Power BI Assignment 3

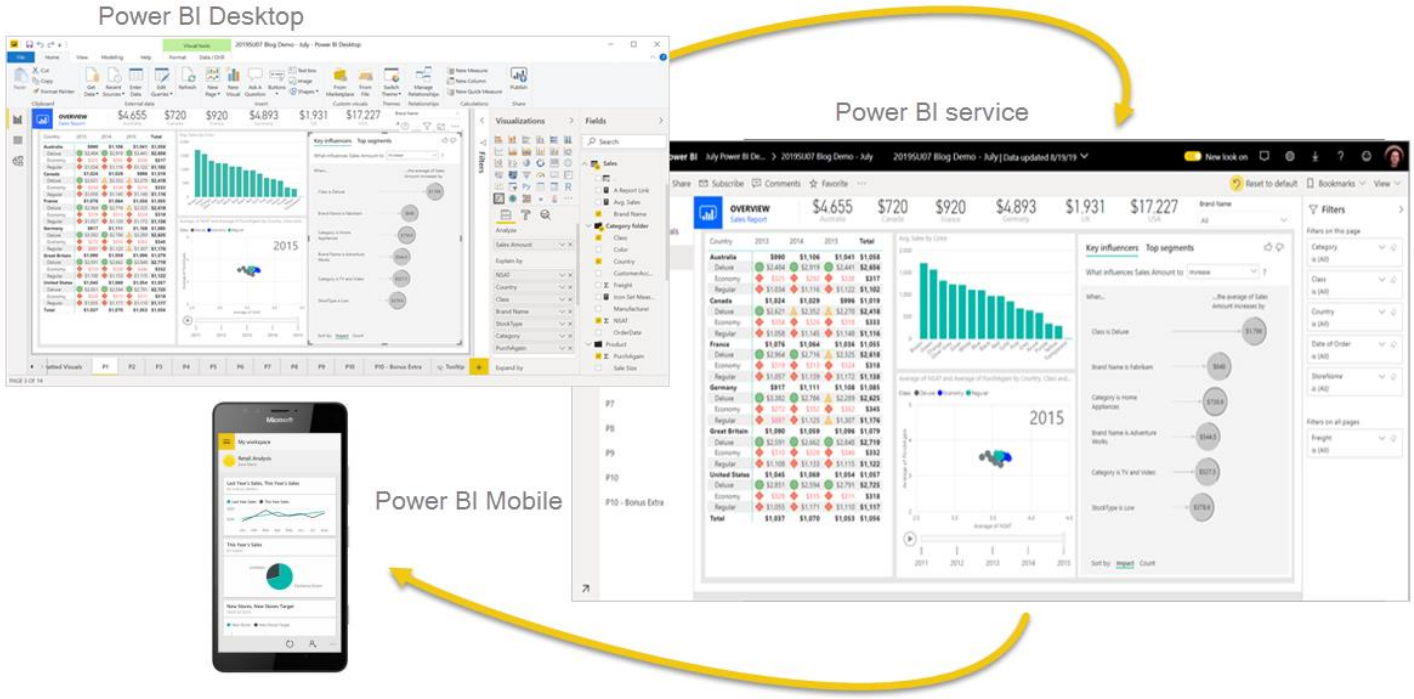
1. List and explain different PowerBi products?

Ans- Microsoft provides different Power BI products such as

a)Power BI Desktop: Power BI Desktop is a Windows application that allows users to create interactive reports, dashboards, and data visualizations.

b) Power BI Service: Power BI Service is a cloud-based platform where users can publish, share, collaborate on, and consume Power BI reports and dashboards.

c) Power BI Mobile: Power BI Mobile enables users to access their Power BI reports and dashboards on mobile devices, such as smartphones and tablets.



d) Power BI Report Server: Power BI Report Server is an on-premises solution that allows organizations to host and manage their Power BI reports within their own infrastructure.

e) Power BI Embedded: Power BI Embedded is a developer-focused offering that allows developers to embed Power BI reports and dashboards directly into their own applications or websites.

f) Power BI Premium: Power BI Premium is a licensing option that provides enhanced capabilities and features for organizations with more advanced requirements.

g) Power BI Dataflows: Power BI Dataflows is a self-service data preparation and transformation tool within the Power BI ecosystem.

2. What limitations of Excel, Microsoft solved by PowerBi?

Ans- Both Power BI and Excel are tools of Microsoft but Power BI help users to overcome limitations of Excel. Few of them are

a) Scalability: Excel has limitations in handling large volumes of data efficiently. Power BI is designed to handle and analyze large datasets more effectively
b) Data Modeling: Excel provides basic data modeling capabilities but Power BI offers more robust and intuitive data modeling capabilities.
c) Data Refresh: In Excel, data refresh is typically a manual process, requiring users to refresh data connections or formulas. Power BI provides automatic and scheduled data refresh capabilities.
d) Collaboration and Sharing: Excel workbooks are often shared through email or file-sharing platforms, leading to version control issues and difficulties in collaborating on reports. Power BI offers a centralized platform, the Power BI Service, where reports can be published, shared, and collaborated on with colleagues in real-time.
e) Interactive Dashboards: Excel allows the creation of static reports and charts but Power BI provides a dedicated environment for designing and sharing interactive dashboards with drill-down capabilities, cross-filtering, and responsive visuals.
f) Data Connectivity: Excel has limitations in terms of connecting to various data sources, especially live and real-time data. Power BI offers a wide range of built-in connectors and options for connecting to various data sources.
g) Data Exploration and Analysis: Excel provides basic data analysis features, but it can be time-consuming and complex to perform advanced analysis, such as advanced statistical calculations or complex data transformations.
h) Mobile Accessibility: Excel workbooks are not optimized for mobile devices, making it challenging to view and interact with reports on smartphones or tablets. Power BI provides a dedicated mobile app, Power BI Mobile, which allows users to access and interact with reports and dashboards on mobile devices.

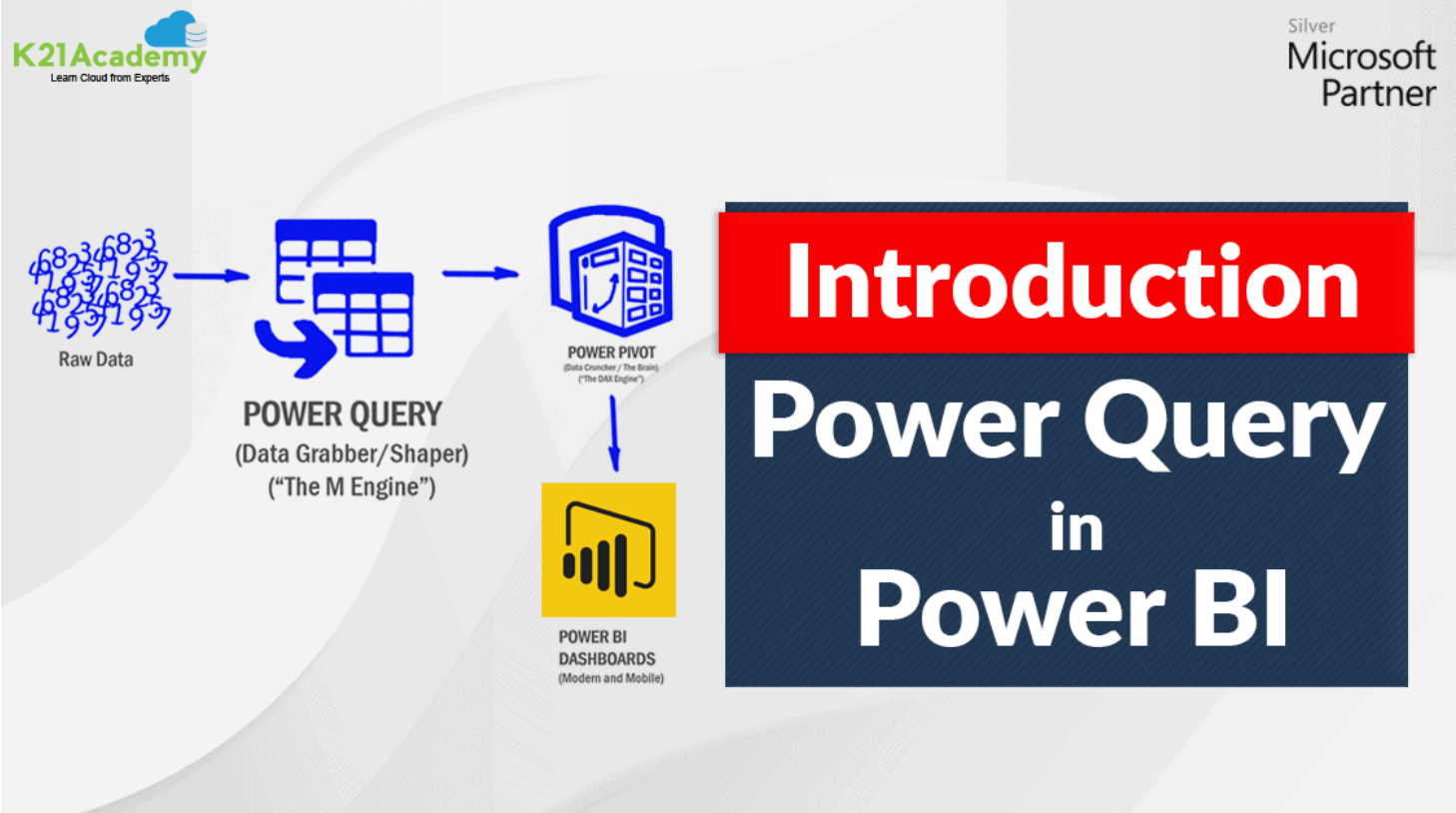
	EXCEL	POWER BI
01. Tabular reports	Ideal for creating reports in tabular format.	Creating tabular reports is more limited.
02. Duplicated tables	Allows you to display duplicated tables.	Cannot display duplicated tables.
03. Reports	Simpler and less attractive reports than those of Power BI.	More beautiful, personalized, attractive and interactive reports.
04. Crossed filters	No advanced cross-filtering between graphics.	Supports advanced cross-filtering features between charts.
05. Charts and visuals	It has the most advanced and newest charting features, but cannot be connected to the data models.	Optimal for dashboards, alerts and KPIs. Includes better visuals than Excel and allows data to be analyzed visually.
06. Automatic update	Data is not automatically updated.	Data is automatically updated.
07. Availability	Reports are limited to a specific number of users.	Reports can be worked on by a large number of users, whether they are experts or not.
08. Analytics	Fewer data analysis options than Power BI.	More powerful analytical capabilities than Excel.
09. Data model	Ability to work on simple and structured data models.	Ideal for building complex data models easily.
10. Separate tables	It is difficult to connect separate tables.	Separate tables can be easily related to each other.
11. Tool	It is a traditional spreadsheet program with a lot of features.	It is the advanced version of a data analysis tool, with a great amount of possibilities to work with the data.
12. Collaborative work	Sharing documents and working with others is complex.	Sharing data and reports is easy with Power BI.
13. Big Data	Can handle a limited amount of data.	Allows you to process much larger data sets.
14. Dashboards	Users have limited features for creating dashboards.	More advanced features for creating custom dashboards.
15. Processing	Slower processing than Power BI.	Faster processing than Excel.
16. Utility	Mostly used to organize data, perform calculations, mathematical formulas and create more complex tabular reports.	Used to create and share dashboards, as well as to develop powerful data visualizations.
17. Data Model Language	MDX Language	DAX Language
18. Connectivity	Limited connectivity with other applications and systems.	You can extract data from virtually any platform, sowftare and application.
19. Price	Payment tool.	It has a free version and a payment version.
20. Usability	More difficult to use than Power BI.	Easy to use compared to Excel.

3. Explain PowerQuery?

Ans- Power Query is a data preparation and transformation tool within Power BI that allows users to connect to various data sources, transform and shape the data, and load it into Power BI for analysis and visualization.

Features of Power BI

a) Data Source Connectivity: Power Query supports connectivity to a vast array of data sources, including databases, files (Excel, CSV, JSON, XML), online services (SharePoint, Dynamics 365, Salesforce), cloud platforms (Azure, Amazon Web Services), and more.
b) Data Transformation: Power Query offers a rich set of data transformation capabilities. Users can perform various transformations on the data, such as filtering rows, removing duplicates, sorting, splitting columns etc.
c) Query Editor: Power Query includes a Query Editor interface, where users can interactively define and refine their data transformation steps.



d) Data Profiling: Power Query provides data profiling features to analyze the structure and quality of the data.

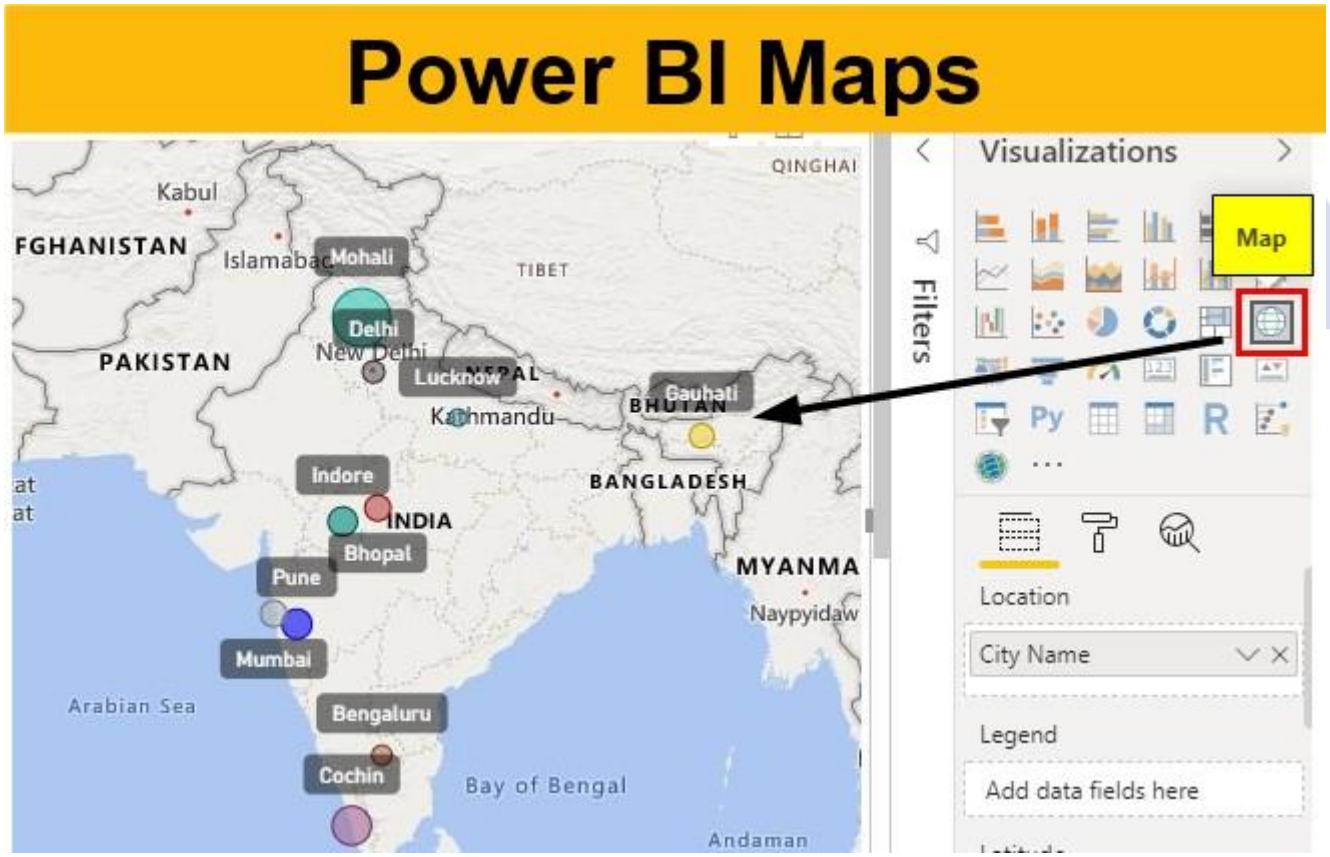
e) Applied Steps and Query Dependencies: Power Query maintains a record of all the transformation steps applied to the data in the Query Editor.
f) Query Parameters: Power Query allows users to define query parameters, which are dynamic values that can be used to parameterize data sources or transformations.
g) Data Refresh: Power Query provides options for data refresh, allowing users to schedule automatic updates for their data sources.

4. Explain PowerMap?

Ans- Power Map, also known as 3D Maps, is a data visualization tool that allows users to create interactive 3D visualizations of geographic and temporal data.

Features of PowerMap

a) Geographic Data Visualization: Power Map enables users to plot data points on a 3D globe, transforming geographic data into visual representations.
b) Time-Based Analysis: Power Map allows users to incorporate time-based data into their visualizations.
c) Interactive Exploration: Power Map provides interactive exploration capabilities, allowing users to zoom, pan, and rotate the 3D globe to view data from different angles and perspectives.



d) Layered Visualizations: Power Map supports multiple layers of visualizations, enabling users to overlay different data sets or categories on the same map.
e) Custom Regions and Data Aggregation: Power Map offers the ability to create custom regions or territories based on user-defined boundaries.

f) Presentation and Storytelling: Power Map includes presentation features that enable users to create dynamic and engaging presentations of their data visualizations.

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

Ans- Power BI eliminated the need to host SharePoint Server on premises by providing a cloud-based platform for data visualization, reporting, and collaboration. Here are some ways in which Power BI eliminates the need for hosting SharePoint Server on premises:

A) Cloud-Based Environment: Power BI operates in the cloud, allowing users to access and work with their data from anywhere using a web browser or the Power BI Desktop application.
B) Data Storage and Management: With Power BI, data can be stored and managed in the cloud through services like Power BI Workspace and Azure Data Services.
C) Data Visualization and Reporting: Power BI provides a robust set of data visualization and reporting capabilities that are designed specifically for business intelligence purposes.
D) Collaboration and Sharing: Power BI offers a centralized platform for collaboration and sharing of reports and dashboards.
E) Content Management: Power BI provides content management features within the Power BI Service, allowing users to organize, categorize, and search for reports, dashboards, and datasets.
F) Integration with SharePoint: While Power BI eliminates the need for hosting SharePoint Server on premises for data visualization and reporting, it still offers integration capabilities with SharePoint.

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

Ans- Power BI 2.0 has numerous updates when compared with previous version. Few of the important updates are

a) Updated User Interface: Power BI Service introduced a refreshed and modern user interface, providing a more intuitive and user-friendly experience.
b) New Workspaces: Power BI Service introduced workspaces, which replaced the earlier concept of groups.
c) Power BI Apps: Power BI Apps were introduced to streamline content distribution and consumption.
d) Shared and Certified Datasets: Power BI Service introduced the ability to create and share datasets across workspaces, allowing for data reuse and consistency.
e) AI-powered Features: Power BI Service incorporated AI-powered features, such as natural language querying (Q&A), AI visuals (e.g., Key Influencers visual), and automated insights.
f) Power Automate Integration: Power BI Service integrated with Power Automate (previously known as Microsoft Flow) to enable workflow automation and trigger actions based on data events or conditions in Power BI.
g) Dataflows: Power BI Service introduced dataflows, which allow users to create and manage data preparation processes, such as data extraction, transformation, and loading (ETL), in a reusable and scalable manner.
h) Mobile Experience: Power BI Service improved its mobile experience, enabling users to access and interact with reports and dashboards on mobile devices through the Power BI mobile app.