PowerBi Assignment 3

Q1. List and explain different PowerBi products

The different Power BI Products are :

1. **Power BI Desktop:** A Windows application for creating Power BI reports and visualisations. It allows users to connect to data, create and transform data models, and design reports and dashboards.
2. **Power BI Service:** A cloud-based service that allows users to publish and share reports and dashboards with others. It also provides additional features like collaboration, data exploration, and alerts.
3. **Power BI Mobile:** A mobile application for iOS and Android devices that allows users to access and view their Power BI reports and dashboards on the go.
4. **Power BI Embedded:** A set of APIs and tools that allow developers to integrate Power BI reports and visualisations into custom applications.
5. **Power BI Report Server:** A solution for hosting and managing Power BI reports and visualisations on-premises.

Q2. What limitations of Excel, Microsoft solved by PowerBi?

Excel is a powerful tool for data analysis and visualisation but there are some limitations that Microsoft addressed with the development of Power BI. Some of these limitations include:

- **Large data volumes:** Excel has a limit on the number of rows and columns that can be processed in a workbook, which can make it difficult to work with large datasets. Power BI has significantly higher limits on data volumes, which makes it easier to work with larger datasets.
-
- **Multiple data sources:** Excel has limitations on the number of data sources that can be connected to a workbook, which can make it challenging to bring together data from multiple sources. Power BI allows users to connect to a wide variety of data sources, including cloud-based sources, and to easily merge and transform data from those sources.
-
- **Real-time data**: Excel is designed to work with static data, which means that real-time data updates can be difficult to manage. Power BI is designed to work with real-time data and can automatically update dashboards and reports as data changes.
-
- **Collaboration:** While Excel allows users to share workbooks, collaboration can be challenging, especially if multiple people need to work on the same

workbook at the same time. Power BI is designed for collaboration and allows multiple users to work on the same dashboard or report at the same time.

-
- **Visualisations:** While Excel has a range of visualisation options, it can be challenging to create complex and interactive visualisations. Power BI has a wide range of visualisation options and allows users to create highly interactive and engaging dashboards and reports.

Overall, Power BI is designed to address many of the limitations of Excel and to provide users with a more powerful and flexible tool for data analysis and visualisation.

Q3. Explain Power Query

Power Quer**y** is a data transformation and cleansing tool that is part of the Power BI suite of tools by Microsoft. Power Query is also available as an add-in for Excel.

Power Query allows users to connect to a wide variety of data sources, including files, databases, and cloud-based sources like Azure, and then transform and manipulate that data in a variety of ways. Some of the key features of Power Query include:

Data transformation: Power Query allows users to transform data using a simple interface, without the need for complex coding. This includes features like merging, filtering, pivoting, and unpivoting data.

Data cleansing: Power Query provides tools to clean up and standardize data. This includes features like removing duplicates, splitting columns, and removing null or missing values.

Data shaping: Power Query allows users to shape data in a way that is suitable for analysis. This includes features like creating calculated columns, grouping data, and creating custom aggregations.

Data integration: Power Query allows users to integrate data from multiple sources, including files, databases, and cloud-based sources.

Custom functions: Power Query allows users to create custom functions to automate data transformation tasks.

Power Query is a powerful tool that can help users transform and cleanse data quickly and easily. It is particularly useful for users who work with large and complex datasets.

Q4 .Explain PowerMap?

Power Map is a data visualisation tool in Microsoft Excel that allows users to create interactive 3D maps and time-based animations of geographic and temporal data. It is part of the Power BI suite of tools and was originally introduced as a plug-in for Excel 2013.

With Power Map, users can import geographic data such as addresses, cities, countries, and zip codes, and then create interactive 3D maps with data points that can be sized, coloured, and filtered based on other data in the workbook. Power Map also allows users to add animated effects that show changes in the data over time, such as the growth of sales revenue by region over several years.

Some of the key features of Power Map include:

- **Data exploration:** Power Map allows users to explore and interact with data on a 3D map, making it easier to identify trends and patterns that may not be immediately apparent in a table or chart.

- **Data animation:** Power Map allows users to create animations that show how data changes over time, which can be useful for identifying trends and patterns that may not be apparent in static data.

- **Customization:** Power Map provides a range of customization options, including the ability to change the map type, colour and size of data points, and add visual effects like heat maps.

- **Integration with other tools:** Power Map can be used in conjunction with other Power BI tools, such as Power Pivot and Power Query, to create more powerful and flexible data analysis solutions.

Overall, Power Map is a powerful and flexible data visualisation tool that can help users to explore and present geographic and temporal data in an interactive and engaging way.

Q5. How PowerBi eliminated the need to host SharePoint Server on premises?

Traditionally, SharePoint Server has been used as a platform for collaboration and content management, including the storage and sharing of reports and dashboards. However, the deployment and management of SharePoint Server can be complex and costly, requiring IT infrastructure and resources to maintain the on-premises servers and software.

With the emergence of cloud-based analytics tools like Power BI, the need for SharePoint Server has decreased significantly. Power BI provides a cloud-based

solution for data storage, analysis, and visualisation that eliminates the need for on-premises infrastructure and management.

Power BI allows users to create and share interactive reports, dashboards, and data visualisations from a variety of data sources, including Excel spreadsheets, cloud-based data services, and on-premises data sources. Reports and dashboards can be published to the Power BI service, which is a cloud-based platform for sharing and collaborating on data.

Power BI's integration with SharePoint Online further enhances its capabilities. Users can embed Power BI reports and dashboards directly into SharePoint Online pages, allowing users to view and interact with the data without leaving the SharePoint site. This integration makes it easier to access data visualisations and helps to foster collaboration and communication between users.

In summary, Power BI provides a cloud-based solution for data storage, analysis, and visualisation that eliminates the need for on-premises infrastructure and management, including the traditional use of SharePoint Server. The integration of Power BI with SharePoint Online enhances its capabilities and makes it easier for users to access and collaborate on data.

Q6. Explain the updates done in Power Bi Service(power BI 2.0) as compared to older version ?.

Updates in Power BI Service (Power BI 2.0):

Power BI 2.0 brought a number of updates and improvements to the Power BI Service, including:

- A new user interface with a redesigned navigation pane and updated visualisations.
- Improved collaboration features, including the ability to share reports and dashboards with external users and the ability to collaborate on reports in real-time.
- Improved data modelling capabilities, including the ability to create calculated tables and columns, and the ability to use DAX formulas in more places.
- Improved performance and scalability, including faster load times and the ability to handle larger datasets.
- Improved integration with other Microsoft products, including Azure Data Services, Microsoft Teams, and Excel.