**Power BI Assignment 3**

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

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**Power BI Desktop:**

Power BI Desktop is a free Windows application that serves as the primary authoring and data modeling tool. It allows users to connect to various data sources, transform and clean the data, create data models, and design interactive reports and dashboards.

**Power BI Service (Power BI Online):**

The Power BI Service, also known as Power BI Online, is a cloud-based platform that provides a central hub for sharing, collaborating, and consuming Power BI reports and dashboards. It allows users to publish reports created in Power BI Desktop and share them with others, either within the organization or externally.

**Power BI Mobile Apps:**

Power BI Mobile Apps are available for iOS, Android, and Windows devices. These apps enable users to access and interact with Power BI reports and dashboards on the go. The mobile apps provide a responsive and touch-friendly experience, allowing users to explore data and receive notifications on their mobile devices.

**Power BI Report Server:**

Power BI Report Server is an on-premises solution that allows organizations to host Power BI reports and dashboards within their own infrastructure. It provides a way to keep sensitive data on-premises while still benefiting from Power BI's interactive and visual capabilities. Power BI Report Server is licensed separately from the cloud-based Power BI service.

**Power BI Embedded:**

Power BI Embedded allows developers to integrate Power BI reports and dashboards into their custom applications or websites. It provides APIs and SDKs that enable embedding and programmatically interacting with Power BI content, making it seamless to incorporate data visualizations within custom applications.

**Power BI Premium:**

Power BI Premium is a capacity-based licensing model that provides dedicated resources and enhanced performance for large-scale deployments. It includes features such as Paginated Reports, AI capabilities, and advanced data governance options. Power BI Premium is suitable for organizations with heavy data processing and large user bases.

**Power BI Report Builder:**

Power BI Report Builder is a standalone tool that enables the creation of pixel-perfect, paginated reports for both Power BI Report Server and Power BI Premium. These reports are ideal for situations that require traditional, print-ready formats or formatted documents.

**Power BI Dataflows:**

Power BI Dataflows allow users to build and manage data preparation and transformation processes in the Power BI service. It provides a self-service ETL (Extract, Transform, Load) capability to create reusable data transformations and enrich datasets before building reports.

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

=> Here are some limitations of Excel that Power BI aims to solve:

**Scalability**: Excel has limitations in handling large datasets, especially when dealing with millions of rows of data. Power BI, on the other hand, is designed to handle large volumes of data efficiently, leveraging techniques like data compression and columnar storage to optimize performance.

**Data Modeling**: While Excel allows basic data modeling through Power Pivot, it can become complex and limited for more advanced scenarios. Power BI provides a robust data modeling environment with support for complex relationships, calculated columns, and measures using DAX (Data Analysis Expressions).

**Data Refresh**: In Excel, refreshing data from external data sources can be time-consuming and may lead to performance issues, especially with large datasets. Power BI offers scheduled data refresh in the cloud, ensuring that reports and dashboards always reflect up-to-date data.

**Interactive Reports**: While Excel can create reports, its interactivity is limited compared to Power BI's highly interactive and visually appealing reports and dashboards. Power BI allows users to create interactive visualizations, drill down into data, and explore insights easily.

**Collaboration and Sharing**: Sharing Excel files can lead to version control issues, and collaboration can become cumbersome when multiple users edit the same file simultaneously. Power BI provides a centralized cloud-based platform (Power BI Service) for sharing and collaborating on reports and dashboards in real-time.

**Real-Time Data**: Power BI has the capability to connect to real-time data sources, allowing users to visualize and analyze data as it streams in, providing immediate insights.

**Data Source Connectivity**: Excel may require additional add-ins or configuration to connect to certain data sources, while Power BI has built-in connectivity to a wide range of data sources, making data integration more seamless.

**Data Visualization**: Power BI provides a broader range of data visualizations and customizations compared to Excel's built-in charting options, allowing users to create more advanced and visually compelling reports.

1. **Explain PowerQuery?**

=> Power Query is a powerful data transformation and data connectivity tool provided by Microsoft. It is available in various Microsoft products, including Power BI, Excel, and Power Apps. Power Query allows users to connect, combine, clean, and transform data from a wide range of sources, making it easier to prepare data for analysis and reporting.

1. **Explain PowerMap?**

=> PowerMap is a 3-D data visualization tool that lets you look at information in new ways. It is an add-in for Microsoft Excel that allows you to plot geographic and temporal data on a 3-D globe or custom map, show it over time, and create visual tours you can share with other people.

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

=> Power BI's cloud-based approach provides a more agile, scalable, and cost-effective solution for data sharing, collaboration, and reporting, reducing the reliance on traditional on-premises SharePoint Server hosting for these purposes. Organizations can benefit from the robust features and capabilities of Power BI without the need for maintaining and managing an on-premises SharePoint infrastructure.

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

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Power BI Service 2.0 is a major update to the Power BI platform, and it includes a number of new features and improvements. Some of the key updates in Power BI Service 2.0 include:

**New data connectors**: Power BI Service 2.0 includes a number of new data connectors, including connectors for Salesforce, Google Analytics, and Amazon Redshift. These new connectors make it easier to connect to your data and get started with Power BI.

**Improved performance**: Power BI Service 2.0 has been optimized for performance, and it now delivers faster loading times and better performance for large datasets.

**New features for developers**: Power BI Service 2.0 includes a number of new features for developers, including support for custom visuals, the ability to create custom paginated reports, and the ability to publish Power BI reports to the web.

**New user interface:** Power BI Service 2.0 has a new user interface that is designed to be more intuitive and easier to use. The new UI also includes a number of new features, such as the ability to pin reports to the start page and the ability to create custom views.