Homework. Lesson 1

Topic: Introduction to Power BI

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

   Power BI is Microsoft's business intelligence and data visualization tool that helps users connect to different data sources, transform raw data into meaningful insights, and share interactive reports and dashboards. It is widely used by data analysts, business users, and organizations to make data-driven decisions.

   The three main components of Power BI are:

   Power BI Desktop → Create reports

   Power BI Service → Publish & share in the cloud

   Power BI Mobile → Access & interact on mobile devices

2. Name two business use cases for Power BI dashboards.
   - Sales Performance dashboard
   - Financial Analytics Dashboard

3. How do you download and install Power BI Desktop?
   - Open the Microsoft Store
   - Search for "Power BI Desktop"
   - Click get

4. How do you download and install Power BI Desktop?
   - Power BI Desktop = Build and design reports (offline, free).
   - Power BI Service = Share, collaborate, and consume reports (online, requires license).

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

6. Explain the role of Power Query in Power BI.
   - Power Query is the data preparation engine in Power BI — it takes messy, raw data and transforms it into clean, structured data ready for reporting and visualization.

7. Why would a business prefer Power BI over Excel for reporting?
   - Use Excel for personal analysis and small datasets.
   - Use Power BI for scalable, interactive, collaborative reporting and dashboards.

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

With the free version, you can create reports and dashboards in Power BI Desktop and view them in the Power BI Service, but you cannot share those reports with other users or collaborate within your organization.

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

A published report is a Power BI Desktop report uploaded to the Power BI Service, making it available online for viewing, sharing, and collaboration.

10. How does Power BI Mobile enhance accessibility?
Power BI Mobile makes insights portable, interactive, and secure, ensuring decision-makers can stay informed and act quickly — even when away from their desks.

11. Compare Power BI with Tableau—pros and cons.
Power BI - affordable, easy-to-use, Microsoft-integrated BI.
Tableau - best visuals, flexibility, and big data performance.

12. Explain how Power BI integrates with Azure services.
- Azure = backend (data, AI, infrastructure)
- Power BI = frontend (visualization & reporting)
- Together, they provide a complete cloud-based analytics ecosystem: from data ingestion and transformation to secure, real-time reporting.

13. What are "gateways" in Power BI, and when are they needed?
A Power BI Gateway securely connects on-premises data sources to Power BI Service, enabling scheduled refreshes and live queries without moving all data to the cloud.

14. How would you convince a company to adopt Power BI? (ROI argument)
Adopting Power BI leads to lower software costs, reduced reporting time, higher productivity, and smarter decisions — directly boosting the company's bottom line.

15. What security features does Power BI offer for sensitive data?
Power BI secures sensitive data using Azure AD authentication, row-level security, encryption, sensitivity labels, auditing, and governance tools, ensuring compliance with enterprise and regulatory standards.