**Power BI Assignment 5**

1. Explain DAX.

Ans - DAX (Data Analysis Expressions) is a formula expression language and can be used in different BI and visualization tools. DAX is also known as function language, where the full code is kept inside a function. DAX programming formula contains two data types: Numeric and Other. Numeric includes - integers, currency and decimals, while Other includes: string and binary object.

DAX Functions -

In Power BI, you can use different function types to analyze data, and create new columns and measures. It includes functions from different categories such as −

* Aggregate
* Text
* Date
* Logical
* Counting
* Information

DAX works on a combination of three fundamental concepts:

1. Syntax
2. Context
3. Functions

These inputs are fundamental to the creation of a specific command that fetches desired results.

#### 1. Syntax - Syntax refers to the components of the formula you are making. It is the language used in the formula like the command, sign, operators, destination column or row or table, etc. For example, name, parenthesis, summation, name of the table, etc.

#### 2. Context - Context refers to the target row that has been included in the formula for data retrieval or calculation. Context is present in two types: Row Context and Filter Context.

#### 3. Functions - Functions refer to the predefined or already existing commands in the system. For example, Sum, Add, True, False, etc.

DAX Calculation Types

In Power BI, you can create two primary calculations using DAX −

* Calculated columns
* Calculated measures

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

Ans –

Datasets - A dataset is a collection of data that you import*or*connect to. Power BI lets you connect to and import all sorts of datasets and bring all of it together in one place. Datasets can also source data from dataflows.

Datasets are associated with workspaces and a single dataset can be part of many workspaces. When you open a workspace, the associated datasets are listed under the **Datasets**tab. Each listed dataset is a source of data available for one or more reports, and the dataset may contain data that comes from one or more sources. For example, an Excel workbook on OneDrive, or an on-premises SSAS tabular dataset, or a Salesforce dataset. There are many different data sources supported, and we're adding new ones all the time.

Reports - Reports can be a presentation of corresponding charts and other visualizations, or they can be a large set of charts and visualizations that may or may not directly relate. A report is meant to be used to gather detailed intelligence on the operations within an organization, thus a report can be either very broadly covering a wide scope of related information, or narrowly focusing on details of a single item, purpose, or event.  All of this information, while presented in a report, is meant to be a snapshot in time.

In a data visualization platform, like [Chartio](https://chartio.com/product/), a report can even be built in the same environment as a dashboard leading to even more confusion about the difference between the report and dashboard.  This report might even have the look and feel of a dashboard, in this case you are likely creating a “dashport” of sorts. Reports can also be series of dashboards that may be interrelated to each other and as a whole show more of the information needed to understand the status of things.  These groups of dashboards can either be linked directly or grouped in the software’s library, categorization, or organization technology.

Dashboard - In Power BI, dashboards are a way of pulling together visualizations from various reports. When you think dashboard, you are probably thinking something like Microsoft’s [definition](https://docs.microsoft.com/en-us/power-bi/consumer/end-user-dashboards): “A Power BI **dashboard** is a single page, often called a canvas, that uses visualizations to tell a story. Because it is limited to one page, a well-designed dashboard contains only the most-important elements of that story.”  In Power BI, a dashboard is tool for pinning visuals from different reports and other sources of data.

Relation between datasets, reports and dashboard –

Dashboards are created from multiple datasets or **reports.**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.  Both a report and a dashboard present information. Datasets, reports and dashboards mostly revolves around the content that they have. 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.

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

## Ans – A. Create a quick report in the service

1.In the navigation pane in the Power BI service, you can select the **Create** button that opens a page where you can select your data source. It's also accessible from the **new report** button on Home.

2.Currently, we only support creating a report based on an existing dataset, or pasting or manually entering data directly in a table. Over time you'll see other sources, such as uploading an Excel file.

3.When you choose to paste or manually enter data, you get a grid that you can start to type into. You can also paste data by using Ctrl + V or the context menu. You can use the context menu to add and remove columns.

4.If your pasted data includes a header row, select **Use first row as headers** to automatically promote the first row to the header row. Power BI automatically detects the data types, but you have the option to set them manually.

5.Select the **Data type** button next to the column name. As you go through the creation process, Power BI creates a new dataset for you, and autogenerates a summarized view of your data. These autogenerated visuals propel you from raw data to insights faster than ever. Changing the data, you see in the report is easy, too.

6. Use the **Your data** pane to add or remove fields from the report. Select and deselect fields to update what you want to measure and analyze. Power BI automatically plots meaningful charts based on your field selection.

## B. Import the Excel file

This method of creating a report starts with a file and a blank report canvas. If you want to follow along, download the [Retail Analysis sample Excel file](https://go.microsoft.com/fwlink/?LinkId=529778) and save it to your computer or to OneDrive for Business.

1.In the navigation pane, select **My Workspace.**

2.From the bottom of the nav pane, select **Get data.**

3.Select **Files** and navigate to the location where you saved the file.

4.For this exercise, select **Import**.

5.Select **Open**. Once the Excel file is imported, it's listed as a dataset in the workspace list.

6.Select **More options (...)** next to the dataset, and select **Create report.**

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

Ans -

Steps to connect to data in Power BI -

1.In Power BI, click **Get Data**in the lower left screen.

2.Under **Import or Connect to Data > Files**, click **Get.**

3.Click Local File.

4.Choose which file to upload and click **Open.**

5.Click **Upload** under **Upload your Excel file to Power BI.**

6.The message “Your file has been uploaded” should appear.

Steps to connect to google analytics –

You can connect to Google Analytics data using the GoogleAnalytics connector. To connect, follow these steps:

1.In Power BI Desktop, select Get data from the home ribbon tab.

2.In the Get Data window, select Online Services from the categories in the left pane.

3.Select Google Analytics from the selections in the right pane.

4.At the bottom of the window, select Connect.

You're prompted with a dialog that explains that the connector is a Third-Party Service, and warns about how features and availability may change over time, and other clarifications.

5.When you select Continue, you're prompted to sign in to Google Analytics.

6.When you enter your credentials, you're prompted that Power BI would like to have offline access. This is how you use Power BI Desktop to access your Google Analytics data.

7.Once you accept, Power BI Desktop shows that you're currently signed in.

8.Select Connect, and your Google Analytics data is connected to Power BI Desktop, and loads the data.

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

Ans - Steps to imports local files in Power BI -

1.In Power BI, click **Get Data**in the lower left screen.

2.Under **Import or Connect to Data > Files**, click **Get.**

3.Click Local File.

4.Choose which file to upload and click **Open.**

5.Click **Upload** under **Upload your Excel file to Power BI.**

6.The message “Your file has been uploaded” should appear.

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

Ans - There are two modes for interacting with reports in the Power BI service: Editing view and Reading view. If you are a business user*,* then you are more likely to use Reading view to consume reports created by others. Editing view is used by report designers, who create the reports and share them with you. Reading view is your way to explore and interact with reports created by colleagues.

Even in Reading view, the content isn't static. You can dig in, looking for trends, insights, and other business intelligence. Slice and dice the content, and even ask it questions using your own words. Or, sit back and let your data discover interesting insights for you; send you alerts when data changes, and email reports to you on a schedule you set. All your data, any time, in the cloud or on-premises, from any device.