1. List and explain different PowerBi products?

Power BI Desktop:

Description: A free, standalone application for Windows that allows users to create interactive reports and dashboards. It's a powerful authoring tool for building data models, transforming data, and designing visualizations.

Use Case: Ideal for report and dashboard creation on an individual's desktop.

Power BI Service

Description: A cloud-based service for sharing, collaborating, and publishing Power BI reports and dashboards. Users can publish reports created in Power BI Desktop to the Power BI Service for online access, sharing, and collaboration.

Use Case: Enables online sharing and collaboration; suitable for team collaboration and business users.

Power BI Mobile Apps:

Description: Mobile applications available for iOS and Android devices, allowing users to access and interact with Power BI reports and dashboards on the go.

Use Case: Provides mobile access to Power BI content for users who need real-time data insights on mobile devices.

Power BI Gateway:

Description: A bridge between on-premises data sources and the Power BI Service. It facilitates secure data transfer and refreshes between the cloud-based service and on-premises data sources.

Use Case: Essential for organizations that have on-premises data and want to keep their Power BI reports updated with the latest data.

Power BI Embedded:

Description: A set of APIs and development tools that allows developers to embed Power BI content (reports, dashboards, and tiles) into custom applications or websites.

Use Case: Designed for developers who want to integrate Power BI analytics features directly into their own applications.

1. What limitations of Excel, Microsoft solved by PowerBi?
2. **Data Volume and Performance:**
   1. **Limitation in Excel:** Excel can struggle with handling very large datasets, resulting in performance issues and potential file size limitations.
   2. **Power BI Solution:** Power BI is designed to handle large volumes of data efficiently. It employs a columnar database engine and compression techniques, resulting in better performance even with extensive datasets.
3. **Data Modeling Complexity:**
   1. **Limitation in Excel:** Building complex data models with relationships, hierarchies, and calculated columns in Excel can be challenging and may not scale well.
   2. **Power BI Solution:** Power BI Desktop provides a more robust and user-friendly environment for creating advanced data models. It offers features like drag-and-drop relationships and a graphical interface for designing relationships.
4. **Data Transformation and Querying:**
   1. **Limitation in Excel:** While Excel has Power Query for data transformation, it may lack some advanced features and can be complex for users not familiar with the tool.
   2. **Power BI Solution:** Power BI Desktop uses the same Power Query technology for data transformation, providing a more streamlined and user-friendly interface. It enables users to shape and clean data more intuitively.
   3. Explain PowerQuery?
5. **Data Source Connectivity:**
   1. Power Query supports connecting to a wide variety of data sources, including databases, Excel files, text files, web sources, online services, and more.
   2. Users can connect to on-premises and cloud-based data sources, ensuring flexibility in data integration.
6. **Data Transformation and Shaping:**
   1. Power Query allows users to apply a series of transformation steps to the imported data. These transformations include filtering rows, removing duplicates, renaming columns, changing data types, and more.
   2. The user-friendly interface allows users to perform complex transformations using a visual, step-by-step process.
7. **Query Editor:**
   1. The Query Editor is the interface within Power BI where users interact with Power Query. It provides a graphical representation of the data transformation steps and allows users to make adjustments easily.
   2. Users can see a preview of the data at each transformation step, helping them understand the impact of their changes.
8. **Applied Steps:**
   1. Power Query keeps track of all the applied transformation steps in the Query Editor. Users can review, modify, or remove these steps to refine their data preparation process.
   2. Applied Steps also make it easy to reproduce the same transformations on new data sets.
9. **Formula Language (M):**
   1. Power Query uses a formula language called "M" to define the data transformation steps. While users can perform most tasks using the visual interface, the M formula language allows for more advanced transformations when needed.
10. Explain PowerMap?

Geospatial Visualization:

Power Map enables users to create interactive and dynamic 3D visualizations of geographical data. Users can plot data points on a 3D map based on geographic coordinates (latitude and longitude).

Temporal Analysis:

In addition to geographical data, Power Map allows users to incorporate temporal data. This means users can visualize how data changes over time on the map.

Data Exploration:

Users can explore and interact with the data on the map, such as rotating and zooming to gain different perspectives. This feature is particularly useful for understanding spatial and temporal patterns.

Customization:

Power Map offers options for customizing the appearance of the map, including the ability to change map styles, colors, and themes. Users can adjust the visual representation to enhance the clarity of their data.

Data Integration:

Power Map can integrate with other data visualization features in Excel. Users can combine Power Map with traditional charts and graphs to create comprehensive dashboards.

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

Power BI, Microsoft's cloud-based business intelligence platform, has contributed to reducing the need for organizations to host SharePoint Server on-premises in several ways. Here are some key factors:

1. **Power BI Service in the Cloud:**
   1. Power BI is a cloud-based service that allows users to publish, share, and collaborate on reports and dashboards. This eliminates the need for organizations to maintain on-premises infrastructure, such as SharePoint servers, for hosting and sharing BI content.
2. **Centralized Cloud-Based Storage:**
   1. Power BI Service provides centralized cloud-based storage for Power BI reports, datasets, and dashboards. Users can publish their Power BI content directly to the cloud, reducing the dependency on on-premises storage solutions like SharePoint.
3. **Power BI Workspaces:**
   1. Power BI Workspaces provide collaborative areas within the Power BI Service where teams can collaborate on and share reports and dashboards. This collaborative environment reduces the need for organizations to set up and maintain SharePoint sites for BI collaboration.
4. Explain the updates done in Power Bi Service(power BI 2.0) as compared to older version ?

Enhanced User Interface:

Microsoft continually improves the user interface of Power BI Service, making it more intuitive and user-friendly. The navigation, layout, and overall user experience are regularly refined.

New Visualization Types:

Power BI Service introduces new and enhanced visualization types to provide users with more options for representing their data. These visualizations may include charts, maps, tables, and other graphical elements.

Integration with Power Automate

Power BI Service integrates with Power Automate (formerly known as Microsoft Flow), allowing users to automate workflows and processes based on events or triggers within Power BI.

Improved Collaboration Features:

Collaboration features, such as commenting on reports, sharing dashboards, and collaborating within workspaces, have been enhanced to improve communication and teamwork.

Paginated Reports:

Power BI Service has introduced support for paginated reports, which are traditional, pixel-perfect reports. This allows users to create and share highly formatted, printable reports.