

MODEL QUESTIONS & ANSWERS

FULL EXPLAINED

for the Microsoft Data Analyst Exam D-100

By Setscods

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HOW IT WORKS

1. To enjoy the full functionalities of this e-book please open it from your laptop or desktop.
2. From the Question Section, use the interactive icons to select your answers.
3. Click on the Page Transfer icon to take you to the Answer & Explanation Section that corresponds to the question.
4. Compare your answers and read the explanation.
5. From the Answers & Explanation Section click again the icon to go back to the question related.

Interactive icons

Check Box

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QUESTIONS SECTION

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QUESTIONS SECTION

Question 1

You need to address the data before creating the data model. What should you do in Power Query Editor?

Answer area

- ☐ A. Select Column distribution
- ☐ B. Select the sales_amount column and apply a number filter.
- ☐ C. Select Column profile, and then select the sales_amount column.
- ☐ D. Transform the sales_amount column to replace negative values with 0.

Question 2

You are creating a Microsoft Power BI model that has two tables named CityData and Sales. CityData contains only the data shown in table 1. Sales contains only the data shown in table 2. For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

State (CityData)	City	Population (million)
CA	Los Angeles	4.00
CA	San Francisco	0.90
New York	New York	8.50
WA	Seattle	0.70
WA	Spokane	0.20

table 1

State (Sales)	Type	Sales
CA	Internet	60
CA	Store	80
TX	Store	400
WA	Internet	150
WA	Store	100

table 2

Answer area

Statements	Yes	No
In the Sales table you can write a DAX expression that uses the RELATED() function to get data from the CityData table.	<input type="radio"/>	<input type="radio"/>
A DAX expression of sales total =CALCULATE(SUM(Sales[Sales],All (Sales)) will produce the correct total sales value for each state based on the data model.	<input type="radio"/>	<input type="radio"/>
A table visualization that uses cityData[State] and Sales[Sales] will contain sales from the state of TX.	<input type="radio"/>	<input type="radio"/>

**Question 3**

You create the following step by using Power Query Editor. =

Table.ReplaceValue(SalesLT_Address,"1318","1319",Replacer.ReplaceText,{"AddressLine1"})

A row has a value of 21318 Lasalle Street in the AddressLine1 column. What Will the value be when the step is applied?

Answer area

- ☐ A. 1318
- ☐ B. 1319
- ☐ C. 21318 Lasalle Street
- ☐ D. 21319 Lasalle Street



Question 4

You have a report that contains four pages. Each page contains slicer for the same four fields. Users report that when they select values on a slicer on one page, the visuals are not update on all the pages. You need to recommend a solution to ensure that users can select a value once to filter the results on all the pages. What are two possible recommendations to achieve this goal? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

Answer area

- ☐ A. Sync the slicers across the pages.
 - ☐ B. Replace the slicers with page-level filters.
 - ☐ C. Replace the slicers with visual-level filters.
 - ☐ D. Create a bookmark for each slicer value.
 - ☐ E. Replace the slicers with report-level filters.
-



Question 5

You have a data model that contains many complex DAX expressions. The expressions contain frequent references to the RELATED and RELATEDTABLE functions. You need to recommend a solution to minimize the use of the RELATED and RELATEDTABLE functions.

What should you recommend?

Answer area

- ☐ A. Split the model into multiple models.
 - ☐ B. Hide unused columns in the model.
 - ☐ C. Merge tables by using Power Query.
 - ☐ D. Transpose.
-



Question 6

You are creating a Microsoft Power BI data model that has the tables shown in the table aside. The Products table is related to the ProductCategory table through the ProductCategoryID column. You need to ensure that you can analyze sales by product category. How should you configure the relationships from Products to ProductCategory?

To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

User name	Column name
Sales	SalesID
	ProductID
	DateKey
	SalesAmount
Products	ProductID
	ProductName
	ProductCategoryID
ProductCategory	ProductCategoryID
	CategoryName

Answer area

Cardinality:

Cross-filter direction:

Question 7

You are modeling data by using Microsoft Power BI. Part of the data model is a large Microsoft SQL Server table named Order that has more than 100 million records. During the development process, you need to import a sample of the data from the Order table. Solution: You add a WHERE clause to the SQL statement.

Answer area

Does this meet the goal?

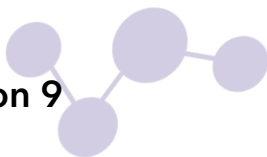
- ☐ A. Yes
- ☐ B. No
-

**Question 8**

You are configuring a Microsoft Power BI data model to enable users to ask natural language questions by using Q&A. You have a table named Customer that has the following measure. Customer Count = DISTINCTCOUNT (Customer[CustomerID]) Users frequently refer to customers as subscribers. You need to ensure that the users can get a useful result for "subscriber count" by using Q&A. The solution must minimize the size of the model. What should you do?

Answer area

- ☐ A. Add a description of "subscriber count" to the Customer Count measure.
- ☐ B. Set Summarize By to None for the CustomerID column.
- ☐ C. Add a description of "Subscriber" to the Customer table.
- ☐ D. Add a synonym of "subscriber" to the Customer table.
-

**Question 9**

You are creating a quick measure as shown in the following exhibit. You need to create a monthly rolling average measure for Sales over time-How should you configure the quick measure calculation? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer area

Base value:

Date:

Period:

Question 10

You have a Microsoft Power BI workspace. You need to grant the user capabilities shown in the following table.

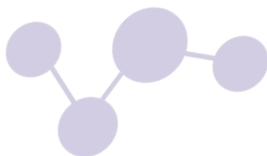
User name	Task
User1	Create and publish apps
User2	Publish reports to the workspace and delete dashboards.

The solution must use the principle of least privilege. Which user role should you assign to each user? To answer, select the appropriate roles for each users. Each role may be used once, more than once, or not at all. NOTE: Each correct selection is worth one point.

Answer area

User1:

User2:



ANSWERS & EXPLANATIONS SECTION

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ANSWERS & EXPLANATIONS

Question 1

You need to address the data before creating the data model. What should you do in Power Query Editor?

Answer area

- ☐ A. Select Column distribution
- ☐ B. Select the sales_amount column and apply a number filter.
- ☐ C. Select Column profile, and then select the sales_amount column.
- ☐ D. Transform the sales_amount column to replace negative values with 0.

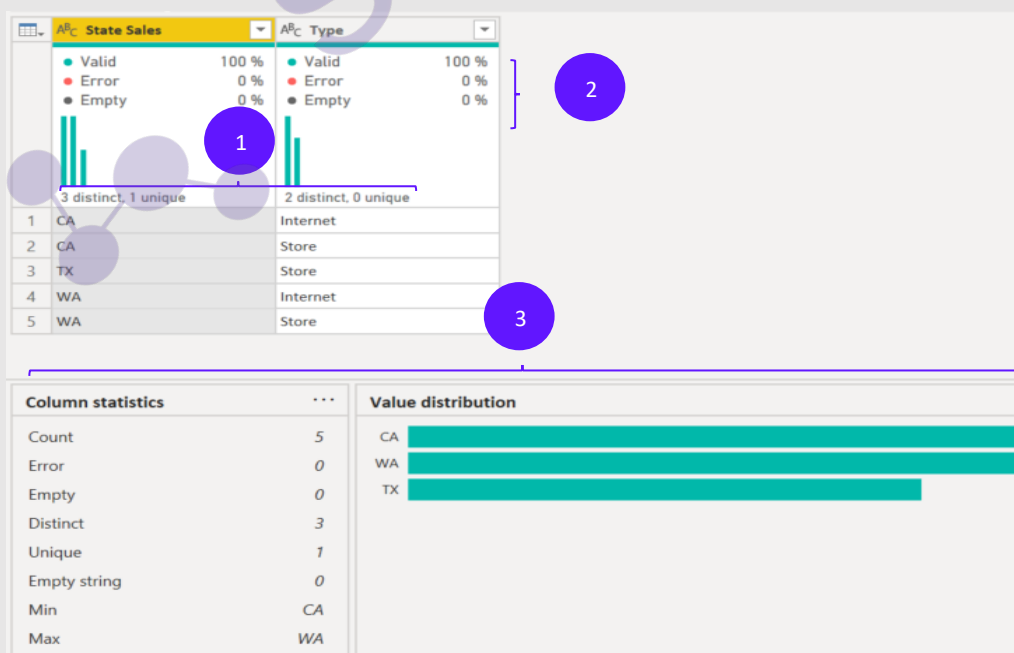
Answer: C

Solution:

Data concerns refers to data preview. To check the data preview, from Power Query go to Editor> View > Data. In this section you have:

- Column distribution:** shows unique and distinct values.
- Column quality:** shows the % of: valid, error and empty values.
- Column profile:** includes column distribution and column quality (**not in %**). Also shows statistics values such as max and min and the value distribution (CA, WA, TX).

As data profile is the most complete for addressing concerns, then C is the answer.



Question 2

You are creating a Microsoft Power BI model that has two tables named CityData and Sales. CityData contains only the data shown in table 1. Sales contains only the data shown in table 2. For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

State (CityData)	City	Population (million)
CA	Los Angeles	4.00
CA	San Francisco	0.90
New York	New York	8.50
WA	Seattle	0.70
WA	Spokane	0.20

table 1

State (Sales)	Type	Sales
CA	Internet	60
CA	Store	80
TX	Store	400
WA	Internet	150
WA	Store	100

table 2

Answer area

Statements

In the Sales table you can write a DAX expression that uses the RELATED() function to get data from the CityData table.

Yes No

☐ ☐

A DAX expression of sales total =CALCULATE(SUM(Sales[Sales],All (Sales)) will produce the correct total sales value for each state based on the data model.

☐ ☐

A table visualization that uses cityData[State] and Sales[Sales] will contain sales from the state of TX.

☐ ☐

Answer: No No No

Solution:

Statement 1: No, because CityData and Sales have a many to many cardinality/relation. The RELATED function cannot be used to fetch a column across a limited relationship. What is a limited relationship? A model relationship is limited when there's no guaranteed "one" side, meaning that the relationship uses a Many-to-many

Statement 2: No, cardinality because type. the DAX expression have an ALL() function, meaning it will always

calculate the sum using all the values from the column sales. See Fig.1.

Statement 3: No, TX is not a value from the column State (CityData) at the CityData table. Therefore the table visualization will not show the amount of Sales for TX. See Fig.2.



State Sales	Sales total
CA	790
TX	790
WA	790
Total	790

Figure 1

State	Sales
CA	140
WA	250
Total	790

Figure 2

Question 3

You create the following step by using Power Query Editor. =

Table.ReplaceValue(SalesLT_Address,"1318","1319",Replacer.ReplaceText,{"AddressLine1"})

A row has a value of 21318 Lasalle Street in the AddressLine1 column. What will the value be when the step is applied?

Answer area

- ☐ A. 1318
- ☐ B. 1319
- ☐ C. 21318 Lasalle Street
- ☐ D. 21319 Lasalle Street

Answer: D

Solution:

Only the value defined as *old text* (1318) in the M statement, will be replaced by the *new text* (1319), the rest of the text will remain the same. To replicate the question on Power Query, write the M script from the picture below on the Power Query Editor.



The screenshot shows the Power Query Editor interface. On the left, a list of queries includes 'SalesLT_Address'. The main area displays a table with one row: '1' in the first column and '21319 Lasalle Street' in the 'AddressLine1' column. On the right, the 'APPLIED STEPS' pane shows a sequence of steps: 'Source', 'Converted to Table', 'Renamed Columns', 'Changed Type', and 'Replaced Value'. The 'Replaced Value' step is selected. Below this, the 'Advanced Editor' window shows the M script for the 'SalesLT_Address' query. The script is as follows:

```
let
    Source = {"21318 Lasalle Street"},
    #"Converted to Table" = Table.FromList(Source, Splitter.SplitByNothing(), null, null, ExtraValues.Error),
    #"Renamed Columns" = Table.RenameColumns(#"Converted to Table",{{"Column1", "AddressLine1"}}),
    #"Changed Type" = Table.TransformColumnTypes(#"Renamed Columns",{{"AddressLine1", type text}}),
    #"Replaced Value" = Table.ReplaceValue(#"Changed Type", "1318", "1319", Replacer.ReplaceText, {"AddressLine1"})
in
    #"Replaced Value"
```

A blue arrow points from the 'Replaced Value' step in the 'APPLIED STEPS' pane to the line: `#"Replaced Value" = Table.ReplaceValue(#"Changed Type", "1318", "1319", Replacer.ReplaceText, {"AddressLine1"})`. Below this line, the text *old text new text* is visible.

Question 4

You have a report that contains four pages. Each page contains slicer for the same four fields. Users report that when they select values on a slicer on one page, the visuals are not update on all the pages. You need to recommend a solution to ensure that users can select a value once to filter the results on all the pages. What are two possible recommendations to achieve this goal? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

Answer area

- ☐ A. Sync the slicers across the pages.
- ☐ B. Replace the slicers with page-level filters.
- ☐ C. Replace the slicers with visual-level filters.
- ☐ D. Create a bookmark for each slicer value.
- ☐ E. Replace the slicers with report-level filters.

Answer: A E**Solution:**

The question refers to a report shared in Power BI Service. However, the filter configuration could be done from Power BI Desktop as well

A: By synchronizing the filter, you can manage where you want the filter to be display and which pages you want to filter. To synchronize the filter click on the filter, go to View, Sync slicer and follow the configuration shown in Fig.1.

B: This option will only filter visuals from one page, not from the 4 pages.

C: This option will only filter one visual, not all visuals.

D: This option also solve the problem by creating bookmarks for each selection. However, it is not the best option, as it changes totally the filtering experience.

E: This option works. You can set a report level filter, from where users will filter values from the filter pane in Power BI Service. See Fig.2.

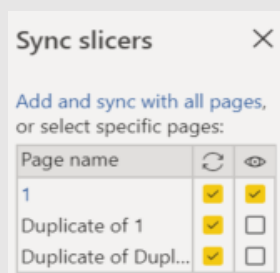


Figure 1

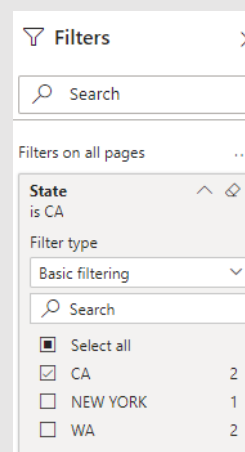


Figure 2

Question 5

You have a data model that contains many complex DAX expressions. The expressions contain frequent references to the RELATED and RELATEDTABLE functions. You need to recommend a solution to minimize the use of the RELATED and RELATEDTABLE functions.

What should you recommend?

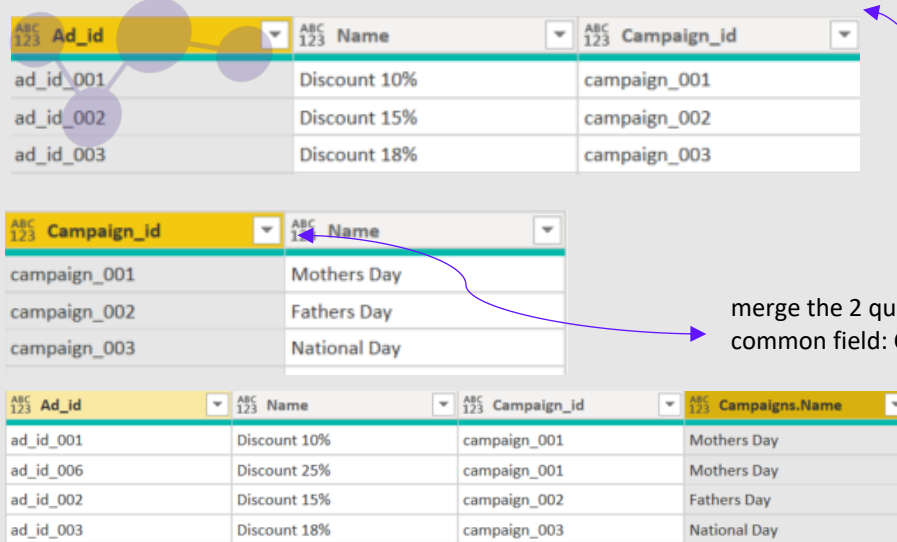
Answer area

- ☐ A. Split the model into multiple models.
- ☐ B. Hide unused columns in the model.
- ☐ C. Merge tables by using Power Query.
- ☐ D. Transpose.

Answer: C

Solution:

Related functions could reduce the performance of your data models. To avoid this, you can merge related tables before loading your model to Power BI Desktop. 2 tables are related when both share a common column (ex: id_sales). To merge tables from Power Query, go to >Home>Merge Query>. Select the tables and columns you want to merge. Once the tables is merged, click on expand columns. With the new query, you will have minimized your data model and increase the model performance.



Ad_id	Name	Campaign_id
ad_id_001	Discount 10%	campaign_001
ad_id_002	Discount 15%	campaign_002
ad_id_003	Discount 18%	campaign_003

Campaign_id	Name
campaign_001	Mothers Day
campaign_002	Fathers Day
campaign_003	National Day

merge the 2 queries by using a common field: Campaign_id

Ad_id	Name	Campaign_id	Campaigns.Name
ad_id_001	Discount 10%	campaign_001	Mothers Day
ad_id_006	Discount 25%	campaign_001	Mothers Day
ad_id_002	Discount 15%	campaign_002	Fathers Day
ad_id_003	Discount 18%	campaign_003	National Day

Question 6

You are creating a Microsoft Power BI data model that has the tables shown in the table aside. The Products table is related to the ProductCategory table through the ProductCategoryID column. You need to ensure that you can analyze sales by product category. How should you configure the relationships from Products to ProductCategory?

To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

User name	Column name
Sales	SalesID
	ProductID
	DateKey
	SalesAmount
Products	ProductID
	ProductName
	ProductCategoryID
ProductCategory	ProductCategoryID
	CategoryName

Answer area

Cardinality:

▼
One-to-many
One-to-one
Many-to-many

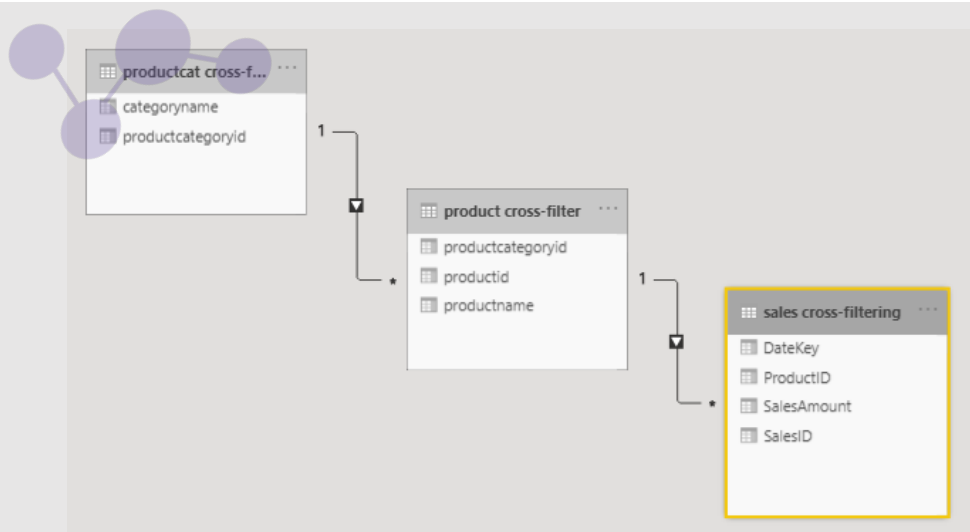
Cross-filter direction:

▼
Single
Both

Answer: One-to-many**Solution:**

Cardinality: One product or many products can belong to a category → many to one. One category could have many products or only one product → one to many. Therefore, the specific answer should be many to one, but because there is not option available, one to many is the best alternative.

Singel: There is no need for a cross-filter, as data flows from the product category to the sales. This is enough for a sales by product category analysis



Question 7

You are modeling data by using Microsoft Power BI. Part of the data model is a large Microsoft SQL Server table named Order that has more than 100 million records. During the development process, you need to import a sample of the data from the Order table. Solution: You add a WHERE clause to the SQL statement.

Answer area

Does this meet the goal?

- ☐ A. Yes
- ☐ B. No

Answer: A

Solution:

As you only need a sample, it is better to query your data source using a WHERE clause, this will filter only the records equal to a value of interest.

Example: `SELECT * FROM Order WHERE date.month = 1.`

The example above shows a query that SELECTS all the columns (*) from the table Order WHERE the column date.month is equal to 1 or January.

**Question 8**

You are configuring a Microsoft Power BI data model to enable users to ask natural language questions by using Q&A. You have a table named Customer that has the following measure. Customer Count = `DISTINCTCOUNT (Customer[CustomerID])` Users frequently refer to customers as subscribers. You need to ensure that the users can get a useful result for "subscriber count" by using Q&A. The solution must minimize the size of the model. What should you do?

Answer area

- ☐ A. Add a description of "subscriber count" to the Customer Count measure.
- ☐ B. Set Summarize By to None for the CustomerID column.
- ☐ C. Add a description of "Subscriber" to the Customer table.
- ☐ D. Add a synonym of "subscriber" to the Customer table.

Answer: D

Solution:

Giving the following table

customerid	customername
id-001	Matt
id-002	Josh
id-003	Joe
id-004	Ross

By using Q&A you may ask how many distinct “**customer**” are? The answer will be 4:

how many distinct customer

Preview your result

Show number of customers

4

Count of Customers

If end-users are more familiar with the term “**subscribers**”, instead of customers, then it is necessary to add a **synonym**. Then from Power BI Desktop go to >Data Model> Home> Q&A Setup> Field synonyms> Customer:

how many distinct subscribers

Preview your result

Show number of customers

4

Count of Customers



Question 9

You are creating a quick measure as shown in the following exhibit. You need to create a monthly rolling average measure for Sales over time-How should you configure the quick measure calculation? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer area

Base value:

▼

Month

Total Cost

Total Order Qty

Total Sales

Year

Date:

▼

Date

Month

Total Sales

Year

Period:

▼

Days

Months

Quarters

Year

Answer: Base Value : Total Sales, Date : Date, Period : Months.

Solution:

For example a 7-days rolling average takes the last 7 days, adds them up, and divides it by 7.

Base value: refers the quantitative field from which the calculation will be based on.

Date: represents the time field that will be used to aggregate the base value.

Period: represents how the Date will aggregate the base value. As the question ask for a monthly average, then it will aggregate (the average) the base value by month.

To create quick measure, from Power BI go to> *Report View>Home>Quick Measure> Select Rolling Average.*



Question 10

You have a Microsoft Power BI workspace. You need to grant the user capabilities shown in the following table.

User name	Task
User1	Create and publish apps
User2	Publish reports to the workspace and delete dashboards.

The solution must use the principle of least privilege. Which user role should you assign to each user? To answer, select the appropriate roles for each users. Each role may be used once, more than once, or not at all. NOTE: Each correct selection is worth one point.

Answer area

User1:

▼
Admin
Contributor
Member
Viewer

User2:

▼
Admin
Contributor
Member
Viewer



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