

```
PS C:\Users\yash\OneDrive\Desktop\vs_code_practice\RnW> python pr_9_pandasalyzer.py
--- Sales Analyzer Initialized ---
```

```
===== Data Analysis & Visualization Program =====
```

1. Load Dataset
2. Explore Data
3. Perform DataFrame Operations (Numpy/Math)
4. Handle Missing Data
5. Generate Descriptive Statistics
6. Data Visualization
7. Save Visualization
8. Exit

```
=====
```

```
Enter your choice: 1
```

```
Enter the path of the dataset (CSV file): c:\Users\yash\OneDrive\Desktop\vs_code_practice\RnW\sales_data.csv
```

```
Dataset loaded successfully!
```

```
===== Data Analysis & Visualization Program =====
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```
=====
```

```
Enter your choice: 2
```

```
--- Explore Data ---
```

1. First 5 rows
2. Last 5 rows
3. Column names
4. Data types
5. Basic info

```
Enter your choice: 1
```

```
   Region  Year  Sales
0  North  2021  45000
1  South  2021  38000
```

```
1 South 2021 38000
2 East 2021 42000
3 West 2021 40000
4 North 2022 52000
```

```
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```
Enter your choice: 2
```

```
--- Explore Data ---
```

1. First 5 rows
2. Last 5 rows
3. Column names
4. Data types
5. Basic info

```
Enter your choice: 2
```

```
   Region  Year  Sales
3  West  2021  40000
4  North 2022  52000
5  South 2022  46000
6  East  2022  48000
7  West  2022  50000
```

```
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Enter your choice: 2

--- Explore Data ---

1. First 5 rows

2. Last 5 rows

3. Column names

4. Data types

5. Basic info

Enter your choice: 3

Index(['Region', 'Year', 'Sales'], dtype='str')

===== Data Analysis & Visualization Program =====

1. Load Dataset

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4. Handle Missing Data

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7. Save Visualization

8. Exit

=====

Enter your choice: 2

--- Explore Data ---

1. First 5 rows

2. Last 5 rows

3. Column names

4. Data types

5. Basic info

Enter your choice: 4

Region str

Year int64

Sales int64

dtype: object

===== Data Analysis & Visualization Program =====

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Enter your choice: 2

--- Explore Data ---

1. First 5 rows
2. Last 5 rows
3. Column names
4. Data types
5. Basic info

Enter your choice: 5

<class 'pandas.DataFrame'>

RangeIndex: 8 entries, 0 to 7

Data columns (total 3 columns):

#	Column	Non-Null Count	Dtype
0	Region	8 non-null	str
1	Year	8 non-null	int64
2	Sales	8 non-null	int64

dtypes: int64(2), str(1)

memory usage: 324.0 bytes

None

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Enter your choice: 3

Original Sales Array (first 5 values): [45000 38000 42000 40000 52000]

Tax Calculation (10% of Sales, first 5 values): [4500. 3800. 4200. 4000. 5200.]

===== Data Analysis & Visualization Program =====

1. Load Dataset

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=====

Enter your choice: 4

--- Handle Missing Data ---

1. Display rows with missing values

2. Fill missing values with mean (numeric only)

3. Drop rows with missing values

Enter your choice: 1

No missing values found.

===== Data Analysis & Visualization Program =====

1. Load Dataset

2. Explore Data

3. Perform DataFrame Operations (Numpy/Math)

4. Handle Missing Data

5. Generate Descriptive Statistics

6. Data Visualization

7. Save Visualization

8. Exit

=====

Enter your choice: 4

--- Handle Missing Data ---

7. Save Visualization

8. Exit

=====

Enter your choice: 4

--- Handle Missing Data ---

1. Display rows with missing values

2. Fill missing values with mean (numeric only)

3. Drop rows with missing values

Enter your choice: 2

Missing values filled with mean.

===== Data Analysis & Visualization Program =====

1. Load Dataset

2. Explore Data

3. Perform DataFrame Operations (Numpy/Math)

4. Handle Missing Data

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=====

Enter your choice: 4

--- Handle Missing Data ---

1. Display rows with missing values

2. Fill missing values with mean (numeric only)

3. Drop rows with missing values

Enter your choice: 3

Rows with missing values dropped.

===== Data Analysis & Visualization Program =====

1. Load Dataset

2. Explore Data

3. Perform DataFrame Operations (Numpy/Math)

4. Handle Missing Data

5. Generate Descriptive Statistics

6. Data Visualization

7. Save Visualization

7. Save Visualization
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=====

Enter your choice: 5

--- Descriptive Statistics ---

	Year	Sales
count	8.000000	8.0000
mean	2021.500000	45125.0000
std	0.534522	4882.5491
min	2021.000000	38000.0000
25%	2021.000000	41500.0000
50%	2021.500000	45500.0000
75%	2022.000000	48500.0000
max	2022.000000	52000.0000

===== Data Analysis & Visualization Program =====

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=====

Enter your choice: 6

--- Data Visualization ---

1. Bar Plot
2. Line Plot
3. Scatter Plot
4. Pie Chart
5. Histogram

Enter your choice: 1

Plot displayed successfully!

===== Data Analysis & Visualization Program =====

1. Load Dataset

===== Data Analysis & Visualization Program =====

1. Load Dataset
2. Explore Data
3. Perform DataFrame Operations (Numpy/Math)
4. Handle Missing Data
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6. Data Visualization
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=====

Enter your choice: 6

--- Data Visualization ---

1. Bar Plot
2. Line Plot
3. Scatter Plot
4. Pie Chart
5. Histogram

Enter your choice: 2

Plot displayed successfully!

===== Data Analysis & Visualization Program =====

1. Load Dataset
2. Explore Data
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4. Handle Missing Data
5. Generate Descriptive Statistics
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8. Exit

=====

Enter your choice: 6

--- Data Visualization ---

1. Bar Plot
2. Line Plot
3. Scatter Plot
4. Pie Chart

```
5. Histogram
Enter your choice: 3
Enter x-axis column: 5
Enter y-axis column: 5
Invalid columns for Scatter Plot.
Plot displayed successfully!

===== Data Analysis & Visualization Program =====
1. Load Dataset
2. Explore Data
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4. Handle Missing Data
5. Generate Descriptive Statistics
6. Data Visualization
7. Save Visualization
8. Exit
=====
Enter your choice: 6

--- Data Visualization ---
1. Bar Plot
2. Line Plot
3. Scatter Plot
4. Pie Chart
5. Histogram
Enter your choice: 4
Enter column for Pie Chart (e.g., Region): 10
Column not found.
Plot displayed successfully!

===== Data Analysis & Visualization Program =====
1. Load Dataset
2. Explore Data
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4. Handle Missing Data
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6. Data Visualization
7. Save Visualization
8. Exit
```

```
8. Exit
=====
Enter your choice: 6

--- Data Visualization ---
1. Bar Plot
2. Line Plot
3. Scatter Plot
4. Pie Chart
5. Histogram
Enter your choice: 5
Enter numeric column for Histogram: 10
Column not found.
Plot displayed successfully!

===== Data Analysis & Visualization Program =====
1. Load Dataset
2. Explore Data
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4. Handle Missing Data
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=====
Enter your choice: 7
Enter file name to save (e.g., plot.png): sales_plot.png
Visualization saved as sales_plot.png

===== Data Analysis & Visualization Program =====
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6. Data Visualization
7. Save Visualization
8. Exit
=====
```

2. Explore Data
3. Perform DataFrame Operations (Numpy/Math)
4. Handle Missing Data
5. Generate Descriptive Statistics
6. Data Visualization
7. Save Visualization
8. Exit

=====

Enter your choice: 8

Exiting the program. Goodbye!

Cleaning up resources... Goodbye!

PS C:\Users\yash\OneDrive\Desktop\vs\_code\_practice\Rnw> |