PowerBI -- ASSIGNMENT NO.3

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

Microsoft Power BI is a suite of business intelligence tools that provides a single view of your most critical business data. The Power BI suite includes several products:

* Power BI Desktop: A Windows-based application that provides data modeling, data discovery, and data visualization capabilities. It enables you to connect to a wide range of data sources and create interactive reports and dashboards.
* Power BI Service (cloud-based): A browser-based version of Power BI Desktop that allows you to publish and share reports and dashboards with others in your organization. You can access your data from anywhere, on any device, with an internet connection.
* Power BI Report Server: An on-premises version of Power BI Service that allows you to host and manage Power BI reports within your own infrastructure. This is useful for organizations that have strict data security and privacy requirements.
* Power BI Mobile: A mobile app for iOS and Android devices that allows you to access and interact with your Power BI reports and dashboards on-the-go.
* Power BI Embedded: A cloud-based service that enables developers to embed Power BI reports and dashboards within their own applications. This allows organizations to provide their users with rich data visualization and exploration capabilities within their own custom-built applications.
* Power BI API: A set of REST APIs that allows developers to programmatically access Power BI data and capabilities. This enables organizations to integrate Power BI with other systems and workflows.

Each of these products provides a unique set of capabilities and can be used together to create a complete end-to-end solution for business intelligence and data visualization.a complex SQL or DAX query.

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

Excel is a powerful tool for data analysis and visualization, but it has some limitations that can be addressed by using Power BI. Some of these limitations include:

* Data Size: Excel is limited to working with data sets of 1 million rows or less, making it challenging to work with large data sets. Power BI, on the other hand, can handle large amounts of data, making it easier to work with big data sets.
* Sharing and Collaboration: Sharing Excel workbooks and reports can be difficult and time-consuming, especially when multiple users need to access and work with the same data. Power BI allows you to publish and share reports and dashboards with others in your organization, making it easier to collaborate and share insights.
* Data Connectivity: Excel has limited capabilities for connecting to and working with data from a variety of sources, including databases, cloud services, and APIs. Power BI, on the other hand, provides a wide range of data connectivity options, allowing you to work with data from almost any source.
* Data Visualization: Excel provides basic data visualization capabilities, such as charting and pivot tables. Power BI provides a rich set of data visualization options, including interactive reports and dashboards, which make it easier to uncover insights and communicate your findings.
* Scalability: Excel is not designed to handle large scale reporting and data visualization requirements. Power BI is designed to scale to meet the needs of large organizations, making it easier to manage and analyze large amounts of data.

Overall, Power BI helps to address the limitations of Excel by providing a more powerful, scalable, and collaborative solution for business intelligence and data visualization.

**3. Explain PowerQuery?**

PowerQuery is a feature in Microsoft Power BI Desktop and Excel that allows you to import and manipulate data from a variety of sources. PowerQuery provides a visual interface for building and executing data transformations, making it easier to work with complex data sets and perform tasks such as:

* Connecting to Data Sources: PowerQuery can connect to a wide range of data sources, including databases, cloud services, and APIs.
* Data Cleaning and Transformation: PowerQuery provides a visual interface for performing data cleaning and transformation tasks, such as removing duplicates, splitting columns, and merging data from multiple sources.
* Data Preview and Navigation: PowerQuery provides a preview of the data you are working with, allowing you to navigate and explore the data before importing it into Power BI or Excel.
* Query Reusability: PowerQuery allows you to save and reuse queries, making it easier to perform repeatable data import and transformation tasks.
* Incremental Loads: PowerQuery provides the ability to perform incremental loads, allowing you to import only new or changed data into Power BI or Excel, making it easier to work with large data sets and minimize the need for full data refreshes.

Overall, PowerQuery is a powerful and flexible tool for working with data in Power BI and Excel, providing a visual interface for connecting to and transforming data from a variety of sources.

**4. Explain PowerMap?**

Power Map is a data visualization tool in Microsoft Excel that allows you to create interactive, 3D maps and visualizations of your data. Power Map allows you to visualize your data in a geographic context, making it easier to uncover patterns and relationships in your data. Some of the key features of Power Map include:

* 3D Geographical Visualization: Power Map allows you to create 3D maps that visualize data in a geographic context, providing a visual representation of your data that is easy to understand and interpret.
* Data Mapping: Power Map allows you to map your data to geographical locations, such as countries, states, and cities, making it easier to visualize and analyze your data in a geographic context.
* Interactive Visualization: Power Map provides an interactive visualization experience, allowing you to explore your data and uncover insights through interaction and exploration.
* Time-Based Visualization: Power Map allows you to visualize time-based data, such as sales by quarter or by month, making it easier to see trends and patterns over time.
* Customization: Power Map allows you to customize the appearance of your maps, including the color palette, the data points, and the labels, making it easier to create maps that match your brand and style.

Overall, Power Map is a powerful tool for data visualization and exploration, providing a geographic context for your data that makes it easier to uncover insights and relationships.

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

Microsoft Power BI eliminates the need to host SharePoint Server on premises by providing a cloud-based solution for business intelligence and data visualization. With Power BI, you can access and share reports and dashboards from anywhere with an internet connection, without the need for on-premises hardware or IT support.

Power BI also provides a range of collaboration and sharing features, such as the ability to share reports and dashboards with others in your organization, and the ability to embed Power BI reports in other applications, such as SharePoint Online.

In addition, Power BI provides a range of data connectivity options, allowing you to connect to data from a variety of sources, including databases, cloud services, and APIs. This makes it easier to work with data from multiple sources and eliminates the need to store data on premises.

By providing a cloud-based solution for business intelligence and data visualization, Power BI eliminates the need to host SharePoint Server on premises and provides a more flexible and scalable solution for data analysis and visualization.

**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 it includes a number of updates and improvements over the older version. Some of the key updates in Power BI 2.0 include:

Improved Data Visualization: Power BI 2.0 includes a range of updates to the data visualization capabilities of the platform, including new chart types, improved support for large data sets, and the ability to create custom visuals.

Enhanced Collaboration and Sharing: Power BI 2.0 includes a number of updates to the collaboration and sharing features of the platform, including the ability to share reports and dashboards with others in your organization, and the ability to embed Power BI reports in other applications, such as SharePoint Online.

Improved Data Connectivity: Power BI 2.0 includes a range of updates to the data connectivity capabilities of the platform, including improved support for connecting to data from a variety of sources, and the ability to perform incremental loads to minimize the need for full data refreshes.

Improved Performance and Scalability: Power BI 2.0 includes a number of updates to the performance and scalability of the platform, including improved query performance and the ability to handle large data sets with ease.

Enhanced Security and Compliance: Power BI 2.0 includes a range of updates to the security and compliance features of the platform, including improved support for compliance with data protection regulations and the ability to control access to data.

Overall, Power BI 2.0 includes a range of updates and improvements over the older version, providing a more powerful, flexible, and scalable solution for business intelligence and data visualization.