

PowerBI Assignment 5

1.Explain DAX.

DAX, which stands for Data Analysis Expressions, is a formula language used in Microsoft Power BI, Power Pivot, and Analysis Services Tabular models.

1)Formula Language: DAX is a formula language similar to Excel formulas, but with additional functions and capabilities specific to tabular data models. DAX formulas are used to perform calculations, create new calculated columns, define measures (aggregations), and filter data within tables.

2)Tabular Data Model: DAX operates on tabular data models, which consist of tables with columns and relationships. These models can be created in Power BI or Power Pivot by importing data from various sources, such as databases, Excel, or CSV files. DAX

3)Aggregations and Calculations: DAX provides a wide range of functions for performing aggregations and calculations on tabular data. It supports basic arithmetic operations, mathematical functions, statistical functions, text functions, date and time functions, and more. DAX formulas can be used to create complex calculations and expressions based on the available data.

4)Context and Iteration: DAX operates in a row and column context. It dynamically evaluates expressions based on the context in which they are used. DAX formulas can perform calculations within the context of a specific row or column, taking into account filters and relationships. DAX also supports iteration functions, such as SUMX, AVERAGEX, and COUNTX, which allow calculations to be performed over a set of rows.

5)Relationships and Measures: DAX enables the creation of relationships between tables in a tabular model. These relationships define how tables are related to each other, allowing for more complex analysis and calculations. DAX also supports the creation of measures, which are calculations that aggregate data across multiple tables and can be used in visualizations and reports.

2. Explain datasets, reports, and dashboards and how they relate to each other?

1)Datasets: Datasets in Power BI represent collections of data that are imported or connected to from various sources. A dataset typically consists of tables with columns and rows of data. Datasets serve as the foundation for analysis and reporting in Power BI. They can be created by importing data from files or databases, connecting to online services, or using Power Query to transform and shape the data.

2)Reports: Reports in Power BI are interactive visualizations and analyses created based on datasets. A report is composed of multiple visual elements, such as charts, tables, and visuals, which represent data from one or more datasets. Users can drag and drop fields from the datasets onto the report canvas to create visualizations and apply filters, slicers, and other interactive elements to explore and analyze the data. Reports allow users to gain insights and tell a data-driven story by presenting data in a meaningful and visually appealing way.

3)Dashboards: Dashboards provide a consolidated view of key metrics, reports, and visuals in a single, customizable canvas. Dashboards are designed to provide a high-level overview of the data and enable users to monitor performance and track specific KPIs. They can include visuals and reports from one or more datasets, allowing users to visualize data from different perspectives in a single view. Dashboards can be pinned with selected visuals from reports and can include additional elements like images, text boxes, and custom tiles.

4)Relationships between Datasets, Reports, and Dashboards:

- Datasets serve as the foundation for both reports and dashboards. Reports are built on one or more datasets, and they allow users to create visualizations, perform analysis, and explore the data in detail.

- Reports provide the visual representation and interactivity to analyze and present data from datasets. Users can create multiple reports based on the same dataset or combine data from multiple datasets within a single report.

- Dashboards, on the other hand, provide a consolidated view of selected visuals and reports. Dashboards can include visuals pinned from different reports or datasets, allowing users to create a personalized view of the most relevant data and KPIs.

3. How reports can be created in power BI, explain two ways with Navigation of each.

Reports in Power BI can be created in two primary ways: using Power BI Desktop and using Power BI Service. Here's a navigation for each method:

1)Power BI Desktop:

- Launch Power BI Desktop application on your computer.
- Click on "Get Data" in the Home tab to connect to a data source. Choose a data source, such as Excel, SQL Server, or an online service, and establish the connection.
- Once the data is loaded, you can see the "Fields" pane on the right side, showing the tables and columns from your dataset.
- Drag and drop the desired fields onto the report canvas to create visualizations. Select the appropriate visual type from the "Visualizations" pane (e.g., bar chart, line chart, table, etc.).
- Customize the visuals by adding measures, applying filters, sorting, and formatting options.
- Use the "Pages" pane to add additional report pages and create a flow of visuals and analyses.
- Add interactions between visuals by selecting the "Edit Interactions" option from the "Format" pane, allowing users to filter or highlight data across visuals.
- Save the report locally as a .pbix file or publish it to the Power BI Service for sharing and collaboration.

2)Power BI Service (Online):

- Sign in to the Power BI Service (app.powerbi.com) using your credentials.
- In the left-side navigation pane, click on "Workspace" to select the workspace where you want to create the report. If needed, create a new workspace.
- In the workspace, click on the "Create" button (+) and select "Report" from the dropdown menu.

- Click on "Get Data" to connect to a data source. Choose the appropriate data source and follow the prompts to establish the connection.
- Once the data is imported, you'll be directed to the report canvas where you can start building visualizations.
- Use the fields and measures from the "Fields" pane on the right side to drag and drop onto the canvas and create visuals.
- Customize the visuals by applying filters, sorting, formatting, and adding additional elements like titles and text boxes.
- Add more pages to the report using the "New Page" option on the bottom toolbar, allowing you to create a multi-page report with various visualizations and analyses.
- Save the report within the workspace, and it will be automatically available for sharing and collaboration.

4. How to connect to data in Power BI? How to use the content pack to connect to google analytics? Mention the steps.

To connect to data in Power BI, we can use various methods, including connecting directly to a data source, importing data from files, or leveraging content packs provided by Power BI service or third-party applications.

A step-by-step guide on using the content pack to connect to Google Analytics are as follows:

- 1)Sign in to the Power BI Service (app.powerbi.com) using the credentials.
- 2)In the left-side navigation pane, click on "Get Data" to initiate the data connection process.
- 3)In the "Services" tab, search for "Google Analytics" or scroll down to find it. Click on the "Get" button for Google Analytics.
- 4)We'll be prompted to enter your Google Analytics account credentials to authorize the connection. Follow the on-screen instructions to complete the authentication process.

- 5)After successful authentication, we'll see a list of available Google Analytics content packs. Select the desired content pack and click on "Connect" to proceed.
- 6)Configure the import settings for the content pack, such as selecting the Google Analytics views, date ranges, and any additional options provided. Click on "Load" once we've made the necessary selections.
- 7)Power BI will connect to the Google Analytics account, import the data, and create a default report and dashboard based on the selected content pack.
- 8)Once the import process is complete, we'll be redirected to the report canvas, where we can explore and customize the visuals based on your data.
- 9)Customize the report and dashboard by adding or removing visuals, applying filters, and adjusting formatting options as needed. We can also create additional reports and dashboards based on the imported Google Analytics data.
- 10)Save the report and dashboard within the workspace, and it will be available for further analysis, sharing, and collaboration.
- 11)By following these steps, we can easily connect to Google Analytics using the content pack provided in Power BI. This enables us to visualize and analyze your Google Analytics data in interactive reports and dashboards within the Power BI service.

5. How to import Local files in Power BI? Mention the Steps.

For importing local files in Power BI, we have to follow these steps:

- 1)Launch Power BI Desktop on your computer.
- 2)In the Home tab of the Power BI Desktop ribbon, click on the "Get Data" button.
- 3)In the "Get Data" window that appears, select the desired data source type. Power BI Desktop supports a wide range of data sources, including files, databases, online services, and more. For importing local files, we can choose the appropriate file-based data source, such as Excel, CSV, or text file.

4)Once we select the file-based data source, a new window specific to that data source will open. Browse to the location where your local file is stored and select the file we want to import.

5)Depending on the selected file type, additional options may be presented to specify import settings. For example, when importing an Excel file, we may need to select the specific sheets or tables to import, define data types, or adjust other settings. Fill in the required information as per the file's structure and data.

6)After configuring the import settings, click on the "Load" button to start importing the data from the local file into Power BI Desktop.

7)Power BI Desktop will process the file and load the data into a data preview window. Here, we can review the imported data, make adjustments if needed, and apply any transformations or data shaping operations using Power Query.

8)Once we are satisfied with the data preview and any required transformations, click on the "Load" button to import the data into the Power BI Desktop.

9)The imported data will now be available in the Power Query Editor window. Here, we can further refine and shape the data as per your analysis requirements.

10)After completing the data shaping, click on the "Close & Apply" button in the Power Query Editor to apply the changes and load the data into the Power BI Desktop report canvas.

11)We can now start creating visualizations, building reports, and performing analysis based on the imported data from the local file in Power BI Desktop.

6. In Power BI visualization, what are Reading View and Editing view?

1)In Power BI, the Reading View and Editing View are two different modes within the report canvas that allow users to interact with and modify the visualizations and elements of their reports.

2)Reading View:

The Reading View is the default mode in Power BI that is used for consuming and presenting the report to viewers. In this mode, users can interact with the

visualizations, apply filters, drill down into data, and explore the report's content. However, users cannot make changes to the structure, design, or layout of the report in Reading View. They can only interact with the pre-defined visualizations and navigate through the report pages. Reading View is ideal for sharing and presenting reports to others, allowing them to explore the data and gain insights without the ability to modify the report's design or content.

3)Editing View:

The Editing View, as the name suggests, is the mode in Power BI that allows users to modify and customize the report's design, layout, and content. In this mode, users have full control over the report canvas and can make changes such as adding or removing visuals, rearranging elements, modifying visual properties, applying formatting options, creating new report pages, defining interactions between visuals, and more. Editing View is where users can build, enhance, and refine their reports, tailor them to specific requirements, and make adjustments based on feedback or changing data needs. Editing View provides a comprehensive set of tools and options to design and create impactful and interactive reports.

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