

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 - Mumbai | 12500000 | 850 | 2 | 2 | Rahul Mehta | 9876543210 |
| 3 | 102 | Sunrise Apartments | Mumbai | Borivali West - Mumbai | 9800000 | 720 | 2 | 2 | Anita Sharma | 9898989898 |
| 4 | 103 | Lake View Residenc | Bangalore | Whitefield - Bangalore | 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 - Mumbai | 12500000 | 850 | 2 | 2 | Rahul Mehta | 9876543210 |
| 13 | 112 | Sunrise Apartments | Mumbai | Borivali West - Mumbai | 9800000 | 720 | 2 | 2 | Anita Sharma | 9898989898 |
| 14 | 113 | Lake View Residenc | Bangalore | Whitefield - Bangalore | 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 |
| 21 | 120 | Metro Homes | Delhi | Dwarka - Delhi | 6500000 | 700 | 2 | 2 | Raj Singh | |
| 22 | 121 | Green Heights | Mumbai | Andheri East - Mumbai | 12500000 | 850 | 2 | 2 | Rahul Mehta | 9876543210 |
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| 26 | 125 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
| 27 | 126 | Palm Residency | Bangalore | Electronic City - Ban | 7200000 | 800 | 2 | 2 | | 9345678901 |
| 28 | 127 | Urban Nest | Hyderabad | Gachibowli - Hydera | 6700000 | | 2 | 2 | Suresh Reddy | 9012345678 |
| 29 | 128 | Silver Oaks | Chennai | Velachery - Chennai | 7900000 | 870 | 3 | 2 | Divya Iyer | 9556677889 |
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| 36 | 135 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
| 37 | 136 | Palm Residency | Bangalore | Electronic City - Ban | 7200000 | 800 | 2 | 2 | | 9345678901 |
| 38 | 137 | Urban Nest | Hyderabad | Gachibowli - Hydera | 6700000 | | 2 | 2 | Suresh Reddy | 9012345678 |
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| 56 | 155 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
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| 66 | 165 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
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| 68 | 167 | Urban Nest | Hyderabad | Gachibowli - Hydera | 6700000 | | 2 | 2 | Suresh Reddy | 9012345678 |
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| 75 | 174 | City Center Homes | Delhi | Saket - Delhi | 11000000 | 880 | 3 | 2 | Neha Verma | 9988776655 |
| 76 | 175 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
| 77 | 176 | Palm Residency | Bangalore | Electronic City - Ban | 7200000 | 800 | 2 | 2 | | 9345678901 |
| 78 | 177 | Urban Nest | Hyderabad | Gachibowli - Hydera | 6700000 | | 2 | 2 | Suresh Reddy | 9012345678 |
| 79 | 178 | Silver Oaks | Chennai | Velachery - Chennai | 7900000 | 870 | 3 | 2 | Divya Iyer | 9556677889 |
| 80 | 185 | Skyline Villas | Pune | Baner - Pune | 13500000 | 1200 | 4 | 3 | Manoj Patil | 9887766554 |
| 81 | 180 | Metro Homes | Delhi | Dwarka - Delhi | 6500000 | 700 | 2 | 2 | Raj Singh | |
| 82 | 181 | Green Heights | Mumbai | Andheri East - Mumt | 12500000 | 850 | 2 | 2 | Rahul Mehta | 9876543210 |
| 83 | 182 | Sunrise Apartments | Mumbai | Borivali West - Mumt | 9800000 | 720 | 2 | 2 | Anita Sharma | 9898989898 |
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| 85 | 184 | City Center Homes | Delhi | Saket - Delhi | 11000000 | 880 | 3 | 2 | Neha Verma | 9988776655 |
| 86 | 185 | Elite Towers | Pune | Hinjewadi - Pune | | 950 | 3 | 3 | Amit Joshi | 9090909090 |
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| 92 | 191 | Green Heights | Mumbai | Andheri East - Mumt | 12500000 | 850 | 2 | 2 | Rahul Mehta | 9876543210 |
| 93 | 192 | Sunrise Apartments | Mumbai | Borivali West - Mumt | 9800000 | 720 | 2 | 2 | Anita Sharma | 9898989898 |

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| 94 | 193 | Lake View Residency | Bangalore | Whitefield - Bangalo | 8500000 | 900 | 3 | | 2 | Ramesh Kumar | 9123456789 |
| 95 | 194 | City Center Homes | Delhi | Saket - Delhi | 11000000 | 880 | 3 | | 2 | Neha Verma | 9988776655 |
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| 99 | 198 | Silver Oaks | Chennai | Velachery - Chennai | 7900000 | 870 | 3 | | 2 | Divya Iyer | 9556677889 |
| 100 | 199 | Skyline Villas | Pune | Baner - Pune | 13500000 | 1200 | 4 | | 3 | Manoj Patil | 9887766554 |
| 101 | 200 | Metro Homes | Delhi | Dwarka - Delhi | 6500000 | 700 | 2 | | 2 | Raj Singh | |

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