**Assignment-3**

1. List and explain different PowerBi products?

Power BI offers a suite of business analytics tools that cater to different needs and use cases. Here’s a list of the main Power BI products along with explanations:

1. **Power BI Desktop**: This is a free Windows desktop application that allows users to connect to data, transform it, and build reports. It’s designed for advanced data exploration and report authoring.
2. **Power BI Pro**: This is a subscription service that provides additional features for collaboration and sharing. [Users can publish reports, share dashboards, and collaborate with other Power BI Pro users within their organization1](https://www.microsoft.com/en-us/power-platform/products/power-bi/pricing).
3. **Power BI Premium**: Aimed at larger enterprises, this offers dedicated cloud resources, providing higher performance and larger data volumes. [It also includes more frequent data refreshes, larger dataset sizes, and advanced AI capabilities1](https://www.microsoft.com/en-us/power-platform/products/power-bi/pricing).
4. [**Power BI Mobile**: These are apps for Windows, iOS, and Android devices that allow users to view and interact with Power BI dashboards and reports on the go2](https://learn.microsoft.com/en-us/power-bi/fundamentals/power-bi-overview).
5. **Power BI Embedded**: This is for developers who want to embed Power BI dashboards and reports into their applications. [This product allows the integration of Power BI features into custom apps to provide enhanced analytics without requiring users to have a Power BI account1](https://www.microsoft.com/en-us/power-platform/products/power-bi/pricing).
6. [**Power BI Service**: Also known as the Power BI cloud service, it’s an online SaaS (Software as a Service) where users can publish Power BI reports and dashboards, set up data refreshes, and more2](https://learn.microsoft.com/en-us/power-bi/fundamentals/power-bi-overview).

Each of these products is designed to work together seamlessly, providing a comprehensive set of tools for business intelligence and data analysis.

1. What limitations of Excel, Microsoft solved by PowerBi?
2. **Data Capacity**: Excel has a limit on the amount of data it can handle effectively, typically up to 1 million rows. [Power BI can manage and visualize data models that are much larger and more complex1](https://www.datacamp.com/blog/power-bi-vs-excel-which-should-you-use).
3. **Data Refresh and Real-time Updates**: Excel requires manual refreshes for data updates, which can be time-consuming and error-prone. [Power BI offers automatic data refreshes and the ability to stream real-time data2](https://learn.microsoft.com/en-us/power-bi/connect-data/reduce-the-size-of-an-excel-workbook).
4. [**Advanced Data Modeling**: While Excel provides basic data modeling features, Power BI includes advanced options like calculated columns, measures using DAX, and complex relationship management between tables3](https://community.fabric.microsoft.com/t5/Desktop/Data-Model-Limitations-in-Power-BI-Desktop/m-p/57584).
5. [**Interactive Visualizations**: Excel’s visualizations are static, whereas Power BI provides interactive reports and dashboards that allow users to drill down into data and uncover insights1](https://www.datacamp.com/blog/power-bi-vs-excel-which-should-you-use).
6. **Collaboration and Sharing**: Sharing Excel files for collaboration can be cumbersome and insecure. [Power BI allows for easy sharing and collaboration on reports and dashboards within a secure environment2](https://learn.microsoft.com/en-us/power-bi/connect-data/reduce-the-size-of-an-excel-workbook).
7. **Scalability**: Excel struggles with scalability for large datasets and multiple users. [Power BI is built for scale, with cloud-based services and dedicated capacities for enterprise-level usage3](https://community.fabric.microsoft.com/t5/Desktop/Data-Model-Limitations-in-Power-BI-Desktop/m-p/57584).
8. [**Complex Calculations and Analysis**: Power BI’s DAX language is more powerful than Excel formulas, enabling more complex calculations and analysis3](https://community.fabric.microsoft.com/t5/Desktop/Data-Model-Limitations-in-Power-BI-Desktop/m-p/57584).
9. [**Integration with Other Services**: Power BI has better integration capabilities with other cloud services and databases, providing a more seamless experience for users who need to combine data from various sources2](https://learn.microsoft.com/en-us/power-bi/connect-data/reduce-the-size-of-an-excel-workbook)
10. Explain PowerQuery?

Ans: With Power Query you can import or connect to external data, and then shape that data.

1. Explain PowerMap?

Ans: A power map lets you discover insights you might not see in traditional two-dimensional (2-D) tables and charts.

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

Power BI has significantly reduced the need to host SharePoint Server on-premises by offering a cloud-based service that provides many of the same capabilities without the complexity of managing server infrastructure. Here’s how Power BI achieves this:

* [**Power BI Service**: The Power BI cloud service allows users to publish, share, and consume business intelligence content online, eliminating the need for on-premises servers1](https://learn.microsoft.com/en-us/power-bi/guidance/powerbi-implementation-planning-usage-scenario-on-premises-reporting).
* [**Integration with SharePoint Online**: Power BI integrates seamlessly with SharePoint Online, which is part of the Office 365 suite, providing a cloud-based alternative to on-premises SharePoint servers1](https://learn.microsoft.com/en-us/power-bi/guidance/powerbi-implementation-planning-usage-scenario-on-premises-reporting).
* **Power BI Report Server**: For scenarios that require on-premises reporting, Power BI Report Server can be used. [This is an on-premises portal for publishing reports, but it’s a specialized service that’s part of the Power BI ecosystem, simplifying the deployment and management compared to traditional SharePoint servers1](https://learn.microsoft.com/en-us/power-bi/guidance/powerbi-implementation-planning-usage-scenario-on-premises-reporting).
* [**Data Connectivity**: Power BI Desktop and the Power BI service can connect to SharePoint on-premises using the Data Gateway, allowing for secure data transfer without the need for a full SharePoint deployment2](https://community.fabric.microsoft.com/t5/Power-Query/Connect-Power-Bi-to-Sharepoint-on-premise-using-Get-Data/td-p/165794).
* [**Collaboration and Sharing**: Power BI’s sharing and collaboration features are built into the service, providing similar functionalities that were traditionally part of SharePoint’s feature set1](https://learn.microsoft.com/en-us/power-bi/guidance/powerbi-implementation-planning-usage-scenario-on-premises-reporting).

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

Ans:

of Power BI. Here are some of the key updates:

[**June 2024 Update (2.130.754.0)**1](https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-latest-update):

* **Reporting**: Introduction of visual calculations update (preview), which allows for more dynamic and complex reporting capabilities.
* **Power BI Home**: Now generally available in Power BI Desktop, providing a centralized location for accessing reports and dashboards.
* **Modeling**: Ability to download large semantic models, enhancing the handling and analysis of big data sets.
* **Visuals**: Many new and updated visuals have been added to the library, offering more options for data representation.

Compared to the older version, these updates represent significant improvements in terms of functionality, user interface, and data handling. [The older versions focused on features like new mobile formatting options, sensitivity labels, and enhancements to deployment pipelines2](https://powerbi.microsoft.com/en-us/blog/power-bi-february-2022-feature-summary/). The new version builds upon these foundations with more advanced features and tools designed to cater to the evolving needs of data analysis and business intelligence.

[For a detailed comparison, you can refer to the change logs and feature summaries provided by Microsoft for both the new and older versions of Power BI3](https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-latest-update-archive)[4](https://community.fabric.microsoft.com/t5/Desktop/Older-versions-of-Power-BI-Desktop/m-p/175008). These resources offer a comprehensive overview of the updates and how they enhance the overall Power BI experience.