Power BI Assignment 3

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

Power BI is a suite of business analytics tools to analyze data and share insights. The tools include the following:

Power BI Desktop: This is a free Windows desktop application that you can use to build and publish Power BI reports.

Power BI Service: This is a cloud-based service that you can use to publish, share, and collaborate on Power BI reports.

Power BI Mobile: This is a free app that you can use to view and interact with Power BI reports on your mobile device.

Power BI Gateway: This is a software that you can use to securely connect on-premises data sources to the Power BI service.

Power BI Embedded: This is a set of APIs and tools that you can use to embed Power BI reports and dashboards into your own applications.

Power BI Report Server: This is a on-premises report server that you can use to host and share Power BI reports within your organization.

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

Excel is a powerful tool for working with and analyzing data, but it has some limitations that Power BI can help overcome. Some of these limitations include:

Size: Excel has a limit on the number of rows and columns that can be used in a single worksheet, which can make it difficult to work with large datasets. Power BI, on the other hand, can handle much larger datasets and can automatically scale to handle even more data as needed.

Visualization: Excel has limited options for visualizing data, with a limited set of chart types and other visualizations available. Power BI has a much wider range of visualization options, including custom visualizations, that can help you better understand and communicate your data.

Sharing and collaboration: Excel files can be difficult to share and collaborate on, especially if you have multiple people working on the same file at the same time. Power BI, on the other hand, makes it easy to share and collaborate on reports and dashboards, with built-in features for commenting and real-time collaboration.

Integration: Excel can be difficult to integrate with other systems and data sources, and can require manual data import and export. Power BI, on the other hand, has built-in support for connecting to a wide range of data sources, and can automatically refresh data to keep your reports and dashboards up to date.

Analysis and modeling: Excel has limited capabilities for data analysis and modeling, and can be difficult to use for more advanced analytics tasks. Power BI, on the other hand, has a range of tools and features for data analysis and modeling, including support for machine learning and predictive analytics.

Security: Excel files can be difficult to secure, and can be vulnerable to unauthorized access or data breaches. Power BI, on the other hand, has robust security features, including support for role-based security and data encryption, to help protect your data and keep it safe.

Customization and extensibility: Excel has limited options for customization and extensibility, and it can be difficult to add custom functionality or integrate with other systems. Power BI, on the other hand, has a range of APIs and tools that you can use to customize and extend its functionality, and can easily be integrated with other systems and applications.

**3.Explain PowerQuery?**

Power Query, also known as the "Get & Transform" data tool in Excel, is a powerful tool for working with data in Power BI. Power Query allows you to easily connect to, transform, and combine data from a wide range of sources, including Excel files, databases, and online services.

Some of the key features of Power Query include:

Data connectivity: Power Query can connect to a wide range of data sources, including files, databases, and online services. It can automatically detect the structure of the data and provide options for importing and transforming it.

Data transformation: Power Query has a wide range of tools and functions for transforming and cleaning data, including options for filtering, grouping, and summarizing data. It also has support for advanced transformations, such as merging and splitting columns, and working with hierarchical data.

Data modeling: Power Query can automatically create a data model from your imported data, which can be used for further analysis and visualization in Power BI. It can also detect relationships between data tables and automatically create relationships in the data model.

Query management: Power Query allows you to save, manage, and reuse your data transformations and queries, making it easy to update and maintain your data over time. It also has support for sharing and collaborating on queries with other users.

Overall, Power Query is a powerful and flexible tool for working with data in Power BI, and is an essential part of the Power BI ecosystem

**4.Explain PowerMap?**

Power Map, also known as 3D Maps in Excel, is a tool for visualizing and exploring data on a map in Power BI. Power Map allows you to take your data and plot it on a map, using different colors, sizes, and shapes to represent different data values. You can also animate the data over time to see how it changes, and use filters and slicers to focus on specific data sets.

Some of the key features of Power Map include:

Map visualization: Power Map allows you to plot your data on a map, using different visualizations to represent different data values. You can choose from a range of map styles, including satellite and street maps, and customize the colors, sizes, and shapes of your data points.

Time animation: Power Map allows you to animate your data over time, showing how it changes and evolves. You can choose different animation settings, such as the speed and direction of the animation, and use filters and slicers to focus on specific time periods.

Data filtering and slicing: Power Map allows you to filter and slice your data to focus on specific data sets and time periods. You can use slicers and filters to interactively explore your data, and see how it changes as you adjust the filters and slicers.

Collaboration and sharing: Power Map allows you to share your maps and data visualizations with other users, and collaborate on them in real-time. You can use the built-in commenting and sharing features to work together on your maps, and publish them to the Power BI service for wider access.

Overall, Power Map is a powerful tool for visualizing and exploring data on a map in Power BI, and can help you gain insights and understand your data in new ways

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

**Power BI eliminates the need to host SharePoint Server on premises in several ways:**

Power BI can be accessed from any device with an internet connection, using the Power BI mobile app or a web browser. This means that you can access your Power BI reports and dashboards from anywhere, without the need for a local SharePoint Server installation.

Power BI has built-in support for collaboration and sharing, with features for commenting, liking, and sharing reports and dashboards. This makes it easy to work together on Power BI content, without the need for a separate SharePoint Server installation.

Power BI has a cloud-based architecture, with all data and reports stored in the cloud. This means that you don't need to host your own SharePoint Server on premises, and can instead access your Power BI content from anywhere.

Overall, Power BI provides a cloud-based alternative to SharePoint Server that eliminates the need to host your own on-premises installation. This can save you time and resources, and make it easier to access and share your Power BI content.

Power BI has robust security features, including support for role-based security and data encryption, to help protect your data and keep it safe. This means that you don't need to worry about securing your own SharePoint Server installation, and can instead rely on Power BI's built-in security features.

Power BI has a wide range of visualization options, including custom visualizations, that can help you better understand and communicate your data. This means that you don't need to rely on SharePoint Server's limited visualization capabilities, and can instead use Power BI's powerful tools to create rich and engaging data visualizations.

Power BI has a range of tools and features for data analysis and modeling, including support for machine learning and predictive analytics. This means that you can use Power BI to perform more advanced data analysis tasks, without the need for a separate SharePoint Server installation.

Power BI has a range of APIs and tools that you can use to customize and extend its functionality, and can easily be integrated with other systems and applications. This means that you can use Power BI to build custom solutions and integrate with other systems, without the need for a separate SharePoint Server installation.

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

Power BI 2.0 is the latest version of the Power BI Service, and includes a number of updates and new features compared to older versions. Some of these updates include:

Improved performance: Power BI 2.0 has been optimized for better performance, with faster loading times for reports and dashboards, and support for larger datasets and more complex visualizations.

Enhanced security: Power BI 2.0 includes enhanced security features, such as support for Azure Active Directory and Role-Based Access Control, to help protect your data and keep it safe.

Improved collaboration: Power BI 2.0 includes new collaboration features, such as the ability to share and collaborate on reports and dashboards in real-time, and to add comments and feedback to reports and dashboards.

Enhanced visualization: Power BI 2.0 includes new and improved visualization options, such as support for custom visualizations, and improved formatting and layout options for reports and dashboards.

Improved data modeling: Power BI 2.0 includes new data modeling features, such as the ability to create calculated tables and measures, and improved support for working with hierarchies and relationships in your data.

Overall, Power BI 2.0 includes a number of updates and improvements compared to older versions, making it a more powerful and versatile tool for working with data and sharing insights.

Some other new features in Power BI 2.0 include:

Support for natural language queries: Power BI 2.0 includes support for natural language queries, allowing you to ask questions about your data using plain English, and get answers in the form of visualizations and insights.

Enhanced integration with other Microsoft products: Power BI 2.0 has improved integration with other Microsoft products, such as Excel, Outlook, and Teams, making it easier to access and use Power BI within your existing workflows and tools.

Improved support for real-time data: Power BI 2.0 has enhanced support for real-time data, allowing you to connect to streaming data sources and create dashboards that update in real-time.

Enhanced support for on-premises data: Power BI 2.0 includes new features for working with on-premises data, such as support for the Power BI Gateway and the Power BI Report Server, making it easier to connect to and work with data that is stored on-premises.

Improved support for custom visuals and extensions: Power BI 2.0 has enhanced support for custom visuals and extensions, allowing you to create and use custom visuals and extensions to extend the functionality of Power BI.

Overall, Power BI 2.0 includes a range of new and improved features that make it even more powerful and versatile for working with data and sharing insights.