**Power BI Assignment 3**

1. List and explain different PowerBi products?

Power BI is a suite of business intelligence and data visualization tools offered by Microsoft. It includes several products, each serving different purposes:

Power BI Desktop: This is a free Windows application used to create interactive reports, dashboards, and data models. It's primarily used by analysts and data professionals for building Power BI content.

Power BI Service (Power BI Pro and Power BI Premium): The Power BI Service is a cloud-based platform where you can publish, share, and collaborate on Power BI reports and dashboards. Power BI Pro is a subscription-based service for individual users, while Power BI Premium offers dedicated capacity for organizations with greater scalability and advanced features.

Power BI Mobile Apps: Available for iOS and Android devices, these mobile apps allow users to access and interact with Power BI content on the go.

Power BI Report Server: This on-premises solution enables organizations to host and share Power BI reports within their own network. It's ideal for organizations with strict data governance requirements.

Power BI Embedded: This service allows developers to embed Power BI reports and dashboards into custom applications or websites, providing a seamless analytics experience for end-users.

Power BI Dataflows: Dataflows are used to ingest, transform, and load data into the Power BI Service. They help streamline data preparation and sharing.

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

Power BI addresses several limitations of Excel for data analysis and reporting:

Scalability: Excel has limitations in handling large datasets, while Power BI can work with much larger volumes of data due to its columnar storage and compression techniques.

Data Modeling: Power BI provides advanced data modeling capabilities with relationships, DAX, and more, making it easier to create complex data models compared to Excel.

Data Transformation: Power BI's Power Query enables more robust data transformation and cleaning compared to Excel's formulas and pivot tables.

Interactive Dashboards: Power BI allows the creation of interactive and visually appealing dashboards with slicers, drill-through, and cross-filtering, which Excel lacks.

Data Sharing and Collaboration: Excel files can become unwieldy for sharing and collaboration, whereas Power BI Service offers a centralized platform for sharing and collaborating on reports and dashboards.

1. Explain PowerQuery?

Power Query is a data transformation and ETL (Extract, Transform, Load) tool that is part of the Power BI suite. It allows users to connect to various data sources, import data, and perform transformations on that data before loading it into Power BI or other destinations. Key features of Power Query include:

Data Source Connectivity: Power Query supports connections to a wide range of data sources, including databases, files, web services, and more.

Data Transformation: Users can perform data cleaning, shaping, and transformation operations using a user-friendly interface. It includes a formula language called M for advanced transformations.

Query Folding: Power Query optimizes queries by pushing data transformations back to the data source whenever possible, reducing data transfer and improving performance.

Parameterization: Users can create reusable query parameters to make queries dynamic and adaptable to changing data.

Power Query is integrated into Power BI Desktop and is also available as a standalone tool in Excel and other Microsoft products.

1. Explain PowerMap?

Power Map, now known as 3D Maps in Excel, is a data visualization tool that allows users to create 3D visualizations of geographic and time-based data. With Power Map/3D Maps, users can plot data on a 3D globe or custom map and animate it over time. It's useful for exploring data with geographical and temporal dimensions, such as sales data across regions and time periods.

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

Power BI eliminated the need to host SharePoint Server on-premises for several reasons:

Cloud-Based Service: Power BI is a cloud-based service that allows organizations to publish and share reports and dashboards in the cloud, eliminating the need for on-premises server infrastructure.

Data Security: Power BI Service provides robust security features, including role-based access control, encryption, and authentication, ensuring data security in the cloud.

Scalability: Power BI Service offers scalability and high availability without the need for organizations to manage their own server hardware and resources.

Global Accessibility: Users can access Power BI reports and dashboards from anywhere with an internet connection, making it more accessible than on-premises SharePoint deployments.

Overall, Power BI's cloud-based approach simplifies data sharing, collaboration, and accessibility, reducing the reliance on on-premises infrastructure like SharePoint Server.

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

Power BI is regularly updated with new features and improvements. While there isn't a specific "Power BI 2.0" version, the following are some updates and enhancements that have been introduced over time:

Enhanced Dataflows: Improvements in dataflows, including enhanced Power Query capabilities, incremental refresh, and shared dataflows.

AI Integration: Integration of AI and machine learning capabilities for data analysis and visualization.

Power BI Apps: The introduction of Power BI Apps for packaging and distributing content to specific audiences.

Power BI Paginated Reports: Support for creating paginated reports for pixel-perfect, print-ready reporting.

Enhanced Data Connectivity: Expanded data source connectors and options for data import.

Performance Improvements: Continuous performance enhancements in data rendering, query processing, and report loading.

Power BI Premium Features: Enhancements for Power BI Premium, including dedicated capacity for larger organizations.

Advanced Analytics: Integration with Azure Machine Learning for advanced analytics scenarios.

These updates have enhanced the capabilities and usability of Power BI, making it a powerful tool for data analysis and reporting. It's important to check the latest release notes for the most up-to-date information on Power BI updates and features.