**Power BI Assignment 3**

1. List and explain different Power BI products:

a. Power BI Desktop: This is a free desktop application that allows users to connect to various data sources, transform and clean data using Power Query, create data models, and build interactive reports and dashboards with visualizations. Power BI Desktop is primarily used for authoring Power BI content locally before publishing it to the Power BI Service.

b. Power BI Service: Also known as Power BI Online, it is a cloud-based platform provided by Microsoft for sharing, collaborating on, and managing Power BI content. Users can publish reports and dashboards created in Power BI Desktop to the Power BI Service, where they can be accessed and viewed by others. It offers features such as data refresh, sharing, embedding, and administration capabilities.

c. Power BI Mobile Apps: These are mobile applications available for iOS, Android, and Windows devices, allowing users to access and interact with Power BI content on the go. Users can view reports and dashboards, receive notifications, and stay connected to their data anytime, anywhere.

d. Power BI Report Server: This is an on-premises report server provided by Microsoft for organizations that require their Power BI content to be hosted on their own infrastructure. It allows users to deploy and manage Power BI reports and dashboards within their organization's network, providing greater control over data governance and compliance.

2. What limitations of Excel, Microsoft solved by Power BI?

While Excel is a powerful tool for data analysis and reporting, it has some limitations, such as handling large datasets efficiently, limited data visualization capabilities, and challenges in sharing and collaboration. Power BI addresses these limitations by providing advanced data modeling, visualization, and sharing capabilities in a more scalable and user-friendly environment. It can handle large volumes of data from multiple sources, create interactive visualizations and dashboards, and enable seamless sharing and collaboration through the Power BI Service.

3. Explain Power Query:

Power Query is a data connectivity and data preparation tool available in Excel, Power BI Desktop, and other Microsoft products. It allows users to connect to various data sources, such as databases, files, web services, and APIs, and transform and clean the data before loading it into Excel or Power BI for analysis and reporting. Power Query provides a user-friendly interface for performing tasks such as data extraction, transformation, and loading (ETL), including features like data filtering, merging, splitting, and data type conversion.

4. Explain Power Map:

Power Map, now known as 3D Maps, is a data visualization tool in Excel that allows users to plot geographic and temporal data on a 3D globe or custom map. It enables users to create interactive tours and visualizations of their data, including heat maps, column charts, and bubble charts, to uncover insights and patterns in spatial data. Power Map helps users analyze data in a geographic context and communicate findings more effectively through dynamic, interactive visualizations.

5. How Power BI eliminated the need to host SharePoint Server on premises?

Power BI eliminates the need to host SharePoint Server on premises by providing a cloud-based platform for sharing and collaborating on Power BI content. Instead of deploying and managing SharePoint Server infrastructure on-premises, organizations can leverage the Power BI Service, a cloud-based platform provided by Microsoft, to publish, share, and manage Power BI reports and dashboards securely. This allows organizations to reduce the overhead associated with hosting and maintaining SharePoint Server on-premises while benefiting from the scalability, flexibility, and accessibility of the Power BI cloud platform.

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

Power BI Service, often referred to as Power BI 2.0, has undergone several updates and enhancements compared to its older versions. Some key updates include:

- Improved performance and scalability to handle larger datasets and more concurrent users.

- Enhanced data connectivity options with support for a wider range of data sources and connectors.

- Advanced sharing and collaboration features, including more granular access control and permissions management.

- Integration with Azure Active Directory for seamless authentication and single sign-on.

- Introduction of Premium and Premium Per User licensing tiers for organizations with higher performance and scalability requirements.

- Addition of new features and capabilities for data visualization, analytics, and data governance.

- Continuous updates and improvements through monthly and quarterly releases, providing users with access to the latest features and enhancements.