

Power BI Basics Assignment

Question 1 : What is Power BI and why is it used in businesses?

Answer: Power BI is a business intelligence (BI) tool developed by Microsoft that helps users analyze data and create interactive reports and dashboards.

Businesses use Power BI to:

- Convert raw data into meaningful insights
- Track KPIs and performance
- Make data-driven decisions
- Share reports securely across teams
- Analyze large datasets quickly with visuals

Question 2 : Name and explain the three main components of Power BI.

Answer: 1. Power BI Desktop

- Used to connect data, clean data, build models, and create reports
- Installed on a local computer

2. Power BI Service (PowerBI.com)

- Cloud platform to publish, share, and collaborate on reports
- Used for dashboards and scheduled refresh

3. Power BI Mobile

- Mobile app for Android and iOS
- Allows users to view dashboards and reports on the go

Question 3 : Explain the Power BI workflow.

Answer: The Power BI workflow follows these steps:

- 1. Data Collection** – Connect to data sources (Excel, CSV, SQL, etc.)
- 2. Data Cleaning & Transformation** – Use Power Query to clean and shape data
- 3. Data Modeling** – Create relationships, measures, and calculated columns
- 4. Data Visualization** – Build reports using charts, tables, maps, etc.
- 5. Publishing & Sharing** – Publish reports to Power BI Service and share

Question 4 : List any four data cleaning tasks that can be performed in Power Query.

Dataset : Real_Estate_Dataset

	A	B	C	D	E	F	G	H	I	J
1	Property_ID	Property_Name	City	Location_Details	Price	Area_sqft	Bedrooms	Bathrooms	Owner_Name	Contact
2	101	Green Heights	Mumbai	Andheri East - Mumb	12500000	850	2	2	Rahul Mehta	9876543210
3	102	Sunrise Apartments	Mumbai	Borivali West - Mumb	9800000	720	2	2	Anita Sharma	9898989898
4	103	Lake View Residency	Bangalore	Whitefield - Bangalo	8500000	900	3	2	Ramesh Kumar	9123456789
5	104	City Center Homes	Delhi	Saket - Delhi	11000000	880	3	2	Neha Verma	9988776655
6	105	Elite Towers	Pune	Hinjewadi - Pune		950	3	3	Amit Joshi	9090909090
7	106	Palm Residency	Bangalore	Electronic City - Ban	7200000	800	2	2		9345678901
8	107	Urban Nest	Hyderabad	Gachibowli - Hydera	6700000		2	2	Suresh Reddy	9012345678
9	108	Silver Oaks	Chennai	Velachery - Chennai	7900000	870	3	2	Divya Iyer	9556677889
10	109	Skyline Villas	Pune	Baner - Pune	13500000	1200	4	3	Manoj Patil	9887766554
11	110	Metro Homes	Delhi	Dwarka - Delhi	6500000	700	2	2	Raj Singh	
12	110	Green Heights	Mumbai	Andheri East - Mumb	12500000	850	2	2	Rahul Mehta	9876543210
13	112	Sunrise Apartments	Mumbai	Borivali West - Mumb	9800000	720	2	2	Anita Sharma	9898989898
14	113	Lake View Residency	Bangalore	Whitefield - Bangalo	8500000	900	3	2	Ramesh Kumar	9123456789
15	114	City Center Homes	Delhi	Saket - Delhi	11000000	880	3	2	Neha Verma	9988776655
16	115	Elite Towers	Pune	Hinjewadi - Pune		950	3	3	Amit Joshi	9090909090
17	116	Palm Residency	Bangalore	Electronic City - Ban	7200000	800	2	2		9345678901
18	117	Urban Nest	Hyderabad	Gachibowli - Hydera	6700000		2	2	Suresh Reddy	9012345678
19	118	Silver Oaks	Chennai	Velachery - Chennai	7900000	870	3	2	Divya Iyer	9556677889
20	119	Skyline Villas	Pune	Baner - Pune	13500000	1200	4	3	Manoj Patil	9887766554
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24	123	Lake View Residency	Bangalore	Whitefield - Bangalo	8500000	900	3	2	Ramesh Kumar	9123456789
25	134	City Center Homes	Delhi	Saket - Delhi	11000000	880	3	2	Neha Verma	9988776655
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Answer:

1. Removing duplicate property records
2. Handling missing values (nulls)
3. Splitting columns (e.g., Owner Name)
4. Changing data types (Price, Area_sqft to numeric)

Question 5 : Write step by step instructions to load the above dataset.

Answer:

1. Open Power BI Desktop
2. Click Home → Get Data
3. Select Excel / CSV (based on dataset format)
4. Browse and select Real_Estate_Dataset file
5. Click Open
6. Preview data in Power Query Editor
7. Click Load to load data into Power BI

Question 6 : Define Data View, Report View, and Model View. Explain the purpose of each view.

Answer:

1. Data View

- Shows data in table format
- Used to inspect rows and columns
- Useful for calculated columns

2. Report View

- Used to create visuals and dashboards
- Drag-and-drop charts, slicers, and tables
- Main view for reporting

3. Model View

- Displays relationships between tables
- Used for data modeling and schema design

Question 7 : Discuss the different data sources that Power BI supports.

Answer: Power BI supports multiple data sources such as:

- **Files:** Excel, CSV, Text, XML, JSON
- **Databases:** SQL Server, MySQL, Oracle
- **Online Services:** SharePoint, Google Analytics, Azure
- **Cloud Platforms:** Azure SQL, Azure Data Lake
- **Web Sources:** APIs and web pages

Question 8 : Split Owner Name to create two new columns as First Name and Last Name

Answer:

Steps in Power Query:

1. Go to Transform Data
2. Select the Owner Name column
3. Click Split Column → By Delimiter
4. Choose Space as delimiter
5. Select Split at Left-most delimiter
6. Rename columns as:
7. First Name
8. Last Name
9. Click Close & Apply
- This creates two new columns from Owner Name