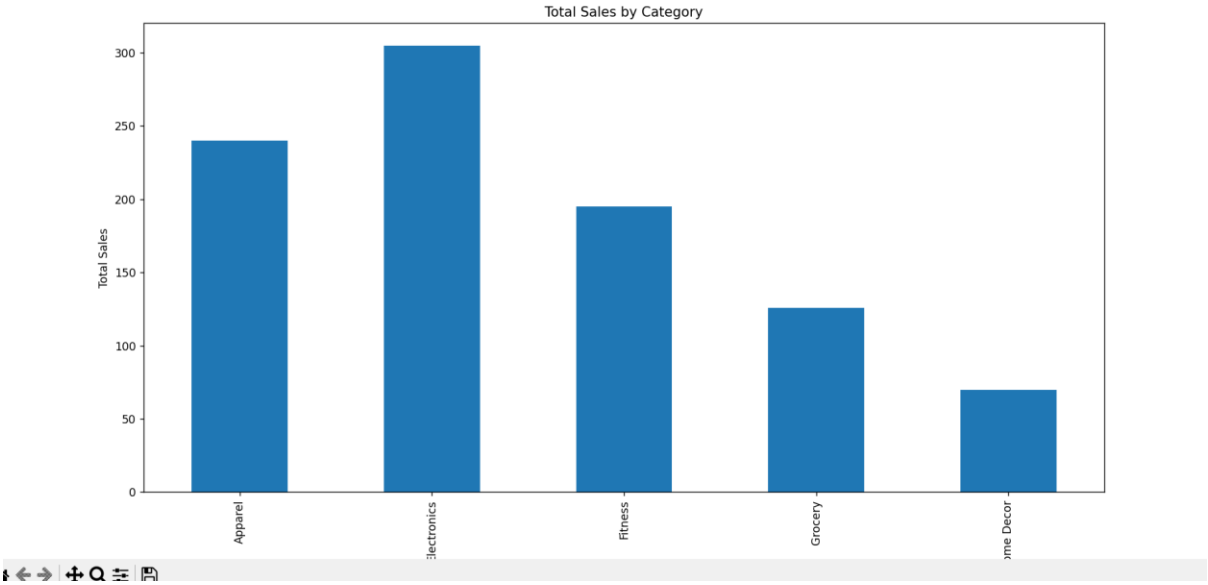
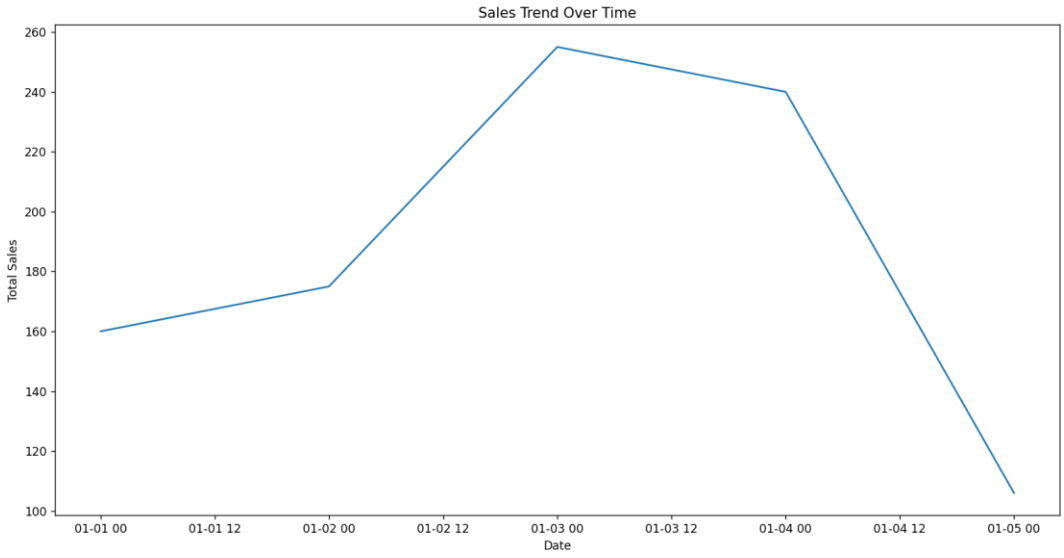
```
PS C:\Users\yash\OneDrive\Desktop\vs_code_practice\RnW> python retail_analyzer.py
Enter CSV file path: c:\Users\yash\OneDrive\Desktop\vs_code_practice\RnW\retail_sales.csv
Data loaded successfully
Data cleaned

Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 1

Metrics
Total Sales: 936.0
Average Sales: 93.6
Maximum Sale: 135.0
Minimum Sale: 36.0
Most Popular Product: USB-C Cable

Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 2

Category Wise Sales
Category
Apparel        240.0
Electronics    305.0
Fitness        195.0
Grocery        126.0
Home Decor      70.0
```

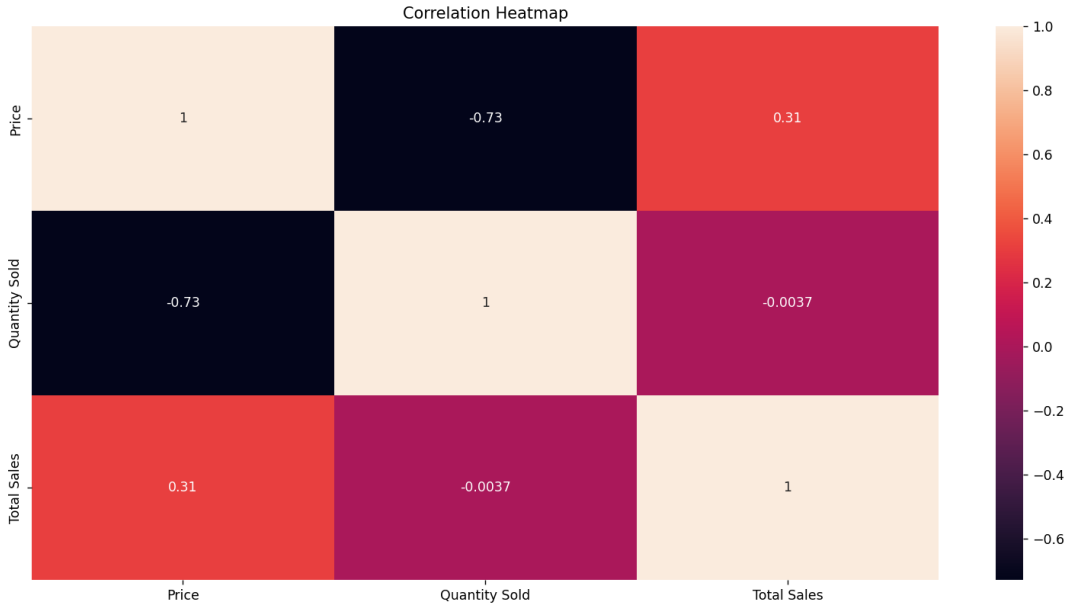
```
Home Decor      70.0
Name: Total Sales, dtype: float64

Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 3

Date Wise Sales
Date
2026-01-01    160.0
2026-01-02    175.0
2026-01-03    255.0
2026-01-04    240.0
2026-01-05    106.0
Name: Total Sales, dtype: float64

Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 4
Enter category or press Enter: Electronics
Start date YYYY-MM-DD or press Enter: 2026-01-01
End date YYYY-MM-DD or press Enter: 2026-01-05
        Date             Product     Category  Price  Quantity Sold  Total Sales
0 2026-01-01       Wireless Mouse  Electronics   25.0              4        100.0
2 2026-01-02  Mechanical Keyboard  Electronics   85.0              1         85.0
6 2026-01-04          USB-C Cable  Electronics   12.0             10        120.0
```

```
Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 5

Summary
                      Date         Product     Category       Price  Quantity Sold  Total Sales
count                   10              10           10   10.000000      10.000000    10.000000
unique                 NaN              10            5         NaN            NaN          NaN
top                    NaN  Wireless Mouse  Electronics         NaN            NaN          NaN
freq                   NaN               1            3         NaN            NaN          NaN
mean   2026-01-03 00:00:00             NaN          NaN   39.450000       4.200000    93.600000
min    2026-01-01 00:00:00             NaN          NaN    4.500000       1.000000    36.000000
25%    2026-01-02 00:00:00             NaN          NaN   18.500000       2.000000    73.750000
50%    2026-01-03 00:00:00             NaN          NaN   27.500000       3.500000    95.000000
75%    2026-01-04 00:00:00             NaN          NaN   42.500000       5.750000   120.000000
max    2026-01-05 00:00:00             NaN          NaN  120.000000      10.000000   135.000000
std                    NaN             NaN          NaN   36.094359       3.047768    31.510845

Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 6
```

```
Menu
1. Calculate Metrics
2. Category Analysis
3. Date Analysis
4. Filter Data
5. Display Summary
6. Visualize Data
7. Exit
Enter choice: 7
Program Ended
PS C:\Users\yash\OneDrive\Desktop\vs_code_practice\RnW>
```


Total Sales by Category
Total Sales
300
250
200
150
100
50
0
Apparel
Fitness
Grocery


Sales Trend Over Time
Total Sales
260
240
220
200
180
160
140
120
100
01-01 00
01-01 12
01-02 00
01-02 12
01-03 00
01-03 12
01-04 00
01-04 12
01-05 00
Date


Correlation Heatmap
Price
Quantity Sold
Total Sales
1
-0.73
0.31
-0.73
1
-0.0037
0.31
-0.0037
1
Price
Quantity Sold
Total Sales
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6