**Power BI Assignment 3**

1. List and explain different PowerBi products?

Ans – Different powerbi products are -

1.**Power BI Desktop**

The Windows desktop-based application for PCs and desktops, primarily for designing and publishing reports to the Service.

**2. Power BI Service**

The SaaS-based (software as a service) online service. This was formerly known as Power BI for Office 365, now referred to as PowerBI.com, or simply Power BI.

**3.Power BI Mobile Apps**

The Power BI Mobile apps for Android and iOS devices, as well as for Windows phones and tablets.

**4.Power BI Gateway**

Gateways are used to sync external data in and out of Power BI and are required for automated refreshes. In Enterprise mode, can also be used by [Power Automate](https://en.wikipedia.org/wiki/Power_Automate) (previously called Flows) and PowerApps in Office 365.

**5.Power BI Embedded**

Power BI [REST API](https://en.wikipedia.org/wiki/REST_API) can be used to build dashboards and reports into the custom applications that serves Power BI users, as well as non-Power BI users.

**6.Power BI Report Server**

An [on-premises](https://en.wikipedia.org/wiki/On-premises_software) Power BI reporting solution for companies that won't or can't store data in the cloud-based Power BI Service.

**7.Power BI Premium**

Capacity-based offering that includes flexibility to publish reports broadly across an enterprise, without requiring recipients to be licensed individually per user. Greater scale and performance than shared capacity in the Power BI Service

**8.Power BI Visuals Marketplace**

A marketplace of custom visuals and [R-powered](https://en.wikipedia.org/wiki/R_(programming_language)) visuals. You can give life to your business data and take insight from this result. [

**9.Power BI Dataflow**

A Power Query implementation in the cloud that can be used for data transformations to make a common Power BI Dataset that can be made available for several report developers through Microsoft's Common Data Service. It can be used as an alternative to for example doing transformations in [SSAS](https://en.wikipedia.org/wiki/Microsoft_Analysis_Services), and may ensure that several report developers use data that has been transformed in a similar way.

**10.Power BI Dataset**

A Power BI Dataset can work as a collection of data for use in Power BI reports, and can either be connected to or imported into a Power BI Report. A Dataset can be connected to and get its source data through one or more Dataflows.

2. What limitations of Excel, Microsoft solved by PowerBi

Ans - Excel has limitations in the amount of data it can work with. In contrast, Power BI can handle much larger amounts of data.

Power BI can connect to a large number of data sources, while Excel's connectivity capacity is limited. Also, unlike Excel, Power BI can be easily used from mobile devices.

Power BI has faster processing than Excel.

Power BI dashboards are [more visually appealing, interactive andcustomizable](https://blog.bismart.com/en/reporting-services-and-highly-visual-and-interactive-reports) than those in Excel.

Power BI is a more powerful tool than Excel in terms of comparison between tables, reports or data files.

Power BI is more user friendly and easy to use than Excel.

3.Explain PowerQuery?

Ans - Power Query is a data transformation and data preparation engine. Power Query comes with a graphical interface for getting data from sources and a Power Query Editor for applying transformations. Because the engine is available in many products and services, the destination where the data will be stored depends on where Power Query was used. Using Power Query, you can perform the extract, transform, and load (ETL) processing of data.

4.Explain PowerMap?

Ans - Microsoft Power Map for Excel is a three-dimensional (3-D) data visualization tool that lets you look at information in new ways. A power map lets you discover insights you might not see in traditional two-dimensional (2-D) tables and charts. With Power Map, you can plot geographic and temporal data on a 3-D globe or custom map, show it over time, and create visual tours you can share with other people.

5.How powerBi eliminated the need to host SharePoint Server on premises?

Ans - With the latest update of Power BI, users can easily prepare reports based on the tables available from their Excel spreadsheet or csv files stored via SharePoint Online. End users can select files and open in Power BI to prepare fast and integral visualisations of their reporting data. On top of the extended visualisation capability, users can also ensure updates are reflected in the report automatically, also within the original linked data source. Part of the road map, Power BI have improved their On-Premise Report server functionality by expanding features like Bookmark and Selection pan from Power BI Desktop features to Power BI Report Server. With the July 2018 Power BI release of PowerShell APIs for the developers and administrators enabling easy management of BI content. For an example, within a large organisation an administrator can manage BI content using Power BI admin centre. With the Power BI PowerShell new possibilities are unlocked for administrators that go beyond what’s currently available in the Power BI Admin Portal. Administrator can manage Reports, Workspace and data set using PowerShell commands.

6. Explain the updates done in Power Bi Service (power BI 2.0) as compared to older version?

* Ans - There are now two different sections in the “Get Data” of your workspace which each of them have two parts:

1. Content Pack Library
   * My Organisation: from here you can easily create you organisational content packs. A content pack is basically a single repository to keep datasets, reports, dashboards, Q&A, integration with other data sources, data refresh and more. You can also package up and publish your dashboards, reports and datasets with your colleagues in a specific group or the entire organisation. You can also browse the content packs that other people in your organisation published.
   * Services: you can use lots of online services built to connect to different platforms like Microsoft Dynamics CRM, Microsoft Dynamics Marketing, Visual Studio Online , and much more.
2. Import Or Connect to Data
   * Files: You can upload your reports, data or workbooks from Excel, Power BI Desktop or CSV files. The location of the files could be your local hard drive, on OneDrive Business or OneDrive Personal.
   * Databases: You can connect to Azure SQL Database, Azure SQL Data Warehouse, SQL Server Analysis Services Tabular Model or Azure HDInsight (Spark) and browse your live data.

**Content pack Library – My Organisation**

* From Get Data click on “My Organisation”
* As you can see there is a brief definition of “My Organisation” which is “MY ORGANISATION IS WHERE YOU CAN FIND CONTENR PACKS PUBLISHED BY YOU AND OTHER IN YOUR ORGANISATION”
* Click “Create Content Pack”
* Choose who will have access to this content pack. If you choose “My Entire Organisation” then you just need to type a title as well as description for the content pack then click Publish. If you want to publish the content pack with specific groups then you need to enter email addresses separated by semicolon (;) or comma (,)
* Select the items you want to publish. If you select a dashboard, it will automatically select all corresponding reports and datasets.
* You can also upload a company logo or image by clicking on Upload link
* Click Publish
* All done.

Now you can browse the content pack you published. Just click on “Get Data” again and then click on “My Organisation”. Now you can see you new created content pack.

* You can click on it and then click Connect.

When you connect to a content pack you actually are creating the dashboards, reports and everything on the content pack again. So, when you publish a content pack to a organisation or just for specific group of people, they basically will be able to create their own version of the reports and dashboards. However, the dataset will be a shared dataset which means they can just explore it or delete it and nothing more.

# **Reports**

The report’s features are improved significantly. We can know change the chart’s colours, adding free texts into Textboxes and much more.

* After logging into Power BI website clock on a desired report
* Right after you open the report, you’ll get prompted to use the new report canvas
* After you open the report, click on EDIT REPORT
* You might get a message saying “To make changes to this report, you need to convert it to new Power BI report canvas”. You can decide to convert or cancel. As the report that I opened is a test report I’m safe to convert it.
* Now that your report is open click on EDIT REPORT button
* You’ll immediately see a toolbox on the right pane that wasn’t available before
* With the new features we are able to modify the visualisation as desired
* By clicking a chart related features to the chart is added to the visualisation pane
* In this sample I clicked on a bar chart
* In the Fields pane on the right side of the page you can see some queries are highlighted in yellow. These queries are the queries that have some fields participating in the report. You can expand them to find the fields. We can modify the report fields by dragging and dropping the fields into the reporting area OR into the “Fields” section of the Visualisation pane.
* As you can see, we can easily change the report type by selecting another report type from the Visualisation pane. In this sample I want to change the report type from Bar Chart to Donut Chart.
* To change the Donut’s feel and look click on “Format” from the Visualisation pane
* Let’s make some changes on the legend. From legend select “Left” and change the legend text.
* If you don’t like the chart’s colour expand “Data Colours”
* You can also simply enable Data labels by clicking on “Data Labels”. You can customize the data labels by changing colour or precision
* You can also change the chart’s title text and customize it as desired by expanding “Title”
* To change the chart’s background colour or transparency expand “Background” and customise it
* As you noticed you can always back to default by clicking on “Revert to Default”
* You can save the report or save it as a new report

# **Settings**

You have more control on your Power BI now. Click on “Settings” button.

#### Manage Personal Storage

Click on Manage Personal Storage to see how you consumed your storage. You can also see the volume consumed by the datasets that are shared with you by clicking on “Owned by Others”. If you don’t want a dataset anymore you can delete it from here.

#### Create Content Pack

You can create a new content pack directly from here. As I covered this part earlier, I’m not going though it again.

#### View Content Pack

You can view, edit or delete existing content packs.

* As you see there is a warning icon on the right side of the content pack. It’s because I’ve made some changes to the dashboard of the published content pack. If I hover over the warning icon, I can see more information.
* This is a really awesome feature that I can update the content pack so that the users can always have the latest versions. To update the content pack just simply click on “Edit” then click “Update”.

#### Power BI for Office 365

This is another cool feature which is newly added. Now you can easily switch to your Power BI for Office 365 account. There is also a link for Power BI which is newly added to Power BI 365.