL Server big data cluster.	○	○
You can use Microsoft SQL Server Management Studio (SSMS) to query an Azure Synapse Analytics data warehouse.	○	○
You can use MySQL Workbench to query Azure Database for MariaDB databases.	○	○

Hide Solution   Discussion 4

Correct Answer:

Answer Area

Statements	Yes	No
You can use Azure Data Studio to query a Microsoft SQL Server big data cluster.	⦿	○
You can use Microsoft SQL Server Management Studio (SSMS) to query an Azure Synapse Analytics data warehouse.	⦿	○
You can use MySQL Workbench to query Azure Database for MariaDB databases.	⦿	○

Reference:
https://docs.microsoft.com/en-us/sql/big-data-cluster/connect-to-big-data-cluster?view=sql-server-ver15 https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-query-ssms
https://docs.microsoft.com/en-us/azure/mariadb/connect-workbench

Question #54 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure provide built-in high availability.	○	○
Platform as a service (PaaS) database offerings in Azure provide configurable scaling options.	○	○
Platform as a service (PaaS) database offerings in Azure reduce the administrative overhead for managing hardware.	○	○

Hide Solution   Discussion 8

Correct Answer:

Answer Area

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure provide built-in high availability.	⊙	○
Platform as a service (PaaS) database offerings in Azure provide configurable scaling options.	⊙	○
Platform as a service (PaaS) database offerings in Azure reduce the administrative overhead for managing hardware.	⊙	○

Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-database-paas-overview

Question #55 *Topic 1*
HOTSPOT -
You have the following SQL query.

```
INSERT INTO dbo.Products (ProductID, ProductName, Price, ProductDescription)
    VALUES (1, 'Clamp', 12.48, 'Workbench clamp') ;
```

What are dbo.Products and ProductName? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Dbo.Products: ▼

A column
A database
A table
An index

ProductName: ▼

A column
A database
A table
An index

Answer Area

Dbo.Products:
- A column
- A database
- **A table**
- An index

ProductName:
- **A column**
- A database
- A table
- An index

Correct Answer:

Question #56 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
You must apply operating system updates to Azure SQL databases regularly.	○	○
You need a Microsoft 365 subscription to create an Azure SQL database.	○	○
You can use existing Microsoft SQL Server licenses to reduce the cost of Azure SQL databases.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
You must apply operating system updates to Azure SQL databases regularly.	○	●
You need a Microsoft 365 subscription to create an Azure SQL database.	○	●
You can use existing Microsoft SQL Server licenses to reduce the cost of Azure SQL databases.	●	○

Reference:
https://azure.microsoft.com/en-gb/blog/hot-patching-sql-server-engine-in-azure-sql-database/ https://azure.microsoft.com/en-us/services/sql-database/#product-overview

Question #57 *Topic 1*
Which statement is an example of Data Definition Language (DDL)?

- A. SELECT
- B. JOIN
- C. UPDATE
- D. CREATE

Correct Answer: *D*
Data Definition Language (DDL) statements defines data structures. Use these statements to create, alter, or drop data structures in a database. These statements include:

➭ ALTER

➭ Collations

➭ CREATE

➭ DROP

➭ DISABLE TRIGGER

➭ ENABLE TRIGGER

➭ RENAME

➭ UPDATE STATISTICS

➭ TRUNCATE TABLE

Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/statements

Question #58 *Topic 1*

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

Answer Area

Statements	Yes	No
Azure Data Studio can be used to query an Azure SQL database from a device that runs macOS.	O	O
Microsoft SQL Server Management Studio (SSMS) enables users to create and use SQL notebooks.	O	O
Azure Data Studio can be used to restore a database.	O	O

Correct Answer:

Answer Area

Statements	Yes	No
Azure Data Studio can be used to query an Azure SQL database from a device that runs macOS.	●	O
Microsoft SQL Server Management Studio (SSMS) enables users to create and use SQL notebooks.	O	●
Azure Data Studio can be used to restore a database.	●	O

Box 1: Yes -
Azure Data Studio is a cross-platform database tool for data professionals using on-premises and cloud data platforms on Windows, macOS, and Linux.
You can use Azure Data Studio to connect to an Azure SQL Database server. You'll then run Transact-SQL (T-SQL) statements to create and query Azure SQL databases.

Box 2: No -
SQL Server Management Studio is for configuring, managing, and administering all components within Microsoft SQL Server, not to create SQL notebooks.
Instead use Azure Data Studio to create SQL notebook.

Box 3: Yes -
You can use the Azure Data Studio to restore databases.
Reference:
https://docs.microsoft.com/en-us/sql/azure-data-studio/what-is-azure-data-studio

Question #59 *Topic 1*
You are deploying a software as a service (SaaS) application that requires a relational database for Online Transaction Processing (OLTP).
Which Azure service should you use to support the application?

- A. Azure Cosmos DB
- B. Azure HDInsight
- C. Azure SQL Database
- D. Azure Synapse Analytics

Hide Solution   Discussion 7
Correct Answer: *C*
Azure SQL Database is relational database and a managed service.
Incorrect Answers:
A, B: Cosmos DB, HDInsight are non-relational databases.
D: Azure Synapse Analytics is for data warehousing, not for Online Transaction Processing
Reference:
https://cloud.netapp.com/blog/azure-cvo-blg-azure-database-review-your-guide-for-database-assessment

Question #60 *Topic 1*
What are two benefits of platform as a service (PaaS) relational database offerings in Azure, such as Azure SQL Database? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. access to the latest features
- B. complete control over backup and restore processes
- C. in-database machine learning services
- D. reduced administrative effort for managing the server infrastructure

Hide Solution   Discussion 8
Correct Answer: *AD*
A: Azure SQL Database is a fully managed platform as a service (PaaS) database engine that handles most of the database management functions such as upgrading, patching, backups, and monitoring without user involvement.
D: SQL Database delivers predictable performance with multiple resource types, service tiers, and compute sizes. It provides dynamic scalability with no downtime, built-in intelligent optimization, global scalability and availability, and advanced security options. These capabilities allow you to focus on rapid app development and accelerating your time-to-market, rather than on managing virtual machines and infrastructure.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-database-paas-overview

Question #61 *Topic 1*

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

Answer Area

Statements	Yes	No
If you have a platform as a service (PaaS) database in Azure, you are responsible for applying operating system updates.	O	O
If you have a platform as a service (PaaS) database in Azure, backups are performed automatically.	O	O
If you have a platform as a service (PaaS) database in Azure, you are responsible for upgrading the database engine.	O	O

Correct Answer:

Answer Area

Statements	Yes	No
If you have a platform as a service (PaaS) database in Azure, you are responsible for applying operating system updates.	O	O
If you have a platform as a service (PaaS) database in Azure, backups are performed automatically.	O	O
If you have a platform as a service (PaaS) database in Azure, you are responsible for upgrading the database engine.	O	O

Box 1: No -
Microsoft handles all patching and updating of the SQL and operating system code. You don't have to manage the underlying infrastructure.

Box 2: Yes -
SQL Database is a fully managed service that has built-in high availability, backups, and other common maintenance operations.

Box 3: No -
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-database-paas-overview

Question #62 *Topic 1*
DRAG DROP -
You have a table named Sales that contains the following data.

SalesDate	SalesAmount	ProductID
4-Apr-20	$2,000	1
5-Apr-20	$40	2
5-Apr-20	$2,300	1
6-Apr-20	$40	3
6-Apr-20	$200	4

You need to query the table to return the average sales amount per day. The output must produce the following results.

SalesDate	AVG(SalesAmount)
4-Apr-20	$2,000
5-Apr-20	$1,170
6-Apr-20	$120

How should you complete the query? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all.
You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.
Select and Place:

Values

CREATE	GROUP BY
ORDER BY	SELECT

Answer Area

Value   SalesDate, AVG(SalesAmount)

FROM Sales

Value   SalesDate

ORDER BY SalesDate

Hide Solution   Discussion 5
Correct Answer:

Values

CREATE	GROUP BY
ORDER BY	SELECT

Answer Area

SELECT   SalesDate, AVG(SalesAmount)

FROM Sales

GROUP BY   SalesDate

ORDER BY SalesDate

Box 1: SELECT -

Box 2: GROUP BY -
Example:

When used with a GROUP BY clause, each aggregate function produces a single value covering each group, instead of a single value covering the whole table. The following example produces summary values for each sales territory in the AdventureWorks2012 database. The summary lists the average bonus received by the sales people in each territory, and the sum of year-to-date sales for each territory.
SELECT TerritoryID, AVG(Bonus)as 'Average bonus', SUM(SalesYTD) as 'YTD sales'

FROM Sales.SalesPerson -
GROUP BY TerritoryID;
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/functions/avg-transact-sql

Question #63 *Topic 1*
When you create an Azure SQL database, which account can always connect to the database?

- A. the Azure Active Directory (Azure AD) account that created the database
- B. the server admin login account of the logical server
- C. the Azure Active Directory (Azure AD) administrator account
- D. the sa account

Hide Solution   Discussion   **11**
Correct Answer: *B*
When you first deploy Azure SQL, you specify an admin login and an associated password for that login. This administrative account is called Server admin.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/single-database-create-quickstart

Question #64 *Topic 1*
Which statement is an example of Data Definition Language (DDL)?

- A. SELECT
- B. INSERT
- C. DELETE
- D. DROP

Hide Solution   Discussion
Correct Answer: *D*
Data Definition Language (DDL) statements defines data structures. Use these statements to create, alter, or drop data structures in a database. These statements include:
➥ ALTER
➥ Collations
➥ CREATE
➥ DROP

☞ DISABLE TRIGGER
☞ ENABLE TRIGGER
☞ RENAME
☞ UPDATE STATISTICS
☞ TRUNCATE TABLE
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/statements

Question #65 *Topic 1*
A team of developers has computers that run Windows 10 and Ubuntu Desktop.
The developers need to connect to and query an Azure SQL database from each of
their computers. The developers require code assistance features such as
IntelliSense.
What should the developers use?

- A. sqlcmd
- B. Microsoft SQL Server Management Studio (SSMS)
- C. Azure Data Studio
- D. Azure Data Explorer

Hide Solution | Discussion 1
Correct Answer: *C*
Azure Data Studio is a cross-platform database tool for data professionals who use
on-premises and cloud data platforms on Windows, macOS, and Linux.
Azure Data Studio offers a modern editor experience with IntelliSense, code
snippets, source control integration, and an integrated terminal.
Reference:
https://docs.microsoft.com/en-us/sql/azure-data-studio/download-azure-data-studio

Question #66 *Topic 1*
You manage an application that stores data in a shared folder on a Windows server.
You need to move the shared folder to Azure Storage.
Which type of Azure Storage should you use?

- A. queue
- B. blob
- C. file
- D. table

Hide Solution | Discussion 59
Correct Answer: *C*
Azure file shares can be mounted concurrently by cloud or on-premises deployments
of Windows, Linux, and macOS. Azure file shares can also be cached on
Windows Servers with Azure File Sync for fast access near where the data is being
used.
Reference:
https://azure.microsoft.com/en-us/services/storage/files/

Question #67 *Topic 1*

Your company is designing a database that will contain session data for a website. The data will include notifications, personalization attributes, and products that are added to a shopping cart.

Which type of data store will provide the lowest latency to retrieve the data?

- A. key/value
- B. graph
- C. columnar
- D. document

Hide Solution   Discussion   40

Correct Answer: *C*

Reference:

https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/analytical-data-stores

Question #68 *Topic 1*

You have an application that runs on Windows and requires access to a mapped drive.

Which Azure service should you use?

- A. Azure Files
- B. Azure Blob storage
- C. Azure Cosmos DB
- D. Azure Table storage

Hide Solution   Discussion   5

Correct Answer: *A*

Azure Files is Microsoft's easy-to-use cloud file system. Azure file shares can be seamlessly used in Windows and Windows Server.

To use an Azure file share with Windows, you must either mount it, which means assigning it a drive letter or mount point path, or access it via its UNC path.

Reference:

https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-use-files-windows

Question #69 *Topic 1*

HOTSPOT -

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The Azure Cosmos DB API is configured separately for each database in an Azure Cosmos DB account.	O	O
Partition keys are used in Azure Cosmos DB to optimize queries.	O	O
Items contained in the same Azure Cosmos DB logical partition can have different partition keys.	O	O

Hide Solution   Discussion 18
Correct Answer:

Answer Area

Statements	Yes	No
The Azure Cosmos DB API is configured separately for each database in an Azure Cosmos DB account.	O	**O**
Partition keys are used in Azure Cosmos DB to optimize queries.	**O**	O
Items contained in the same Azure Cosmos DB logical partition can have different partition keys.	O	**O**

Box 1: No -
The API determines the type of account to create. Azure Cosmos DB provides five APIs: Core (SQL) and MongoDB for document data, Gremlin for graph data, Azure Table, and Cassandra. Currently, you must create a separate account for each API.

Box 2: Yes -
Azure Cosmos DB uses partitioning to scale individual containers in a database to meet the performance needs of your application. In partitioning, the items in a container are divided into distinct subsets called logical partitions. Logical partitions are formed based on the value of a partition key that is associated with each item in a container.

Box 3: No -
Logical partitions are formed based on the value of a partition key that is associated with each item in a container.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/partitioning-overview

Question #70 *Topic 1*

Your company is designing an application that will write a high volume of JSON data and will have an application-defined schema.
Which type of data store should you use?

- A. columnar
- B. key/value
- C. document
- D. graph

Discussion 37
Correct Answer: *B*
A key/value store associates each data value with a unique key.
An application can store arbitrary data as a set of values. Any schema information must be provided by the application. The key/value store simply retrieves or stores the value by key.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/data-store-overview

Question #71 *Topic 1*
You need to recommend a non-relational data store that is optimized for storing and retrieving text files, videos, audio streams, and virtual disk images. The data store must store data, some metadata, and a unique ID for each file.
Which type of data store should you recommend?

- A. key/value
- B. columnar
- C. object
- D. document

Discussion 8
Correct Answer: *C*
Object storage is optimized for storing and retrieving large binary objects (images, files, video and audio streams, large application data objects and documents, virtual machine disk images). Large data files are also popularly used in this model, for example, delimiter file (CSV), parquet, and ORC. Object stores can manage extremely large amounts of unstructured data.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/data-store-overview

Question #72 *Topic 1*
Your company is designing a data store for internet-connected temperature sensors. The collected data will be used to analyze temperature trends.
Which type of data store should you use?

- A. relational
- B. time series

- C. graph
- D. columnar

Correct Answer: *B*
Time series data is a set of values organized by time. Time series databases typically collect large amounts of data in real time from a large number of sources. Updates are rare, and deletes are often done as bulk operations. Although the records written to a time-series database are generally small, there are often a large number of records, and total data size can grow rapidly.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/data-store-overview

Question #73 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
When ingesting data from Azure Data Lake Storage across Azure regions, you will incur costs for bandwidth.	○	○
You can use blob, table, and file storage in the same Azure Storage account.	○	○
You implement Azure Data Lake Storage by creating an Azure Storage account.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
When ingesting data from Azure Data Lake Storage across Azure regions, you will incur costs for bandwidth.	○	○
You can use blob, table, and file storage in the same Azure Storage account.	○	○
You implement Azure Data Lake Storage by creating an Azure Storage account.	○	○

Reference:
https://docs.microsoft.com/en-us/azure/data-lake-store/data-lake-store-get-started-portal https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview https://azure.microsoft.com/en-us/pricing/details/bandwidth/

Question #74 *Topic 1*
HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

When using the Azure Cosmos DB Gremlin API, the container resource type is projected as a [▼]

| graph. |
| table. |
| partition key. |
| document. |

Hide Solution   Discussion   4
Correct Answer:

Answer Area

When using the Azure Cosmos DB Gremlin API, the container resource type is projected as a [▼]

| graph. |
| table. |
| partition key. |
| document. |

Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/create-graph-gremlin-console

Question #75 *Topic 1*
At which two levels can you set the throughput for an Azure Cosmos DB account?
Each correct answer presents a complete solution. (Choose two.)
NOTE: Each correct selection is worth one point.

- A. database
- B. item
- C. container
- D. partition

Correct Answer: *AC*
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/set-throughput

Question #76 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
Azure Table storage supports multiple read replicas.	○	○
Azure Table storage supports multiple write regions.	○	○
The Azure Cosmos DB Table API supports multiple read replicas.	○	○
The Azure Cosmos DB Table API supports multiple write regions.	○	○

Correct Answer:
Answer Area

Statements	Yes	No
Azure Table storage supports multiple read replicas.	○	○
Azure Table storage supports multiple write regions.	○	○
The Azure Cosmos DB Table API supports multiple read replicas.	○	○
The Azure Cosmos DB Table API supports multiple write regions.	○	○

Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/high-availability

Question #77 *Topic 1*
DRAG DROP -
Match the types of data stores to the appropriate scenarios.
To answer, drag the appropriate data store type from the column on the left to its scenario on the right. Each data store type may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.

Select and Place:

Data Store Types	Answer Area	
Graph		Application users and their default language
Object		Medical images and their associated metadata
Key/value		Employee data that shows the relationships between employees

Correct Answer:

Data Store Types	Answer Area	
Graph	Key/value	Application users and their default language
Object	Object	Medical images and their associated metadata
Key/value	Graph	Employee data that shows the relationships between employees

Reference:
https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/data-store-overview

Question #78 *Topic 1*

You have an Azure Cosmos DB account that uses the Core (SQL) API.
Which two settings can you configure at the container level? Each correct answer presents a complete solution. (Choose two.)
NOTE: Each correct selection is worth one point.

- A. the throughput
- B. the read region
- C. the partition key
- D. the API

Correct Answer: *AC*
Reference:
https://www.sqlshack.com/start-your-journey-with-azure-cosmos-db/

Question #79 *Topic 1*

Your company is designing a data store that will contain student data. The data has the following format.

StudentNumber	StudentInformation
7634634	First name: Ben Last: Smith Preferred Name: Benjamin
7634634	First Name: Dominik Last Name: Paiha Email Address: dpaiha@contoso.com MCP ID: 931817
7634636	First Name: Reshma Last Name: Patel Phone number: 514-555-1101
7634637	First Name: Yun-Feng Last Name: Peng

Which type of data store should you use?

- A. graph
- B. key/value
- C. object
- D. columnar

Hide Solution Discussion 24
Correct Answer: *D*

Question #80 *Topic 1*
Which storage solution supports role-based access control (RBAC) at the file and folder level?

- A. Azure Disk Storage
- B. Azure Data Lake Storage
- C. Azure Blob storage
- D. Azure Queue storage

Hide Solution Discussion 9
Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-access-control

Question #81 *Topic 1*

You need to store data in Azure Blob storage for seven years to meet your company's compliance requirements. The retrieval time of the data is unimportant. The solution must minimize storage costs.
Which storage tier should you use?

- A. Archive
- B. Hot
- C. Cool

Hide Solution   Discussion   7
Correct Answer: *A*
Reference:
https://cloud.netapp.com/blog/azure-blob-storage-pricing-the-complete-guide-azure-cvo-blg#H1_4

Question #82 *Topic 1*
Which type of non-relational data store supports a flexible schema, stores data as JSON files, and stores the all the data for an entity in the same document?

- A. document
- B. columnar
- C. graph
- D. time series

Hide Solution   Discussion   6
Correct Answer: *A*

Question #83 *Topic 1*
DRAG DROP -
Match the Azure Cosmos DB APIs to the appropriate data structures.
To answer, drag the appropriate API from the column on the left to its data structure on the right. Each API may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

APIs	Answer Area	
Cassandra API		Graph data
Gremlin API		JSON documents
MongoDB API		Key/value data
Table API		

Reveal Solution   Discussion   9

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

Answer Area

To configure an Azure Storage account to support both security at the folder level and atomic directory manipulation, ▼

| enable the hierarchical namespace. |
| set Account kind to BlobStorage. |
| set Performance to Premium. |
| set Replication to Read-access geo-redundant storage (RA-GRS). |

Hide Solution   **Discussion** 4

Correct Answer:

Answer Area

To configure an Azure Storage account to support both security at the folder level and atomic directory manipulation, ▼

| enable the hierarchical namespace. |
| set Account kind to BlobStorage. |
| set Performance to Premium. |
| set Replication to Read-access geo-redundant storage (RA-GRS). |

Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-namespace

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

Answer Area

You can query a graph database in Azure Cosmos DB ▼

| as a JSON document by using a SQL-like language. |
| as a partitioned row store by using Cassandra Query Language (CQL). |
| as a partitioned row store by using Language-Integrated Query (LINQ). |
| as nodes and edges by using the Gremlin language. |

Hide Solution   **Discussion** 61

Correct Answer:

Answer Area

You can query a graph database in Azure Cosmos DB ▼

| as a JSON document by using a SQL-like language. |
| as a partitioned row store by using Cassandra Query Language (CQL). |
| as a partitioned row store by using Language-Integrated Query (LINQ). |
| as nodes and edges by using the Gremlin language. |

Reference:

https://www.sqlshack.com/graph-database-implementation-with-azure-cosmos-db-using-the-api/

When provisioning an Azure Cosmos DB account, which feature provides redundancy within an Azure region?

- A. multi-master replication
- B. Availability Zones
- C. the strong consistency level
- D. automatic failover

Hide Solution   Discussion   5

Correct Answer: *B*
With Availability Zone (AZ) support, Azure Cosmos DB will ensure replicas are placed across multiple zones within a given region to provide high availability and resiliency to zonal failures.
Note: Azure Cosmos DB provides high availability in two primary ways. First, Azure Cosmos DB replicates data across regions configured within a Cosmos account. Second, Azure Cosmos DB maintains 4 replicas of data within a region.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/high-availability

What is a benefit of the Azure Cosmos DB Table API as compared to Azure Table storage?

- A. provides resiliency if an Azure region fails
- B. supports partitioning
- C. provides a higher storage capacity
- D. supports a multi-master model

Hide Solution   Discussion   9

Correct Answer: *D*
Multi-master support for Azure Cosmos DB is now available in all public regions. Azure CosmosDB table API is a key-value storage hosted in the cloud. It's a part of Azure Cosmos DB, that is Microsoft's multi-model database.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/table-support

Your company needs to design a database that shows how changes in network traffic in one area of a network affect network traffic in other areas of the network. Which type of data store should you use?

- A. graph
- B. key/value
- C. document
- D. columnar

Correct Answer: *A*

Data as it appears in the real world is naturally connected. Traditional data modeling focuses on defining entities separately and computing their relationships at runtime. While this model has its advantages, highly connected data can be challenging to manage under its constraints.

A graph database approach relies on persisting relationships in the storage layer instead, which leads to highly efficient graph retrieval operations. Azure Cosmos DB's Gremlin API supports the property graph model.

Reference:

https://docs.microsoft.com/en-us/azure/cosmos-db/graph-introduction#introduction-to-graph-database

HOTSPOT -

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Azure Databricks can consume data from Azure SQL Database	O	O
Azure Databricks can consume data from Azure Event Hubs	O	O
Azure Databricks can consume data from Azure Cosmos DB	O	O

Correct Answer:

Answer Area

Statements	Yes	No
Azure Databricks can consume data from Azure SQL Database	⦾	O
Azure Databricks can consume data from Azure Event Hubs	⦾	O
Azure Databricks can consume data from Azure Cosmos DB	⦾	O

Box 1: Yes -

Azure Databricks can consume data from SQL Databases using JDBC and from SQL Databases using the Apache Spark connector.
The Apache Spark connector for Azure SQL Database and SQL Server enables these databases to act as input data sources and output data sinks for Apache Spark jobs.

Box 2: Yes -
You can stream data into Azure Databricks using Event Hubs.

Box 3: Yes -
You can run Spark jobs with data stored in Azure Cosmos DB using the Cosmos DB Spark connector. Cosmos can be used for batch and stream processing, and as a serving layer for low latency access.
You can use the connector with Azure Databricks or Azure HDInsight, which provide managed Spark clusters on Azure.
Reference:
https://docs.microsoft.com/en-us/azure/databricks/data/data-sources/sql-databases-azure https://docs.microsoft.com/en-us/azure/databricks/scenarios/databricks-stream-from-eventhubs

Question #90 *Topic 1*

DRAG DROP -
Match the datastore services to the appropriate descriptions.
To answer, drag the appropriate service from the column on the left to its description on the right. Each service may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Services		Answer Area	
Azure Blob storage		Service	Enables the use of SQL queries against data stored in JSON documents
Azure Cosmos DB		Service	Enables users to access data by using the Server Message Block (SMB) version 3 protocol
Azure Files			
Azure Table storage			

Hide Solution   Discussion 3
Correct Answer:

Services		Answer Area	
Azure Blob storage		Azure Cosmos DB	Enables the use of SQL queries against data stored in JSON documents
Azure Cosmos DB		Azure Files	Enables users to access data by using the Server Message Block (SMB) version 3 protocol
Azure Files			
Azure Table storage			

Box 1: Azure Cosmos DB -

In Azure Cosmos DB's SQL (Core) API, items are stored as JSON. The type system and expressions are restricted to deal only with JSON types.

Box 2: Azure Files -
Azure Files offers native cloud file sharing services based on the SMB protocol.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/sql-query-working-with-json
https://cloud.netapp.com/blog/azure-smb-server-message-block-in-the-cloud-for-azure-files

Question #91 Topic 1

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

Answer Area

When provisioning an Azure Cosmos DB [▼], you need to specify which type of API you will use.

| account |
| container |
| database |
| item |

Hide Solution | **Discussion** 1

Correct Answer:

Answer Area

When provisioning an Azure Cosmos DB [▼], you need to specify which type of API you will use.

| account |
| container |
| database |
| item |

Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/create-cosmosdb-resources-portal

Question #92 Topic 1

You need to store data by using Azure Table storage.
What should you create first?

- A. an Azure Cosmos DB instance
- B. a storage account
- C. a blob container
- D. a table

Hide Solution | **Discussion** 2

Correct Answer: B
First create an Azure storage account, then use Table service in the Azure portal to

create a table.
Note: An Azure storage account contains all of your Azure Storage data objects:
blobs, files, queues, and tables.
Reference:
https://docs.microsoft.com/en-us/azure/storage/tables/table-storage-quickstart-portal
https://docs.microsoft.com/en-us/azure/storage/common/storage-account-create

You need to recommend a data store service that meets the following requirements:

☞ Native SQL API access

☞ Configurable indexes

What should you recommend?

- A. Azure Files
- B. Azure Blob storage
- C. Azure Table storage
- D. Azure Cosmos DB

Hide Solution   Discussion

Correct Answer: *D*

Azure Cosmos DB comes with native Core (SQL) API support.
In Azure Cosmos DB, data is indexed following indexing policies that are defined for
each container. The default indexing policy for newly created containers enforces
range indexes for any string or number. This policy can be overridden with your own
custom indexing policy.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-manage-indexing-
policy

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

Hot Area:

Answer Area

Statements	Yes	No
Azure Table storage within a single Azure Storage account supports multiple concurrent reads in different Azure regions.	○	○
Azure Table storage within a single Azure Storage account supports multiple concurrent writes in different Azure regions.	○	○
An Azure Cosmos DB account that uses the Table API supports multiple concurrent reads in different Azure regions.	○	○
An Azure Cosmos DB account that uses the Table API supports multiple concurrent writes in different Azure regions.	○	○

Reveal Solution   Discussion

Question #95 *Topic 1*

HOTSPOT -

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

Hot Area:

Answer Area

To configure an Azure Storage account to support access control lists
that have object-level permissions,

▼
enable the hierarchical namespace.
set Account kind to BlobStorage.
set Performance to Premium.
set Replication to Read-access geo-redundant storage (RA-GRS).

Hide Solution   Discussion

Correct Answer:

Answer Area

To configure an Azure Storage account to support access control lists
that have object-level permissions,

▼
enable the hierarchical namespace.
set Account kind to BlobStorage.
set Performance to Premium.
set Replication to Read-access geo-redundant storage (RA-GRS).

A key mechanism that allows Azure Data Lake Storage Gen2 to provide file system performance at object storage scale and prices is the addition of a hierarchical namespace. This allows the collection of objects/files within an account to be

organized into a hierarchy of directories and nested subdirectories in the same way that the file system on your computer is organized. With a hierarchical namespace enabled, a storage account becomes capable of providing the scalability and cost-effectiveness of object storage, with file system semantics that are familiar to analytics engines and frameworks.

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-namespace

Question #96 *Topic 1*

Your company needs to design a database that illustrates the relationships between utilization levels of individual network devices across a local area network.

Which type of data store should you use?

- A. graph
- B. key/value
- C. document
- D. columnar

Hide Solution   Discussion   1

Correct Answer: *A*

Data as it appears in the real world is naturally connected. Traditional data modeling focuses on defining entities separately and computing their relationships at runtime. While this model has its advantages, highly connected data can be challenging to manage under its constraints.

A graph database approach relies on persisting relationships in the storage layer instead, which leads to highly efficient graph retrieval operations. Azure Cosmos DB's Gremlin API supports the property graph model.

Reference:

https://docs.microsoft.com/en-us/azure/cosmos-db/graph-introduction#introduction-to-graph-databases
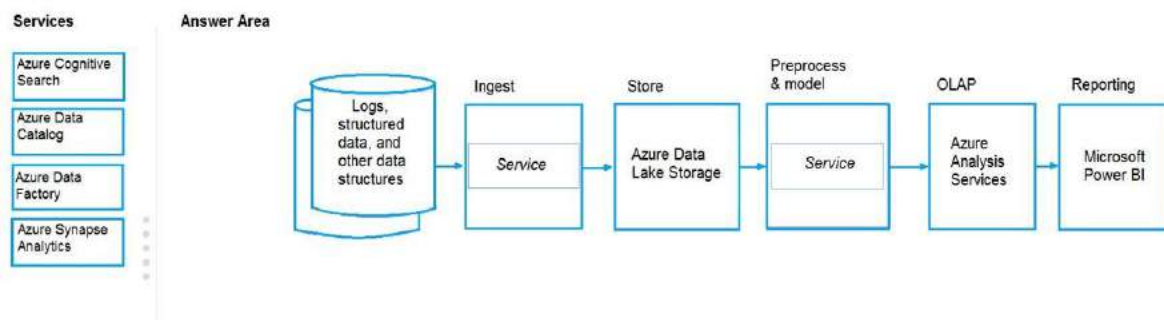
Question #97 *Topic 1*

DRAG DROP -

Match the Azure services to the appropriate locations in the architecture.

To answer, drag the appropriate service from the column on the left to its location on the right. Each service may be used once, more than once, or not at all.
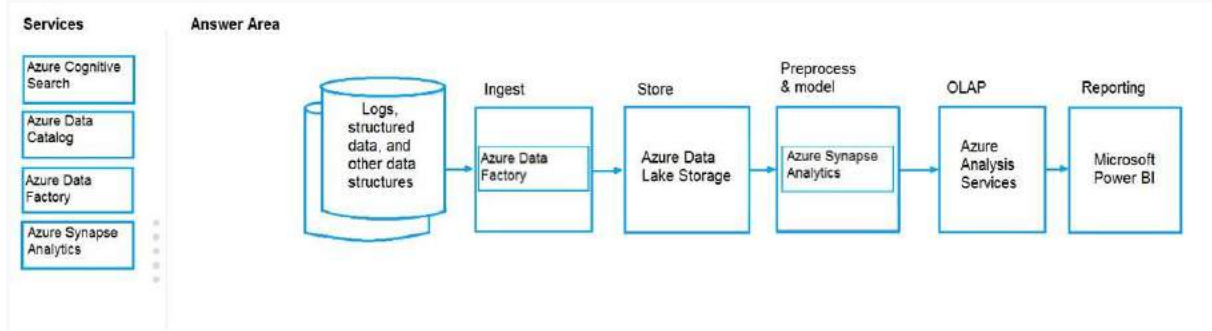
NOTE: Each correct match is worth one point.

Select and Place:

Hide Solution   Discussion   3

Correct Answer:

Box Ingest: Azure Data Factory -
You can build a data ingestion pipeline with Azure Data Factory (ADF).
Box Preprocess & model: Azure Synapse Analytics
Use Azure Synapse Analytics to preprocess data and deploy machine learning models.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-data-ingest-adf
https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/sqldw-walkthrough

Question #98 *Topic 1*

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

Hide Solution   Discussion 4

Correct Answer:

Workload Types	Answer Area	
Batch	Batch	Analyzing web traffic from the past year
Streaming	Batch	Classifying images that were uploaded last month
	Streaming	Tracking how many people are currently using a website

Box 1: Batch -
The batch processing model requires a set of data that is collected over time while the stream processing model requires data to be fed into an analytics tool, often in micro-batches, and in real-time.
The batch Processing model handles a large batch of data while the Stream processing model handles individual records or micro-batches of few records.
In Batch Processing, it processes over all or most of the data but in Stream Processing, it processes over data on a rolling window or most recent record.

Box 2: Batch -

Box 3: Streaming -
Reference:
https://k21academy.com/microsoft-azure/dp-200/batch-processing-vs-stream-processing

Question #99 Topic 1

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

Answer Area

In a data warehousing workload, data [▼]

from a single source is distributed to multiple locations
from multiple sources is combined in a single location
is added to a queue for multiple systems to process
is used to train machine learning models

Hide Solution   Discussion

Correct Answer:

Answer Area

In a data warehousing workload, data [▼]

from a single source is distributed to multiple locations
from multiple sources is combined in a single location
is added to a queue for multiple systems to process
is used to train machine learning models

Note: The data warehouse workload encompasses:

☞ The entire process of loading data into the warehouse
☞ Performing data warehouse analysis and reporting
☞ Managing data in the data warehouse
☞ Exporting data from the data warehouse
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-workload-management

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

Answer Area

Statements	Yes	No
A pipeline is a representation of a data structure within Azure Data Factory	O	O
Azure Data Factory pipelines can execute other pipelines	O	O
A processing step within an Azure Data Factory pipeline is an activity	O	O

Hide Solution   Discussion   4
Correct Answer:

Answer Area

Statements	Yes	No
A pipeline is a representation of a data structure within Azure Data Factory	O	**O**
Azure Data Factory pipelines can execute other pipelines	**O**	O
A processing step within an Azure Data Factory pipeline is an activity	**O**	O

Box 1: No -
A pipeline is a logical grouping of activities that together perform a task.

Box 2: Yes -
You can construct pipeline hierarchies with data factory.

Box 3: Yes -
A pipeline is a logical grouping of activities that together perform a task.

Question #101 *Topic 1*

DRAG DROP -

Match the Azure services to the appropriate requirements.

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

NOTE: Each correct match is worth one point.

Select and Place:

Services

| Azure Data Factory |
| Azure Data Lake Storage |
| Azure SQL Database |
| Azure Synapse Analytics |

Answer Area

Service	Output data to Parquet format
Service	Store data that is in Parquet format
Service	Persist a tabular representation of data that is stored in Parquet format

Hide Solution   Discussion   9

Correct Answer:

Services

| Azure Data Factory |
| Azure Data Lake Storage |
| Azure SQL Database |
| Azure Synapse Analytics |

Answer Area

Azure Data Factory	Output data to Parquet format
Azure Data Lake Storage	Store data that is in Parquet format
Azure Synapse Analytics	Persist a tabular representation of data that is stored in Parquet format

Box 1: Azure Data Factory -

Box 2: Azure Data Lake Storage -
Azure Data Lake Storage (ADLA) now natively supports Parquet files. ADLA adds a public preview of the native extractor and outputter for the popular Parquet file format

Box 3: Azure Synapse Analytics -
Use Azure Synapse Analytics Workspaces.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/supported-file-formats-and-compression-codecs

Question #102 *Topic 1*

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

Answer Area

Statements	Yes	No
Azure Synapse Analytics scales storage and compute independently	O	O
Azure Synapse Analytics can be paused to reduce compute costs	O	O
An Azure Synapse Analytics data warehouse has a fixed storage capacity	O	O

Correct
Answer:

Answer Area

Statements	Yes	No
Azure Synapse Analytics scales storage and compute independently	O (selected)	O
Azure Synapse Analytics can be paused to reduce compute costs	O (selected)	O
An Azure Synapse Analytics data warehouse has a fixed storage capacity	O	O (selected)

Box 1: Yes -
Compute is separate from storage, which enables you to scale compute independently of the data in your system.

Box 2: Yes -
You can use the Azure portal to pause and resume the dedicated SQL pool compute resources.
Pausing the data warehouse pauses compute. If your data warehouse was paused for the entire hour, you will not be charged compute during that hour.

Box 3: No -
Storage is sold in 1 TB allocations. If you grow beyond 1 TB of storage, your storage account will automatically grow to 2 TBs.
Reference:
https://azure.microsoft.com/en-us/pricing/details/synapse-analytics/

Question #103 *Topic 1*
What should you use to build a Microsoft Power BI paginated report?

- A. Charticulator

- B. Power BI Desktop
- C. the Power BI service
- D. Power BI Report Builder

Correct Answer: *D*
Power BI Report Builder is the standalone tool for authoring paginated reports for the
Power BI service.
Reference:
https://docs.microsoft.com/en-us/power-bi/paginated-reports/paginated-reports-
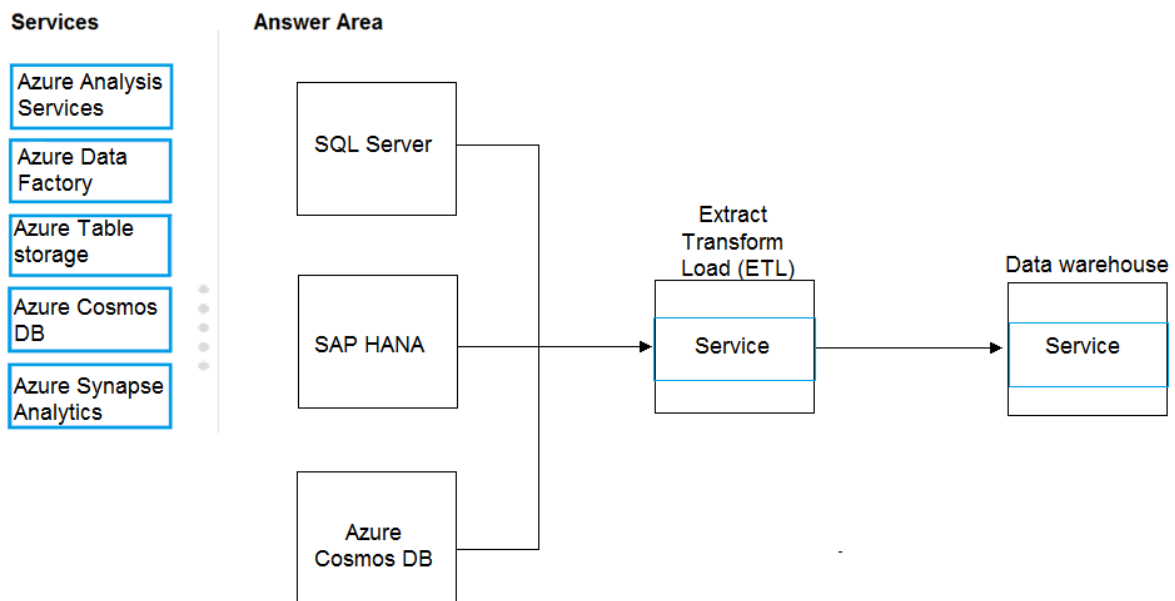report-builder-power-bi

Question #104 *Topic 1*
DRAG DROP -
Match the Azure services to the appropriate locations in the architecture.
To answer, drag the appropriate service from the column on the left to its location on
the right. Each service may be used once, more than once, or not at all.
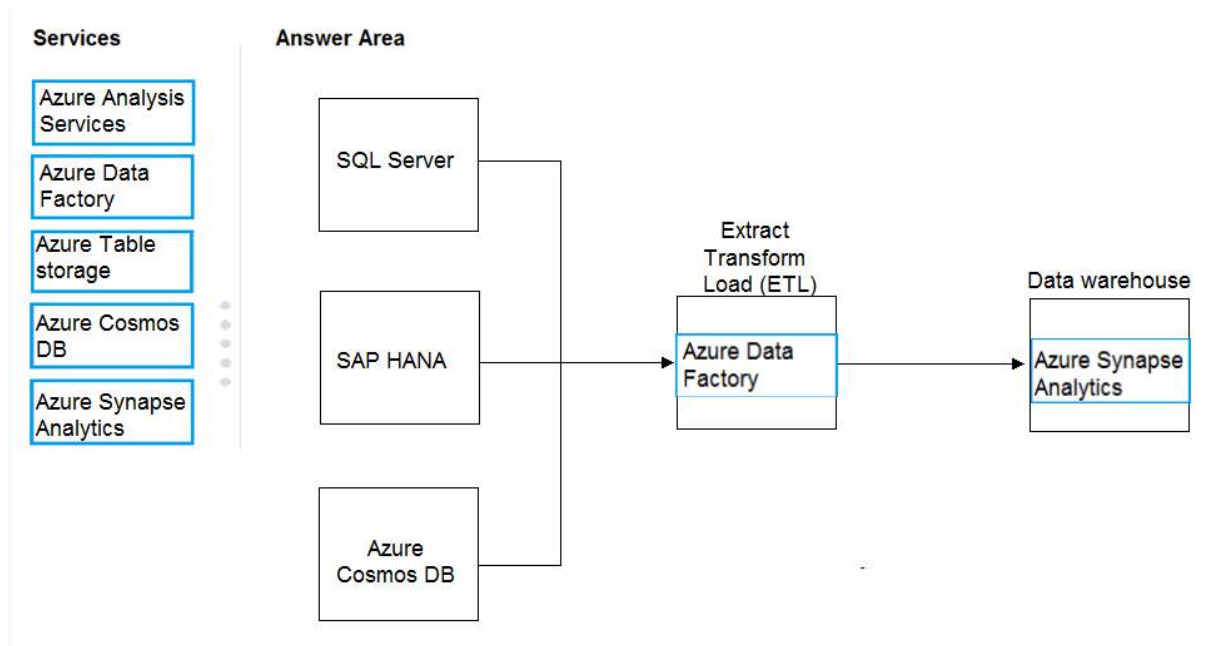NOTE: Each correct match is worth one point.
Select and Place:

**Correct
Answer:**

Box 1: Azure Data factory -
Relevant Azure service for the three ETL phases are Azure Data Factory and SQL Server Integration Services (SSIS).

Box 2: Azure Synapse Analytics -
You can copy and transform data in Azure Synapse Analytics by using Azure Data Factory
Note: Azure Synapse Analytics connector is supported for the following activities:
☞ Copy activity with supported source/sink matrix table
☞ Mapping data flow
☞ Lookup activity
☞ GetMetadata activity
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/etl
https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-sql-data-warehouse

https://www.examtopics.com/exams/microsoft/dp-900/view/27/

Question #105 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Azure Databricks is an Apache Spark-based collaborative analytics platform.	O	O
Azure Analysis Services is used for transactional workloads.	O	O
Azure Data Factory orchestrates data integration workflows.	O	O

Hide Solution   Discussion 5

Correct Answer:

Answer Area

Statements	Yes	No
Azure Databricks is an Apache Spark-based collaborative analytics platform.	●	O
Azure Analysis Services is used for transactional workloads.	O	●
Azure Data Factory orchestrates data integration workflows.	●	O

Reference:
https://docs.microsoft.com/en-us/azure/databricks/scenarios/what-is-azure-databricks https://docs.microsoft.com/en-us/azure/analysis-services/analysis-services-overview https://docs.microsoft.com/en-us/azure/data-factory/introduction

Question #106 *Topic 1*

Which scenario is an example of a streaming workload?

- A. sending transactions that are older than a month to an archive
- B. sending transactions daily from point of sale (POS) devices
- C. sending telemetry data from edge devices
- D. sending cloud infrastructure metadata every 30 minutes

Hide Solution   Discussion 9

Correct Answer: *C*

Question #107 *Topic 1*

HOTSPOT -

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

Hot Area:

Answer Area

Batch workloads ▼

process data in memory, row-by-row.
collect and process data at most once a day.
process data as new data is received in near real-time.
collect data and then process the data when a condition is met.

Correct Answer:

Answer Area

Batch workloads ▼

process data in memory, row-by-row.
collect and process data at most once a day.
process data as new data is received in near real-time.
collect data and then process the data when a condition is met.

Question #108 *Topic 1*

HOTSPOT -

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Processing salary payments once a month is an example of a batch workload.	○	○
A wind turbine that sends 50 sensor readings per second is an example of a streaming workload.	○	○
A home electricity meter that sends readings once a day to an energy provider is an example of a streaming workload.	○	○

Correct
~~Answer~~

Answer Area

Statements	Yes	No
Processing salary payments once a month is an example of a batch workload.	⊙	○
A wind turbine that sends 50 sensor readings per second is an example of a streaming workload.	⊙	○
A home electricity meter that sends readings once a day to an energy provider is an example of a streaming workload.	○	⊙

You need to gather real-time telemetry data from a mobile application.
Which type of workload describes this scenario?

- A. Online Transaction Processing (OLTP)
- B. batch
- C. massively parallel processing (MPP)
- D. streaming

Hide Solution   Discussion   6
Correct Answer: *D*
Reference:
https://docs.microsoft.com/en-in/azure/azure-monitor/overview

You have a SQL pool in Azure Synapse Analytics that is only used actively every night for eight hours.
You need to minimize the cost of the dedicated SQL pool as much as possible during idle times. The solution must ensure that the data remains intact.
What should you do on the SQL pool?

- A. Scale down the data warehouse units (DWUs).
- B. Pause the pool.
- C. Create a user-defined restore point.
- D. Delete the pool

Hide Solution   Discussion
Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-manage-compute-overview

Which Azure Data Factory component initiates the execution of a pipeline?

- A. a control flow
- B. a trigger
- C. a parameter
- D. an activity

Hide Solution | Discussion 5

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipeline-execution-triggers#trigger-execution

Question #112 *Topic 1*

Your company has a reporting solution that has paginated reports. The reports query a dimensional model in a data warehouse.
Which type of processing does the reporting solution use?

- A. stream processing
- B. batch processing
- C. Online Analytical Processing (OLAP)
- D. Online Transaction Processing (OLTP)

Hide Solution | Discussion 4

Correct Answer: *C*
Reference:
https://datawarehouseinfo.com/how-does-oltp-differ-from-olap-database/

Question #113 *Topic 1*

DRAG DROP -
Match the types of activities to the appropriate Azure Data Factory activities.
To answer, drag the appropriate activity type from the column on the left to its Data Factory activity on the right. Each activity type may be used once, more than once, or not at all.
NOTE: Each correct match is worth one point.
Select and Place:

Activity Types

| Control |
| Data movement |
| Data transformation |

Answer Area

	Copy
	Mapping data flow
	Lookup

Hide Solution | Discussion

**Correct
Answer:**

Activity Types	Answer Area	
Control	Data movement	Copy
Data movement	Data transformation	Mapping data flow
Data transformation	Control	Lookup

Box 1: Data movement -

Box 2: Data transformation -
A pipeline could contain a set of activities that ingest and clean log data, and then kick off a mapping data flow to analyze the log data.

Box 3: Control -
Lookup Activity is a control flow activity.
Lookup Activity can be used to read or look up a record/ table name/ value from any external source. This output can further be referenced by succeeding activities.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipelines-activities#data-transformation-activities

Question #114 *Topic 1*

What are three characteristics of an Online Transaction Processing (OLTP) workload? Each correct answer presents a complete solution. (Choose three.)
NOTE: Each correct selection is worth one point.

- A. denormalized data
- B. heavy writes and moderate reads
- C. light writes and heavy reads
- D. schema on write
- E. schema on read
- F. normalized data

Hide Solution   Discussion   26

Correct Answer: *BDF*
B: Transactional data tends to be heavy writes, moderate reads.
D: Typical traits of transactional data include: schema on write, strongly enforced
F: Transactional data tends to be highly normalized.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/online-transaction-processing

Which two activities can be performed entirely by using the Microsoft Power BI service without relying on Power BI Desktop? Each correct answer presents a complete solution. (Choose two.)
NOTE: Each correct selection is worth one point.

- A. report and dashboard creation
- B. report sharing and distribution
- C. data modeling
- D. data acquisition and preparation

Hide Solution | **Discussion** 1

Correct Answer: *AD*

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

Answer Area

In Azure Data Factory, you can use [dropdown] to orchestrate pipeline

| a control flow |
| a dataset |
| a linked service |
| an integration runtime |

activities that depend on the output of other pipeline activities.

Hide Solution | **Discussion** 9

Correct Answer:

Answer Area

In Azure Data Factory, you can use [dropdown] to orchestrate pipeline

| **a control flow** |
| a dataset |
| a linked service |
| an integration runtime |

activities that depend on the output of other pipeline activities.

Reference:
https://docs.microsoft.com/en-us/azure/data-factory/frequently-asked-questions

You need to develop a solution to provide data to executives. The solution must provide an interactive graphical interface, depict various key performance indicators,

and support data exploration by using drill down.
What should you use in Microsoft Power BI?

- A. a dashboard
- B. a report
- C. a dataflow
- D. Microsoft Power Apps

Hide Solution   Discussion   **26**

Correct Answer: *B*
Reference:
https://docs.microsoft.com/en-us/power-bi/consumer/end-user-dashboards
https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-kpi
https://docs.microsoft.com/en-us/power-bi/consumer/end-user-drill

Question #118 *Topic 1*

Which two Azure services can be used to provision Apache Spark clusters? Each correct answer presents a complete solution. (Choose two.)
NOTE: Each correct selection is worth one point.

- A. Azure Time Series Insights
- B. Azure HDInsight
- C. Azure Databricks
- D. Azure Log Analytics

Hide Solution   Discussion   **2**

Correct Answer: *BC*
Reference:
https://www.sqlshack.com/a-beginners-guide-to-azure-databricks/

Question #119 *Topic 1*

You have a quality assurance application that reads data from a data warehouse.
Which type of processing does the application use?

- A. Online Transaction Processing (OLTP)
- B. batch processing
- C. Online Analytical Processing (OLAP)
- D. stream processing

Hide Solution   Discussion   **40**

Correct Answer: *A*
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/online-transaction-processing

Question #120 *Topic 1*

Which three objects can be added to a Microsoft Power BI dashboard? Each correct answer presents a complete solution. (Choose three.)
NOTE: Each correct selection is worth one point.

- A. a report page
- B. a Microsoft PowerPoint slide
- C. a visualization from a report
- D. a dataflow
- E. a text box

Correct Answer: *ACE*
Reference:
https://docs.microsoft.com/en-us/power-bi/consumer/end-user-dashboards
https://docs.microsoft.com/en-us/power-bi/create-reports/service-dashboard-add-widget

Question #121 *Topic 1*
HOTSPOT -
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Statements	Yes	No
A Microsoft Power BI dashboard is associated with a single workspace.	○	○
A Microsoft Power BI dashboard can only display visualizations from a single dataset.	○	○
A Microsoft Power BI dashboard can display visualizations from a Microsoft Excel workbook.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
A Microsoft Power BI dashboard is associated with a single workspace.	○	⊙
A Microsoft Power BI dashboard can only display visualizations from a single dataset.	○	⊙
A Microsoft Power BI dashboard can display visualizations from a Microsoft Excel workbook.	⊙	○

Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/service-datasets-across-workspaces https://docs.microsoft.com/en-us/power-bi/consumer/end-user-dashboardshttps://powerbi.microsoft.com/en-us/excel-and-power-bi/

Which Azure Data Factory component provides the compute environment for activities?

- A. a linked service
- B. an integration runtime
- C. a control flow
- D. a pipeline

Hide Solution   Discussion   **24**

Correct Answer: *B*

The Integration Runtime (IR) is the compute infrastructure used by Azure Data Factory to provide the following data integration capabilities across different network environments:

↪ Data Flow

↪ Data movement

↪ Activity dispatch

↪ SSIS package execution

Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-integration-runtime

HOTSPOT -

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

Hot Area:

Answer Area

A Microsoft Power BI [▼] enables users to create highly formatted,

| dashboard |
| interactive report |
| paginated report |
| subscription |

fixed-layout documents optimized for printing and archiving.

Hide Solution   Discussion 4

Correct Answer:

Answer Area

A Microsoft Power BI [▼] enables users to create highly formatted,

| dashboard |
| interactive report |
| **paginated report** |
| subscription |
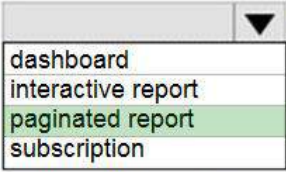
fixed-layout documents optimized for printing and archiving.

Paginated Reports in Power BI now allows users to generate these fixed-layout documents optimized for printing and archiving, such as PDF and Word files.
These document-style reports with visualizations that provide additional control, like which tables expand horizontally and vertically to display all their data and continue from page to page as needed.
Reference:
https://powerbi.microsoft.com/en-us/blog/announcing-paginated-reports-in-power-bi-general-availability/

Question #124 *Topic 1*

What are two uses of data visualization? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

- A. Represent trends and patterns over time
- B. Implement machine learning to predict future values
- C. Communicate the significance of data
- D. Enforce business logic across reports

Hide Solution   Discussion

Correct Answer: *AC*
Data visualization is a key component in being able to gain insight into your data. It helps make big and small data easier for humans to understand. It also makes it easier to detect patterns, trends, and outliers in groups of data.
Data visualization brings data to help you find key business insights quickly and

effectively.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/spark/apache-spark-data-visualization

You need to use Transact-SQL to query files in Azure Data Lake Storage from an Azure Synapse Analytics data warehouse.
What should you use to query the files?

- A. Azure Functions
- B. Microsoft SQL Server Integration Services (SSIS)
- C. PolyBase
- D. Azure Data Factory

Hide Solution   Discussion   4

Correct Answer: *C*
Reference:
https://docs.databricks.com/data/data-sources/azure/synapse-analytics.html

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

Answer Area

Statements	Yes	No
You can copy a dashboard between Microsoft Power BI workspaces.	O	O
A Microsoft Power BI dashboard can only display visualizations from a single dataset.	O	O
A Microsoft Power BY dashboard can display visualizations from a Microsoft Excel workbook.	O	O

Hide Solution   Discussion   1

Correct Answer:

Answer Area

Statements	Yes	No
You can copy a dashboard between Microsoft Power BI workspaces.	O	O
A Microsoft Power BI dashboard can only display visualizations from a single dataset.	O	O
A Microsoft Power BY dashboard can display visualizations from a Microsoft Excel workbook.	O	O

Box 1: No -
You can duplicate a dashboard. The duplicate ends up in the same Power BI

workspace.
There is no current functionality that allows you to move reports from one workspace to another.

Box 2: No -

Box 3: Yes -
Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/service-datasets-across-workspaces https://docs.microsoft.com/en-us/power-bi/consumer/end-user-dashboardshttps://powerbi.microsoft.com/en-us/excel-and-power-bi/

Question #127 *Topic 1*

What are three characteristics of an Online Transaction Processing (OLTP) workload? Each correct answer presents a complete solution. (Choose three.)
NOTE: Each correct selection is worth one point.

- A. denormalized data
- B. heavy writes and moderate reads
- C. light writes and heavy reads
- D. schema defined in a database
- E. schema defined when reading unstructured data from a database
- F. normalized data

Hide Solution   Discussion 1

Correct Answer: *BDF*
B: Transactional data tends to be heavy writes, moderate reads.
D: Typical traits of transactional data include: schema on write, strongly enforced. The schema is defined in a database.
F: Transactional data tends to be highly normalized.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/relational-data/online-transaction-processing

Question #128 *Topic 1*

What is the primary purpose of a data warehouse?

- A. to provide answers to complex queries that rely on data from multiple sources
- B. to provide transformation services between source and target data stores
- C. to provide read-only storage of relational and non-relational historical data
- D. to provide storage for transactional line-of-business (LOB) applications

Hide Solution   Discussion 4

Correct Answer: *C*
Consider using a data warehouse when you need to keep historical data separate from the source transaction systems for performance reasons. Data warehouses make it easy to access historical data from multiple locations, by providing a

1. Which element is to sync an azure blog storage account to an external account? (azcopy was
A cache (share or change)
B hot tire
C version
D ???

2. There is an un-structered log file in somewhere that is transferring to somewhere. you shuld s
A azure table storage
B azure queue storage
C ???

The first was on components of a Modern Data Warehouse and they were 4 options but I only re
- batch processing only
- batch and streaming processing
- Native or in-built analytical processing

The second question was steps to do diagnostic analysis. Each option had 3 steps. I don't remer

1. Company plans to migrate SQL Server on Premise to Azure Cloud. Requirements are reduced
- Azure Sql database
- Azure SQL Database Managed Instance
- Azure SQL Database elastic pool
- Azure SQL Database single database
2. Complete the sentences. Sql functions <Min/Max, select / from , group by/ order by> are know

- mysql workbench and mariadb compatibility

You need to recommend a data store service that meets the following requirements

. Native SQL API acess
. Configurable indexes

What should you recommend?

1-Azure Table Storage

2-Azure Files

3-Azure Blob Storage

4-Azure Cosmos DB

Azure DP-900