# Power BI Assignment 3

1. List and explain different PowerBi products?

   Here are the different Power BI products and their explanations:

- Power BI Desktop: Power BI Desktop is a Windows application that allows users to create interactive data visualizations, reports, and dashboards. It has a drag-and-drop interface that makes it easy to connect to data sources, transform data, and create custom visuals.
- Power BI Service: Power BI Service is a cloud-based service that allows users to publish, share, and collaborate on Power BI content. It provides a secure and scalable platform for hosting Power BI dashboards, reports, and data models.
- Power BI Mobile: Power BI Mobile is a mobile app that allows users to access and interact with their Power BI content on the go. It provides a seamless experience across different devices, including smartphones and tablets.
- Power BI Report Server: Power BI Report Server is an on-premises solution that allows organizations to host and manage their Power BI content within their own infrastructure. It provides the same functionality as Power BI Service but within the organization's own network.
- Power BI Embedded: Power BI Embedded is a service that allows developers to integrate Power BI content into their own applications. It provides a set of APIs and SDKs that allow developers to customize the appearance and functionality of Power BI content within their applications.
- Power BI Premium: Power BI Premium is a paid version of Power BI that provides additional capacity and features. It is designed for organizations with larger data volumes or more complex data models. It provides advanced analytics capabilities, such as AI and machine learning, as well as support for larger data volumes and higher performance.

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

Here are some of the limitations of Excel that Microsoft has addressed with Power BI:

- Data volume and performance: Excel can struggle to handle large datasets, especially when dealing with complex calculations or advanced analytics. Power BI is designed to handle large and complex datasets and provide high performance for data processing and visualization.
- Data modeling and transformation: Excel's data modeling and transformation capabilities are limited compared to Power BI. Power BI allows users to create sophisticated data models and transform data using a wide range of tools and techniques.
- Interactive and dynamic reporting: Excel reports can be static and difficult to update, especially when dealing with large datasets. Power BI allows users to create interactive and dynamic reports that can be easily updated with new data and viewed on a variety of devices.
- Collaboration and sharing: Excel can be challenging to share and collaborate on, especially when working with multiple users or large datasets. Power BI provides a centralized platform for sharing and collaborating on data and reports, making it easier to work together as a team.
- Custom visualizations: While Excel has a range of charting and visualization options, it can be difficult to create custom visualizations or integrate external data sources. Power BI allows users to create custom visualizations using open-source frameworks, and also provides a range of pre-built visualizations that can be easily customized.

3. Explain PowerQuery?

Power Query is a data transformation and preparation tool that is part of the Microsoft Power BI suite, as well as Excel and other Microsoft products. It allows users to connect to various data sources, transform and clean data, and load the transformed data into Power BI or Excel for analysis and reporting.

Here are some key features and benefits of Power Query:

- Data sources: Power Query supports a wide range of data sources, including Excel, CSV files, databases, and cloud-based services like SharePoint, Salesforce, and Azure. Users can easily connect to multiple data sources and combine them in a single query.
- Data transformation: Power Query provides a wide range of data transformation tools that allow users to clean and reshape their data. These tools include filtering, sorting, grouping, pivoting, and aggregating data, as well as merging and appending data from multiple sources.
- Query editor: Power Query includes a query editor that allows users to interactively transform and preview their data. Users can easily apply transformations to their data, preview the results, and undo or redo changes as needed.
- Custom functions: Power Query allows users to create custom functions using the M language, which is a functional programming language designed for data transformation. Users can create reusable functions that can be applied to multiple queries and share their functions with others.
- Data profiling: Power Query includes data profiling tools that allow users to better understand their data. Users can view data statistics, identify data quality issues, and create data quality rules to validate their data.

4. Explain PowerMap?

Power Map is a 3D data visualization tool that is part of the Microsoft Power BI suite. It allows users to create interactive and dynamic geographical visualizations of their data on a map. Power Map allows users to create a variety of visualizations, including heat maps, column charts, bubble charts, and 3D bar charts, all based on geographic data.

Here are some key features and benefits of Power Map:

- Geographic data visualization: Power Map allows users to visualize their data on a map, providing a geographical context that can help to reveal insights and patterns that might not be visible in a traditional chart or table.
- Dynamic and interactive: Power Map visualizations are interactive and dynamic, allowing users to explore and analyze their data in real-time. Users can zoom in and out of maps, rotate and tilt maps, and filter and highlight data points.
- Easy to use: Power Map is easy to use, with a user-friendly interface that allows users to create visualizations quickly and easily. Users can simply drag and drop their data onto a map and customize their visualization using a variety of settings and options.
- Integration with other Power BI tools: Power Map is fully integrated with other Power BI tools, including Power Query and Power Pivot. This allows users to combine and transform their data from multiple sources, and create complex and sophisticated visualizations.
- Sharing and collaboration: Power Map visualizations can be easily shared and collaborated on with

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

Power BI eliminates the need to host SharePoint Server on-premises by providing a cloud-based solution for data visualization, analysis, and sharing. Prior to the introduction of Power BI, SharePoint Server was often used as a platform for hosting and sharing data, reports, and dashboards within an organization. However, SharePoint Server requires significant IT resources to set up, manage, and maintain, including hardware, software, and security infrastructure.Power BI, on the other hand, is a cloud-based service that allows users to easily create, share, and access reports and dashboards from anywhere, on any device. Power BI also integrates with other Microsoft services, such as Excel, SharePoint, and Teams, providing a seamless experience for users.Power BI allows users to connect to a wide range of data sources, including cloud-based services such as Azure, Dynamics 365, and Salesforce, as well as on-premises data sources. This means that users can access their data from anywhere, without needing to be on the same network as the data source.

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

Power BI Service 2.0, which was released in 2015, introduced a number of significant updates and improvements over the previous version. Here are some of the key updates:

- New user interface: Power BI 2.0 introduced a new user interface with improved navigation, more intuitive controls, and easier access to features and functions.
- Mobile support: Power BI 2.0 introduced mobile support, allowing users to access their reports and dashboards on mobile devices such as smartphones and tablets.
- Custom visualizations: Power BI 2.0 introduced support for custom visualizations, allowing users to create and share their own custom visualizations using the Power BI Developer Tools.

- Improved collaboration: Power BI 2.0 introduced improved collaboration features, such as the ability to share reports and dashboards with colleagues, and the ability to work collaboratively on reports and dashboards.
- New data connectors: Power BI 2.0 introduced a number of new data connectors, allowing users to connect to a wider range of data sources, including cloud-based services such as Salesforce and Dynamics CRM.
- Improved performance: Power BI 2.0 introduced significant performance improvements, including faster report rendering times, improved query performance, and better memory management.
- Natural language queries: Power BI 2.0 introduced support for natural language queries, allowing users to ask questions about their data using plain English, and receive relevant visualizations and insights.