POWER BI ASSIGNMENT 5

1. Explain DAX.

Data Analysis Expressions (DAX) is a powerful formula language designed specifically for data modeling in Power BI. DAX formulas calculate measures and perform analysis throughout Power BI, often used to avoid complex calculations and manual workarounds in analytical models.

With DAX, users can create custom calculations involving mathematical and statistical formulas, time intelligence functions, and other operators. Users can also utilize DAX to enhance data models with calculated columns, which are new columns generated by DAX formulas based on existing columns in the data model.

DAX can create dynamic filters that change the filter context for other visuals on a report page based on user interactions with visuals on the page.

The DAX language is continuously evolving, with new functions and features added regularly. As a result, Power BI users proficient in DAX can always find new ways to solve complex problems and perform sophisticated analyses.

DAX is a language used to create custom calculations in Power BI. DAX includes a wide variety of functions to perform many different types of data analysis.

Some common use cases for DAX include:

- Calculating percentages and totals. Use DAX to calculate things like the percentage of total sales or the total number of customers.

- Creating custom aggregations. Use DAX to create custom aggregations, like the average customer spending over time.

- Filtering and sorting data. Use DAX to filter and sort data in Power BI based on specific criteria.

- Understanding customer data to drive marketing. Use data to understand customer needs and preferences and make key marketing available to your team.

You can use DAX to perform a variety of calculations on data sets. You can also use data types in DAX calculations. The two types of calculations are calculated columns and calculated measures. Calculated columns are based on a single column of data, while calculated measures are based on multiple columns of data.

- Calculated columns create a new column in your existing table. The only difference between a regular column and a calculated column is that it's necessary to have at least one function in the calculated column. Use these when creating a column with filtered or sorted information.

- Calculated measures, on the other hand, create a field with aggregated values like sums, ratios, percentages, averages, etc.

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

A Report is a multi-perspective view of a dataset, with visuals representing different findings and insights. A report can have one visual or pages full of visuals. Depending on the role of your job, you may be someone who designs reports.

In the Power BI Desktop Report view, you can create any number of report pages with visualizations. Report View in Power BI Desktop provides a similar design experience to the Report's editing view in the Power BI *service.*
The difference between them is that in Power BI Desktop, you can work with your model and queries your data to make sure your data supports the best insights in your reports.

- Power BI bases a report on a single dataset. Report designers create the visuals in the report to represent nuggets of information.
- The visuals are not static. They update as the underlying data changes.
- You can interact with the filters and visuals as you dig into the data to discover insights and look for answers.
- The extent of what you do with the report will depend on the permissions and roles assigned by the report designer.

Dashboards are created from multiple datasets or **reports**. Dashboards always concentrate on building insights into the data by using graphs, attractive visuals, charts, etc. **Dashboards** allow a user to pin visuals from different **reports** and datasets onto a single canvas, making it simple to group what's essential to the user.

- Dashboards are a better way to monitor your business and see all of your most important metrics at a glance.
- The visualizations on the dashboard can come from a single underlying dataset or many and one underlying Report or many.
- A dashboard combines cloud data and on-premises, providing a consolidated view regardless of where the data lives.
- A dashboard isn't just picturing. It is highly interactive, and the tiles update as the underlying data changes.

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

Google Analytics is a powerful tool that tracks website usage and tracks for free. In order to utilize the tool, you must have an account and add the tracking code to your website.

Power BI is the leading business intelligence tool from Microsoft. It is used to connect data sources to model and visualize data into a report-ready format. The ability to gather data from different sources into one is the main benefit of utilizing Power BI and Google Analytics together.

- Once you have Power BI open, in the ribbon near the top left of the screen you should see a button called **Get Data**.
- Click on **Get Data** and select the **More** option.

- In the **Get Data** dialogue box, scroll down to find or search for the Google Analytics connector. Power BI will then notify you that the Google Analytics connector relies on a 3rd party service. You can just select Continue to move.
- Power BI will now prompt you to sign in to your Google Analytics account.
- Select the account that is attached to the Google Analytics account that has the data you wish to access.
- You then must allow Power BI to access your Google Account.
- Once you have allowed access, return to your Power BI file and you will see that you are now signed in. Click **Connect** to continue.
- Connecting will open the Navigator box. This is where you will select which data you would like to be loaded into Power BI. The options are set up the same way that the Google Analytics account hierarchy is set up.

- The top-level is the Account, the second level is the Property, and the bottom level is the View. Select which account, property, and view that contains the data you are looking for.

- In order to load in the data, you must ensure that you have the proper permissions in Google Analytics. The last step is to select the tables and load the data.
- Here you have two choices. If you select **Load**, the data will come into Power BI and the dialogue box will close. If you choose **Transform Data**, this will load the data into Power BI and open the Power Query Editor so that you may transform and clean the data as necessary.

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

- In Power BI, click **Get Data** in the lower left screen.
- Under **Import or Connect to Data** > **Files**, click **Get**.
- Click Local File.
- Choose which file to upload and click **Open**.
- Click **Upload** under **Upload your Excel file to Power BI**.

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

The Power BI service has two different modes for interacting with reports: Reading View for report business users and Editing view for report owners and creators. You need a Power BI Pro or Premium Per User (PPU) license to share reports and to edit reports created by others. Without a Pro or Premium Per User (PPU) license, you can still create reports in your My Workspace, but you can't share them.

In report Editing view, you have flexibility in both exploring and designing a report. All the Reading View functionality is available, plus much more.

Editing view is only available to the person who created the report or to people who are assigned the member, admin, or contributor role in the workspace where the report is stored. If you share a report, the user's access will be limited to their assigned workspace role. Users who have only the viewer role will can't edit reports in the workspace.

Functionality only available in Editing view :

- Creating, editing, renaming, sharing, and deleting reports.
- Adding, renaming, rearranging, and deleting report pages.
- Formatting reports.
- Adding visualizations, text boxes, shapes, and buttons to a report.
- Adding visual-level, page-level, and report-level filters and setting visual interactions.
- Creating refresh schedules.

- Using Q&A functionality to create visuals in reports.
- Showing data used to create the visualization.
- Setting up drill through.
- Duplicating a report page.
- Using Report Settings to control your readers' interactions with reports.