**Power BI Assignment 3**

1. **List and explain different PowerBi products?**

- Power BI is a suite of business analytics tools that allows users to analyze data and share insights. The following are the different Power BI products:

Power BI Desktop: It is a Windows application that allows users to create interactive data visualizations, reports, and dashboards using a drag-and-drop interface. It is the primary tool used by data analysts and business intelligence professionals to create Power BI content.

Power BI Service: It is a cloud-based service that allows users to publish, share, and collaborate on Power BI content. It enables users to view and interact with Power BI reports and dashboards through a web browser or mobile device.

Power BI Mobile: It is a mobile app for iOS, Android, and Windows devices that allows users to access and interact with Power BI content on the go. It enables users to view and interact with Power BI reports and dashboards on their mobile devices.

Power BI Report Server: It is an on-premises solution for creating, publishing, and managing Power BI reports and dashboards within an organization's own network. It provides an alternative to the cloud-based Power BI Service for organizations that prefer to keep their data and content on their own servers.

Power BI Embedded: It is a set of APIs and tools that allow developers to integrate Power BI content into their own applications. It enables developers to embed Power BI reports and dashboards directly into their own applications, providing users with a seamless analytics experience.

1. **What limitations of Excel, Microsoft solved by PowerBi?**

- Power BI addresses several limitations of Excel, including:

1. Data capacity: Power BI can handle larger data sets, while Excel has a row limit (1,048,576 rows).

2. Data visualization: Power BI offers a wide range of interactive visualizations and more advanced features, such as drill-downs and custom visuals.

3. Data integration: Power BI can connect to a wider variety of data sources and has better data transformation capabilities.

4. Real-time data: Power BI supports real-time data updates, whereas Excel requires manual data refreshing.

5. Collaboration: Power BI allows multiple users to work on a report simultaneously and has better sharing options.

6. Scalability: Power BI is designed for enterprise-level reporting and is more suitable for large-scale projects.

7. Mobile access: Power BI has a dedicated mobile app for easy access to reports and dashboards on the go.

1. **Explain PowerQuery?**

**-** Power Query is a data connection, transformation, and refinement tool built into Microsoft Excel, Power BI, and other Microsoft products. It allows users to connect to and manipulate data from various sources, such as Excel spreadsheets, CSV files, SQL Server databases, and web services, among others.

With Power Query, users can extract and transform data in a repeatable and scalable manner, using a simple and intuitive interface. Some of the key features of Power Query include:

Data transformation: Users can transform data by filtering, sorting, grouping, pivoting, and aggregating it, among other operations.

Data merging: Users can merge data from different sources by combining, appending, and joining tables.

Data cleaning: Users can clean and transform data by removing duplicates, replacing null values, splitting columns, and trimming whitespace, among other tasks.

Query folding: Power Query automatically optimizes queries by pushing transformations down to the data source, which can improve performance and reduce the amount of data transferred over the network.

Custom functions: Users can create custom functions in Power Query using the M language, which can be reused across different queries and workbooks.

Overall, Power Query is a powerful tool that can help users streamline data preparation and transformation tasks, and ultimately make more informed business decisions.

1. **Explain PowerMap?**

- Power Map is a data visualization tool that allows users to create interactive and dynamic maps, 3D models, and charts based on geographic and time-based data. It is a free add-in for Microsoft Excel 2013 and later versions, and it is part of the Power BI suite of tools.

With Power Map, users can plot geographic data on a map and then animate it over time, providing a dynamic visualization of how the data changes over a period. Users can add additional layers to the map, such as satellite images, and customize the visualization by applying different themes, color schemes, and data ranges.

Power Map can also create 3D models of geographic data that users can interact with and customize. For example, users can zoom in and out of the map, tilt and rotate the view, and apply different visual effects.

Overall, Power Map is a powerful tool for visualizing geographic data and presenting it in a dynamic and interactive way. It can help users gain insights into trends and patterns in their data, and communicate their findings effectively to others.

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

**-** Power BI is a cloud-based business analytics service that provides interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards. It has eliminated the need to host SharePoint Server on-premises by providing a way to create and share reports and dashboards in the cloud.

Prior to Power BI, SharePoint Server was a popular platform for creating and sharing reports and dashboards. However, SharePoint Server required significant IT infrastructure and maintenance, including the installation and configuration of SharePoint Server software and hardware, and the management of server updates, backups, and security.

With Power BI, users can create reports and dashboards directly in the cloud, without the need for on-premises infrastructure. Power BI is built on top of Azure, Microsoft's cloud platform, and provides a range of data connectivity options, including connectors to popular cloud services such as Salesforce, Dynamics 365, and Google Analytics.

Users can also easily share reports and dashboards with others by publishing them to the Power BI service, which provides secure access controls, versioning, and other collaboration features. This eliminates the need for users to have access to a SharePoint Server on-premises or to set up their own hosting infrastructure.

Overall, Power BI has made it easier and more cost-effective for organizations to create and share reports and dashboards, without the need for on-premises infrastructure. It has also allowed for greater collaboration and data sharing across teams and departments, leading to more informed decision-making and improved business outcomes.

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

* Power BI 2.0, also known as the Power BI Service, is a major update to the previous version of Power BI. The following are some of the key updates in Power BI Service:
* New and improved user interface: Power BI 2.0 features a new and improved user interface that is more intuitive and user-friendly. It includes a modern navigation experience with a collapsible navigation pane, a ribbon menu, and context menus.
* Enhanced collaboration and sharing capabilities: The new version of Power BI has enhanced collaboration and sharing capabilities. It allows users to collaborate on reports and dashboards with others in real-time and share them via a direct link or an embed code. Additionally, users can share their content with specific users or groups, and set permissions and access levels.
* Improved performance and scalability: Power BI 2.0 has improved performance and scalability. It can handle larger datasets and complex queries more efficiently, and provides faster response times and better overall performance.
* Custom visuals: The new version of Power BI includes a library of custom visuals that can be used to create unique and dynamic reports and dashboards. These visuals can be downloaded from the Power BI Visuals Gallery, which is a community-driven marketplace of custom visuals.
* New and improved data connectors: Power BI 2.0 includes new and improved data connectors that allow users to connect to a wider range of data sources, including cloud-based and on-premises data sources. The new connectors include Salesforce, Google Analytics, Azure SQL Database, and many more.
* Mobile support: Power BI 2.0 has improved mobile support, with a new and improved mobile app for iOS, Android, and Windows devices. The mobile app allows users to view and interact with their reports and dashboards on-the-go, and provides a seamless experience across all devices.
* Overall, Power BI 2.0 is a major update to the previous version of Power BI, with many new and improved features and capabilities. It provides a more intuitive and user-friendly experience, improved performance and scalability, and enhanced collaboration and sharing capabilities.