```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

xls = pd.ExcelFile('C:/Users/kk/Downloads/Myntra dataset.xlsx')

df_products = xls.parse("dim_products")
df_customers = xls.parse("dim_customers")
df_orders = xls.parse("fact_orders")

print(df_products.head())
print(df_customers.head())
print(df_orders.head())
```

```
  Product ID Category Sub-category Product Name Brand Name Size  Color
\
0      P0001    Women      Topwear     T-Shirts   Roadster   40  Black

1      P0002    Women      Topwear     T-Shirts   Roadster   40   Blue

2      P0003    Women      Topwear     T-Shirts   Roadster   42  White

3      P0004    Women      Topwear     T-Shirts   Roadster   44  Green

4      P0005    Women      Topwear     T-Shirts       Puma   38  Olive


   Ratings
0        4
1        5
2        3
3        2
4        5
  Customer ID  Customer Age    City        State
0        C001            30  Mumbai  Maharashtra
1        C002            35  Mumbai  Maharashtra
2        C003            36  Mumbai  Maharashtra
3        C004            40    Pune  Maharashtra
4        C005            25    Pune  Maharashtra
  Order ID Customer ID Product ID       Date  Original Price  Discount
%
0   OD0001        C001      P0001 2021-05-20             349
0.30
1   OD0002        C002      P0001 2021-01-19             350
0.30
2   OD0003        C003      P0001 2021-10-28             351
0.30
3   OD0004        C004      P0001 2021-05-20             352
0.25
4   OD0005        C005      P0001 2022-11-08             353
0.25
```

```
df_products.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3071 entries, 0 to 3070
Data columns (total 8 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   Product ID    3071 non-null   object
 1   Category      3071 non-null   object
 2   Sub-category  3071 non-null   object
 3   Product Name  3071 non-null   object
 4   Brand Name    3071 non-null   object
 5   Size          3071 non-null   object
 6   Color         3071 non-null   object
 7   Ratings       3071 non-null   int64 
dtypes: int64(1), object(7)
memory usage: 192.1+ KB
```

```
df_products.isnull().sum()
```

```
Product ID      0
Category        0
Sub-category    0
Product Name    0
Brand Name      0
Size            0
Color           0
Ratings         0
dtype: int64
```

```
df_products.describe()
```

```
           Ratings
count  3071.000000
mean      4.002931
std       0.971411
min       2.000000
25%       3.000000
50%       4.000000
75%       5.000000
max       5.000000
```

```
df_orders['Date'] = pd.to_datetime(df_orders['Date'])

df_orders['Selling Price'] = df_orders['Original Price'] * (1 -
df_orders['Discount%'])

df_orders['Year'] = df_orders['Date'].dt.year
df_orders['Month'] = df_orders['Date'].dt.month
print("Cleaning and processing data...")
```

```
Cleaning and processing data...
```

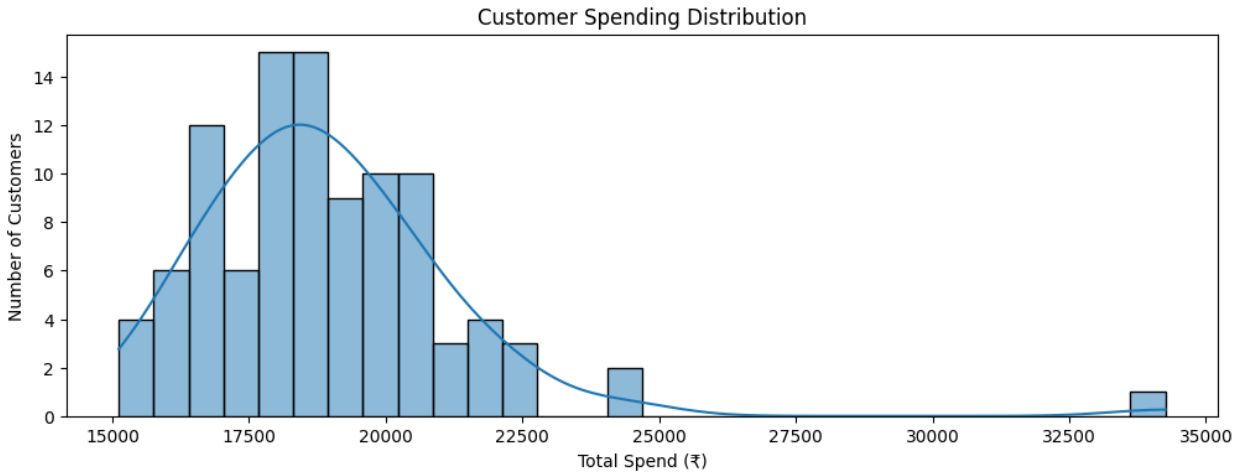
```
print("Analyzing sales trends...")

sales_trends = df_orders.groupby(['Year', 'Month'])['Selling
Price'].sum().reset_index()
plt.figure(figsize=(12,4))  # Reduced size
sns.lineplot(data=sales_trends, x='Month', y='Selling Price',
hue='Year', marker='o')
plt.title("Monthly Sales Trend")
plt.xlabel("Month")
plt.ylabel("Total Sales (₹)")
plt.legend(title="Year", loc="upper right", fontsize=6)
print()
```

```
Analyzing sales trends...
```


```
print("Analyzing customer purchasing behavior...")
customer_spending = df_orders.groupby('Customer ID')['Selling
Price'].sum().reset_index()
plt.figure(figsize=(12, 4))
sns.histplot(customer_spending['Selling Price'], bins=30, kde=True)
plt.title("Customer Spending Distribution")
plt.xlabel("Total Spend (₹)")
plt.ylabel("Number of Customers")
plt.show()
```

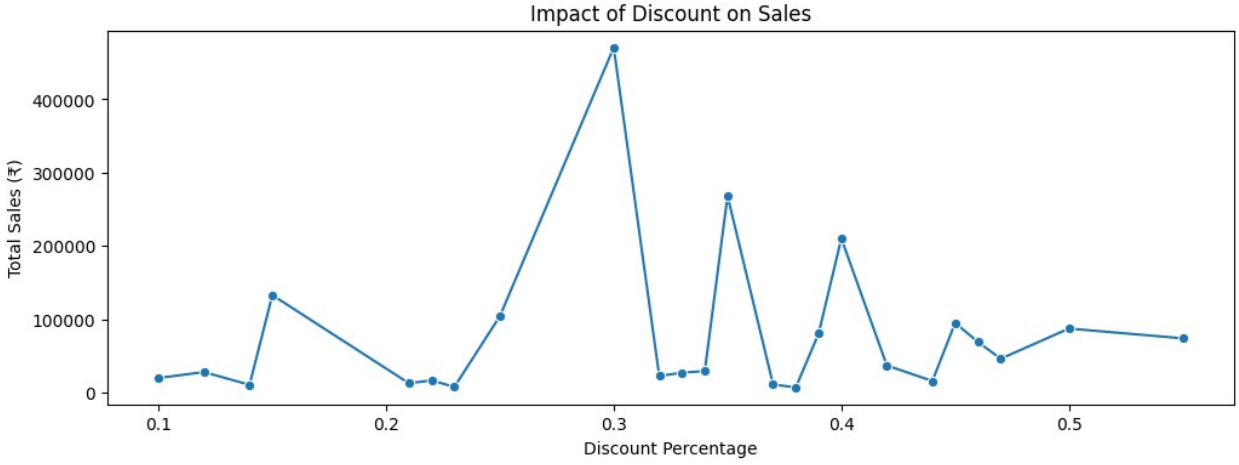
```
Analyzing customer purchasing behavior...
```




```
print("Analyzing impact of discounts on sales...")

discount_analysis = df_orders.groupby('Discount%')['Selling
Price'].sum().reset_index()
plt.figure(figsize=(12, ))
sns.lineplot(data=discount_analysis, x='Discount%', y='Selling Price',
marker='o')
plt.title("Impact of Discount on Sales")
plt.xlabel("Discount Percentage")
plt.ylabel("Total Sales (₹)")
plt.show()
```

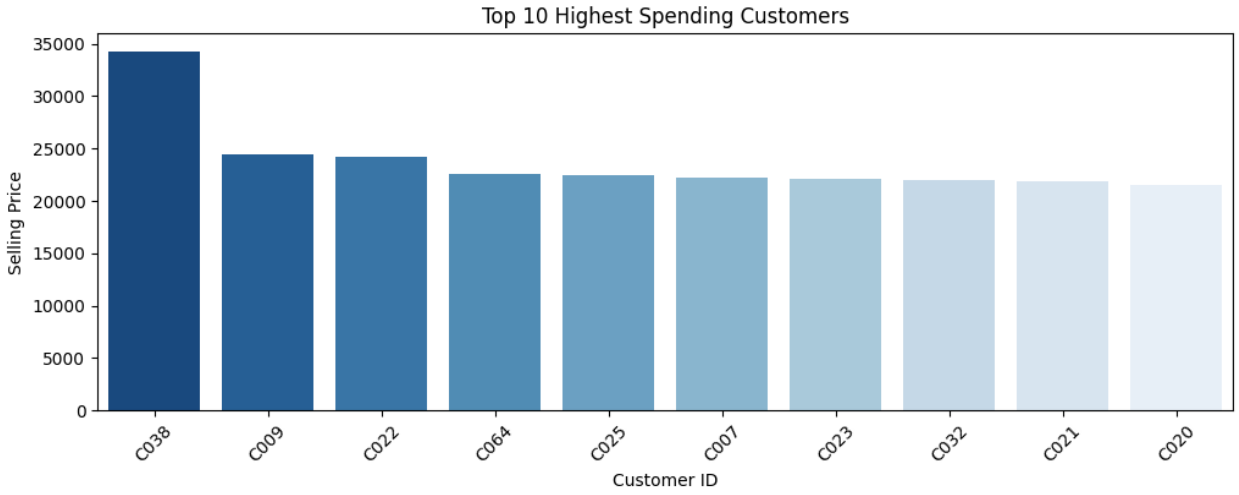
```
Analyzing impact of discounts on sales...
```




```
# Identify top spending customers
top_customers = df_orders.groupby('Customer ID')['Selling
Price'].sum().reset_index()
top_customers = top_customers.sort_values(by='Selling Price',
ascending=False).head(10)
```

```
plt.figure(figsize=(12,4))
sns.barplot(
    data=top_customers,
    x='Customer ID',
    y='Selling Price',
    hue='Customer ID',
    palette="Blues_r",
    legend=False
)
plt.xticks(rotation=45)
plt.title("Top 10 Highest Spending Customers")
```

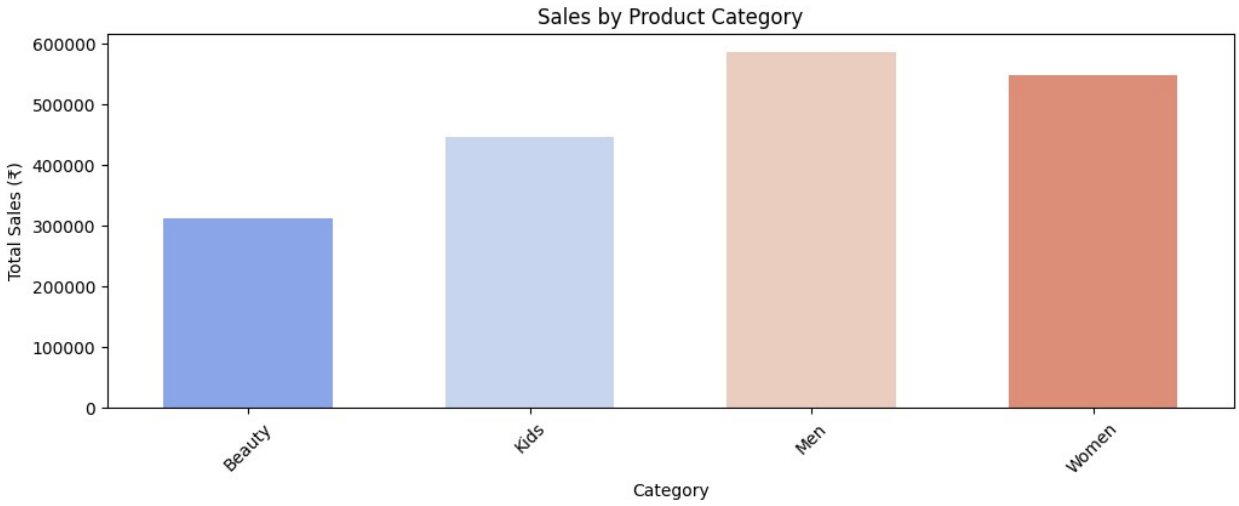
```
Text(0.5, 1.0, 'Top 10 Highest Spending Customers')
```




```
# Merge orders with product data to get category information
category_sales = df_orders.merge(df_products, on='Product ID')
category_sales = category_sales.groupby('Category')['Selling
Price'].sum().reset_index()

plt.figure(figsize=(12, 4))
sns.barplot(
    data=category_sales,
    x='Category',
    y='Selling Price',
    hue='Category',
    palette="coolwarm",
    legend=False,
    width=0.6
)
plt.xticks(rotation=45)
plt.title("Sales by Product Category")
plt.xlabel("Category")
plt.ylabel("Total Sales (₹)")
```

```
plt.show()
```


Sales by Product Category
Total Sales (₹)
600000
500000
400000
300000
200000
100000
0
Beauty
Kids
Men
Women
Category