**Power BI Assignment 3**

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

the different Power BI products offered by Microsoft:

1. Power BI Desktop: Power BI Desktop is a free Windows application used to create, view, and share reports and visualizations. It provides a wide range of data connectors and powerful data modeling and transformation capabilities.
2. Power BI Service: Power BI Service is a cloud-based platform that allows users to create and share reports and dashboards with others. It provides access to various data sources, collaboration features, and enterprise-level security and governance.
3. Power BI Mobile: Power BI Mobile is a mobile app available for iOS, Android, and Windows devices that allows users to view and interact with Power BI reports and dashboards on the go.
4. Power BI Report Server: Power BI Report Server is an on-premises solution that allows organizations to host and share Power BI reports behind their own firewalls. It provides a secure and scalable solution for organizations that cannot use cloud-based services.
5. Power BI Embedded: Power BI Embedded allows developers to integrate Power BI reports and dashboards into their own applications, websites, and portals. It provides a powerful set of APIs and tools for customization and embedding.

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

1. Limited Data Capacity: Excel has a limit to the amount of data that can be handled in a single worksheet. Power BI, on the other hand, is designed to handle much larger datasets and is optimized for processing and visualizing large volumes of data.
2. Limited Data Sources: Excel has a limited number of data sources it can connect to, and it can be challenging to connect to complex data sources such as big data or cloud-based sources. Power BI, on the other hand, has a wide range of connectors that make it easier to connect to various data sources.
3. Limited Data Modeling Capabilities: Excel has limited data modeling capabilities, making it difficult to create complex data models. Power BI provides more advanced data modeling capabilities, such as creating relationships between tables, defining calculated columns and measures, and creating hierarchies.
4. Limited Visualization Options: While Excel provides a range of visualization options, Power BI offers more advanced visualization options, such as custom visuals and interactive charts and graphs.
5. Limited Sharing Capabilities: Sharing Excel files can be challenging, especially when dealing with large datasets. Power BI makes it easy to share reports and dashboards with others through the cloud-based Power BI service, allowing users to collaborate and share insights in real-time.

**3. Explain PowerQuery?**

ower Query is a data transformation and data preparation tool available in Microsoft Excel, Power BI, and other Microsoft products. It allows users to connect to various data sources, transform and reshape data, and load it into a data model for analysis and visualization.Power Query provides a user-friendly interface for data transformation, allowing users to perform various data cleaning and transformation operations, such as filtering, sorting, merging, and grouping data. It also has advanced capabilities, such as splitting columns, pivoting and unpivoting data, and transforming data using custom functions.Power Query uses a functional language called M to perform transformations on data. M is a powerful language that can handle complex data transformation tasks, such as working with nested data structures or calling web services to retrieve data.Power Query also provides a wide range of data connectors, allowing users to connect to various data sources such as databases, files, web services, and online data sources. It can also automatically detect and apply data types to columns, making it easier to work with heterogeneous data.One of the key benefits of Power Query is that it provides a repeatable and automated process for data preparation. Once a data transformation has been created in Power Query, it can be easily reused and refreshed with new data. This makes it easier to maintain and update data models, as well as to automate data refreshes.

**4.Explain PowerMap?**

ower Map is a data visualization tool available in Microsoft Excel that allows users to create 3D visualizations of geographic and temporal data. It is a part of the Power BI suite of tools.With Power Map, users can create interactive maps that visualize data such as sales by region, customer locations, or population density. The tool supports various map styles, including road maps, satellite imagery, and terrain maps.Power Map allows users to create custom tours, which are a series of scenes that show the data changing over time or location. Users can control the camera angle and zoom level of each scene to create a cinematic experience for their audience. This feature is particularly useful for storytelling and presenting data insights in a compelling way.Power Map can also be used to create heat maps and column charts on top of a map to visualize data patterns and trends. Users can apply filters and highlight specific regions or data points to make it easier to identify key insights.One of the key benefits of Power Map is its integration with other Microsoft Excel tools such as Power Pivot and Power Query. This allows users to easily transform and prepare data for visualization in Power Map and use other advanced data modeling and analysis features in Excel.

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

Power BI eliminated the need to host SharePoint Server on premises by providing a cloud-based solution for sharing and collaborating on business intelligence content. With Power BI, users can create and share reports, dashboards, and data visualizations with others in their organization, without the need for an on-premises server.

Power BI allows users to share content securely through the cloud, without the need for complex IT infrastructure or setup. Users can share reports and dashboards with others by publishing them to the Power BI service, where they can be accessed via a web browser or mobile app. Users can also collaborate on reports and dashboards, making it easier to work together and share insights.

Power BI also integrates with SharePoint Online, allowing users to embed Power BI reports and dashboards directly into SharePoint pages. This allows users to access Power BI content from within the familiar SharePoint interface, without the need for an on-premises SharePoint server.

By providing a cloud-based solution for sharing and collaborating on business intelligence content, Power BI eliminates the need for organizations to host SharePoint Server on premises. This reduces the complexity and cost of managing on-premises infrastructure, while providing a more flexible and scalable solution for sharing and collaborating on business intelligence content.

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

some of the key updates are:

1. Redesigned User Interface: Power BI Service has a new and modern user interface, making it easier to navigate and use. The new interface is more intuitive and responsive, with improved search capabilities and faster performance.
2. New Dashboarding Capabilities: Power BI Service introduced a new dashboarding experience, allowing users to create and share interactive dashboards with others. Users can pin visualizations from multiple reports onto a single dashboard and add filters to make it easier to analyze data.
3. Customizable Themes: Power BI Service introduced the ability to create custom themes, allowing users to personalize the look and feel of their reports and dashboards. Users can choose from a range of pre-built themes or create their own using custom colors and fonts.
4. Mobile App Enhancements: Power BI Service introduced several updates to its mobile app, including improved navigation, faster performance, and the ability to view and interact with dashboards on mobile devices.
5. New Data Visualization Types: Power BI Service introduced several new data visualization types, including funnel charts, gauges, and area charts. These new visualizations provide users with more options for analyzing and presenting their data.
6. Improved Collaboration: Power BI Service introduced several updates to its collaboration capabilities, including the ability to share dashboards with external users and the ability to collaborate on reports in real-time using Microsoft Teams.

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