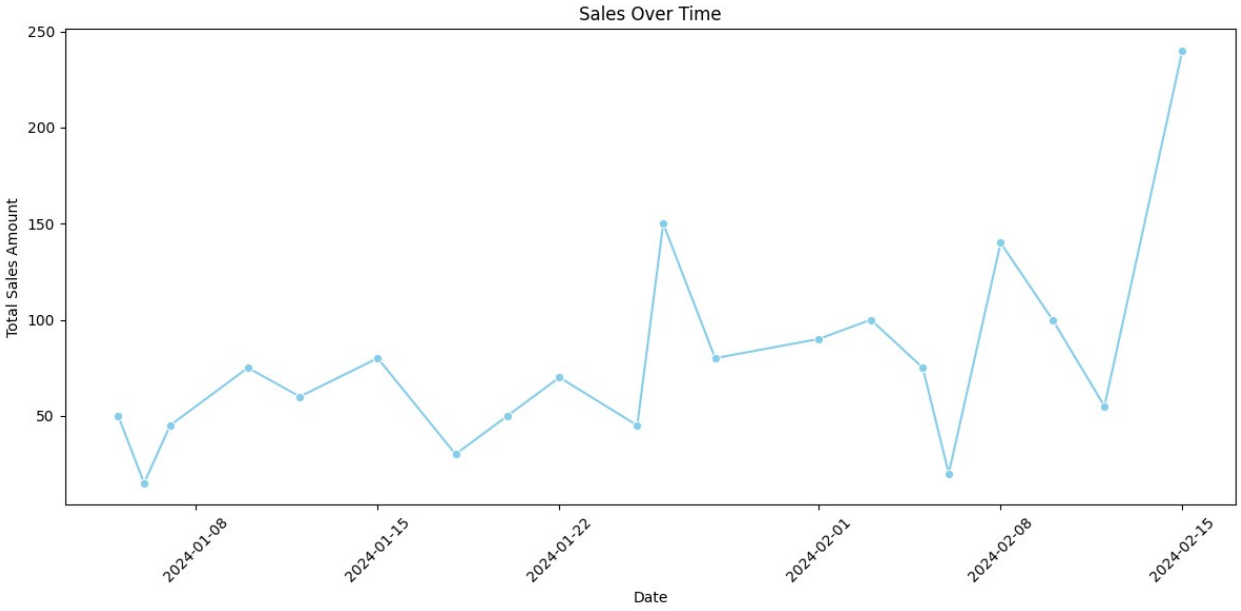
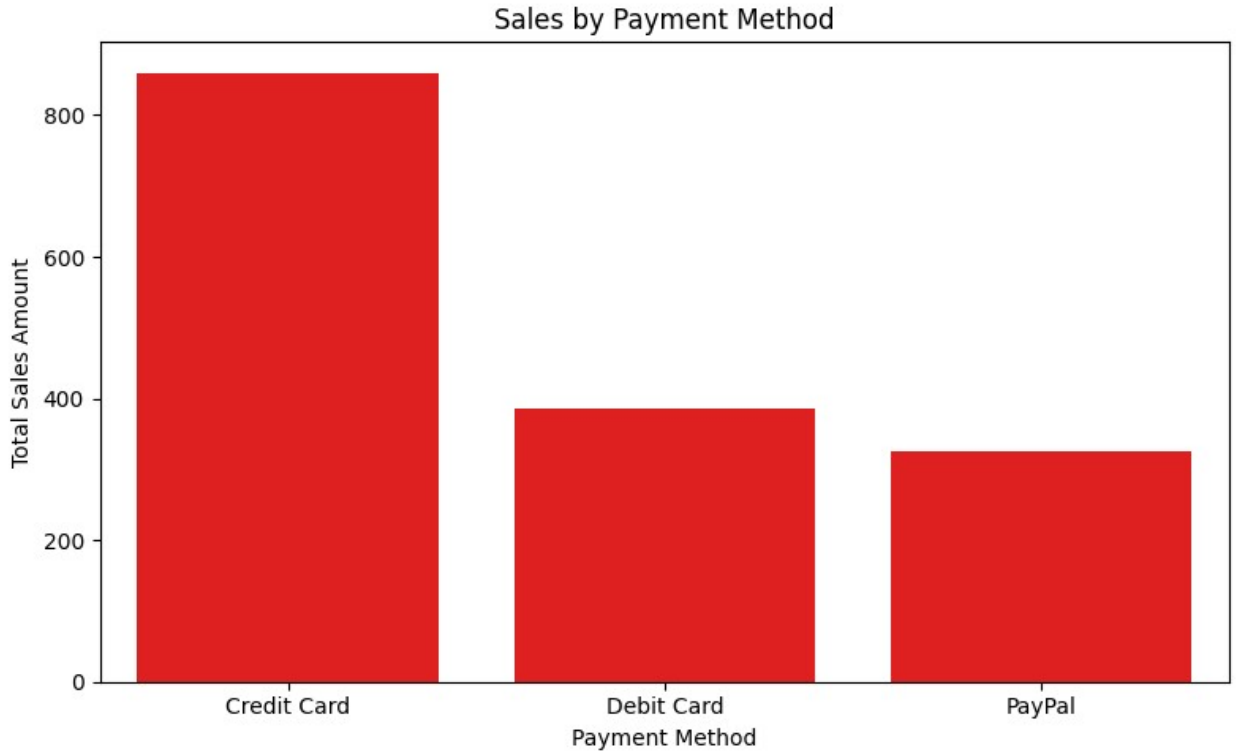
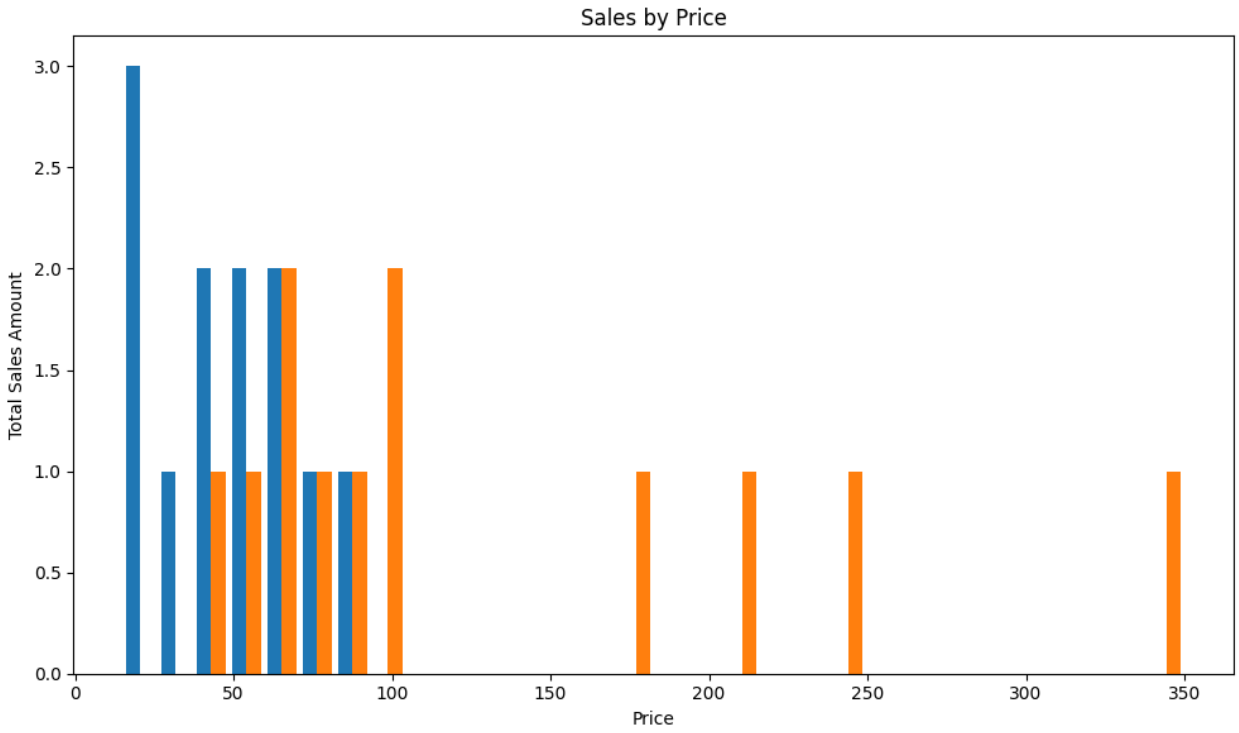
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load the dataset
df = pd.read_excel('sales_data.xlsx')

# Convert 'Date' to datetime
df['Date'] = pd.to_datetime(df['Date'])

# Total Revenue
total_revenue = df['Total Sale Amount'].sum()
print(f'Total Sales Revenue: ${total_revenue:.2f}')

# Average Order Value
average_order_value = df['Total Sale Amount'].mean()
print(f'Average Order Value (AOV): ${average_order_value:.2f}')

# Sales by Product Category
sales_by_category = df.groupby('Product Category')['Total Sale
Amount'].sum().reset_index()
print(sales_by_category)

# Sales Over Time
sales_over_time = df.groupby('Date')['Total Sale
Amount'].sum().reset_index()
plt.figure(figsize=(12, 6))
sns.lineplot(data=sales_over_time, x='Date', y='Total Sale
Amount',marker= 'o',color='skyblue')
plt.title('Sales Over Time')
plt.xlabel('Date')
plt.ylabel('Total Sales Amount')
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()

# Sales by Payment Method
sales_by_payment = df.groupby('Payment Method')['Total Sale
Amount'].sum().reset_index()
plt.figure(figsize=(8, 5))
sns.barplot(data=sales_by_payment, x='Payment Method', y='Total Sale
Amount',color= 'red')
plt.title('Sales by Payment Method')
plt.ylabel('Total Sales Amount')
plt.xlabel('Payment Method')
plt.tight_layout()
plt.show()

# Sales by Unit Price
sales_by_unitprice = df.groupby('Unit Price')['Total Sale
```

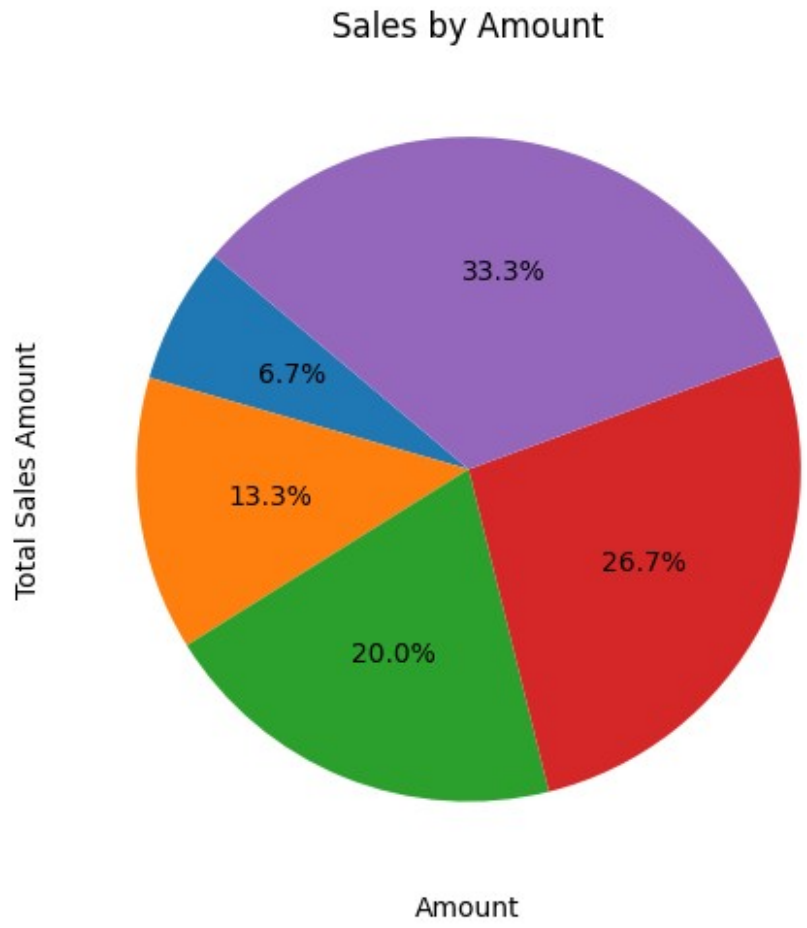
```
Amount'].sum().reset_index()
plt.figure(figsize=(10,6))
# plt.hist(data = sales_by_unitprice, x ='Unit Price', y ='Total Sale
Amount', bins = 50)
plt.hist(sales_by_unitprice, label = 'Total Sale Amount',bins =30)
plt.title('Sales by Price')
plt.xlabel('Price')
plt.ylabel('Total Sales Amount')
# plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
# plt.show()

# Sales by Amount
sales_by_Amount = df.groupby('Quantity Sold')['Total Sale
Amount'].sum().reset_index()
plt.figure(figsize=(8,5))
plt.pie(data=sales_by_Amount, x= 'Quantity Sold',autopct='%1.1f%
%',startangle=140)
plt.title('Sales by Amount')
plt.xlabel('Amount')
plt.ylabel('Total Sales Amount')
# plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
# plt.show()
```

```
Total Sales Revenue: $1570.00
Average Order Value (AOV): $78.50
  Product Category  Total Sale Amount
0      Accessories                390
1         Clothing                580
2            Shoes                600
```


Sales Over Time
Total Sales Amount
250
200
150
100
50
2024-01-08
2024-01-15
2024-01-22
2024-02-01
2024-02-08
2024-02-15
Date


Sales by Payment Method
Total Sales Amount
800
600
400
200
0
Credit Card
Debit Card
PayPal
Payment Method


Sales by Price
Total Sales Amount
Price
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
50
100
150
200
250
300
350


Sales by Amount
Total Sales Amount
33.3%
6.7%
13.3%
26.7%
20.0%
Amount