Lesson-1 | Homework: Introduction to Power BI

1. What is Power BI, and what are its three main components?

Power BI is a business analytics platform from Microsoft that helps us connect to data, clean and transform data, build visuals and dashboards, publish and share reports.

The tree main components are Power BI Desktop, Power BI Service and Power BI Mobile.

2. Name two business use cases for Power BI dashboards.

Below are two real-world examples across different business functions:

a. Sales and Marketing (tracking sales by region, product; analyzing customer segments)
b. Operations (inventory levels, supply-chain performance, profitability dashboards)

3. How do you download and install Power BI Desktop?

In order to download and install Power BI Desktop, we should do the followings steps:

- go to Microsoft Store and find Power BI Desktop;
- download the application
- install

4. What is the difference between Power BI Desktop and Power BI Service?

Power BI Desktop where you build reports and Power BI Server is where you publish and share reports online.

5. What file extension does a Power BI project use?

Power BI has three common file types.

.pbix – you already know this one.

.pbit – template file

.pbids – data source file

6. Explain the role of Power Query in Power BI.

Power Query is the data preparation tool inside Power BI. Simply, Power Query is a tool in Power BI used for connecting, cleaning, and transforming data before it goes into your data model.

7. Why would a business prefer Power BI over Excel for reporting?

Both Excel and Power BI can make reports – but Power BI is designed for interactive, automated, large-scale reporting.

Excel is more manual and best for smaller datasets.

Here are the big advantages of Power BI — explained simply:

– *Handles big data easily*

Excel slows down when files get large.

Power BI can process millions of rows without freezing.

– *Automatic updates*

We connect our report to data — and it refreshes automatically.

Excel often requires manual updates.

– *Interactive dashboards*

Users can click, filter, drill down — Excel charts don't do this as smoothly.

– *Security + sharing*

Power BI lets companies control who can see what.

Excel sharing is messy and hard to manage.

– *Professional visuals*

Power BI visuals look like real business dashboards, not spreadsheets.

8. Describe one limitation of the free version of Power BI.

In the free version, you cannot share dashboards with other users through the Power BI Service.

9. What is a "published report" in Power BI Service?

After we upload our PBIX file from Power BI Desktop to the Power BI Service:

– it lives in the cloud
– others can view it (if we share)
– it can refresh automatically
– it becomes part of a workspace

10. How does Power BI Mobile enhance accessibility?

Power BI Mobile lets us:

- view dashboards on a phone or tablet
- interact with visuals anywhere
- get real-time alerts
- access reports during travel, meetings, field work

11. Compare Power BI with Tableau—pros and cons.

Power BI – main pros:

- Cheaper / often "already included" for companies using Microsoft 365
- Strong integration with Excel, SQL Server, Azure, Teams, SharePoint
- Familiar for people coming from Excel
- Very good for corporate reporting, KPIs, dashboards
- Strong data modeling (DAX + Power Query)

Power BI – main cons:

- Best experience is on Windows (Desktop only on Windows)
- Heavily tied to Microsoft ecosystem
- Complex DAX can become hard for new users
- Tableau is often considered a bit more flexible for deep visual exploration

Tableau – main pros:

- Very strong in interactive visual analysis (drag-and-drop, exploration)
- Cross-platform (Windows + macOS)
- Often preferred in data-viz-heavy teams (data journalism, analytics teams)
- Great for rapidly exploring data patterns and building visually polished dashboards

Tableau – main cons:

- Typically, more expensive than Power BI at enterprise level
- Not as tightly integrated into Microsoft stack
- Learning curve for some business users may be steeper if they live in Excel
- For many companies on Microsoft, it means maintaining another separate tool

12. Explain how Power BI integrates with Azure services.

Power BI and Azure work together because Power BI is part of the Microsoft ecosystem.

Azure provides cloud data storage, databases, AI, and security, and Power BI uses these services to get data, process it, and secure it.

Simply, Azure is the cloud where data lives, and Power BI is the tool that visualizes that data.

13. What are "gateways" in Power BI, and when are they needed?

A gateway is a software that allows Power BI Service to connect to on-premises (local) data sources and refresh data securely. We need a gateway when a) our data is not in the cloud, b) our data is inside our organization network, c) we want scheduled refresh for local databases or files

14. How would you convince a company to adopt Power BI? (ROI argument)

Power BI reduces manual reporting time, improves decision-making with real-time dashboards, and costs significantly less than other BI tools — giving fast ROI.

15. What security features does Power BI offer for sensitive data?

Power BI protects sensitive data through Row-Level Security, Azure Active Directory authentication, encryption, workspace permissions, sensitivity labels, and Data Loss Prevention policies.