**Power BI Assignment 3**

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

Different Power BI products:

1.Power BI Desktop: Power BI Desktop is a windows application used for creating and publishing interactive reports and visualization. It provides a rich set of data transformation and modeling capabilities, allowing users to connect to multiple data sources, shape and clean data, create relationships and build visually appealing reports and dashboards.

2. Power BI Service: Power BI Service is a cloud-based platform where users can publish, share , and collaborate on Power BI reports and dashboards. It allows users to access their reports from anywhere, collaborate with team members and share insights with stakeholders. Power bi service also provides additional features such as scheduling data refresh, setting up data –driven alerts and managing user access and permissions.

3. Power BI mobile: Power BI mobile is app available for iOS and Andriod devices. It enables users to access and interact with their Power BI report and dashboard on the go. Users can view and explore data, share insights and receive notifications and alerts directly on their mobile devices.

4. Power BI Report server: Power BI Report Server is an on-premises solution that allows organization to host Power BI reports within their own infrastructure. It provides a way to deploy and manage Power BI reports on local servers while manintaning data security and control.

5. Power BI Embedded : Power BI Embeded is developer platform that enables developers to integrate Power BU reports and dashboards into their own applications. It provides API and SDKs that allow developers to embed Power BI visualizations and functionalities seamlessly within custom applications.

6. Power Automate: Power Automate is a workflow automation tool that integrates with PowerBI. It enables users to automate processes and trigger actions based on events or data changes in Power BI.

7. Power virtual Agents: Power Virtual agents is chatbot development platform that integartes with power bi . It allows users to create intelligent chatbots that can provide data driven insights and answers using Power BI data.

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

-1. Scalability and Performance: Excel has limitations in handling large datasets and complex calculations. Power Bi leverages a columnar data model and in-memory processing, allowing for faster query performance ad efficient handling of large volumes of data.

2. Data connectivity and Integration: Excel requires manual data importing and refreshing, which can be time-consuming and prone to error. Power BI offers wide range of built in connectors and integrations with various data sources, allowing users to easily connect to and import data from databases, cloud services, on premises systems. Power BI support automated data refreshing on schedules or based in triggers.

3. Interactive Data Exploration: Excel provides basic visualization capabilities, but it may not be suitable for interactive and dynamic data exploration. Power BI offers a rich set of interactive visualizations , such as charts , maps and tables ,along with powerful filtering ,slicing and drilling capabilities.

4. Automated Insights and AI Integration: Excel does not have native features for automated insights or machine learning integration. Power Bi can automatically generate insights, identify pattern and perform advanced analytic tasks, allowing user to gain valuable insights from their data more efficiently.

1. **Explain PowerQuery?**

-Power Query is a data transformation and data preparation tool that is part of Power BI suite. It is designed to help users discover, connect to and transform data from various sources before loading it into Power BI for analysis and visualization, power Query provides a user-friendly interface and wide range of data manipulation capabilities, allowing users to clean, reshape, and combine data from multiple sources easily. Power Query is available in multiple Microsoft products, including Power BI Desktop, Excel, and Power Automate. It empowers users to perform data transformation tasks efficiently saving time and effort in data preparation before analysis.

1. **Explain PowerMap?**

Power map is also known as 3D Maps, was a data visualization too available in earlier versions of Excel and Power bi desktop. It allowed user to crete interactive and visually compelling geographical visualization by mapping data onto a 3D globe or custom maps.

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

Power bi eliminated the need to host share point server on-premises by providing a cloud-based platform for data visualization, collaboration and reporting.

-Cloud-based architecture: Power bi built on cloud-based architecture, which means that the infrastructure ad services required to run power bi hosted and managed by Microsoft in their Azure cloud platform. This eliminates the need for organizations to maintain and manage their own servers, include sharepoint.

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

* Modern User Interface: The Power BI service has undergone sevral UI updated to provide a more and intuitive user experience. The interface as been streamlined, with improved navigation, enhanced visuals and a responsive design that works well on different devices .

2.Power BI Apps: Power bi introduced the concept of power bi appps,which are pre-packaged collections of dashboard,reports and datasets assigned for specific industries or business scenarios.

3. Enhanced collaboration and sharing: The power bi service has introduced improved collaboration features, including the ability to co-author reports and dashboard with others in real-time. Sharing and distribution options have been enhanced, allowing users to share content with specific individuals or group.

4.Power automated integration : Power bi has improved integration with power automate ,enabling users to create automated workfloes and trigger action based on data events or conditions in power bi.

5. Data security: Power Bi has introduced serveral features to enhance data governance and security within the service. This includes the ability to apply row-level security ,data classification and security with the service.