

## Sales Analysis Code

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

data = { ... } # Dictionary content truncated for brevity
df = pd.DataFrame(data)
sns.set(style="whitegrid")
plt.figure(figsize=(8, 5))
sns.barplot(data=df, x="Product Category", y="Sales (Rs.)", estimator=sum)
plt.title("Total Sales by Product Category")
plt.ylabel("Total Sales (Rs.)")
plt.xticks(rotation=30)
plt.tight_layout()
plt.show()

df['Month'] = pd.Categorical(df['Month'], ordered=True,
                             categories=["Jan 2022", "Feb 2022", ..., "Dec 2025"])
monthly_sales = df.groupby("Month")["Sales (Rs.)"].sum().reset_index()
plt.figure(figsize=(12, 6))
sns.lineplot(data=monthly_sales, x="Month", y="Sales (Rs.)", marker='o')
plt.title("Monthly Sales Trend (2022-2025)")
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()

plt.figure(figsize=(8, 5))
sns.barplot(data=df, x="Region", y="Sales (Rs.)", estimator=sum, palette="pastel")
plt.title("Sales by Region")
plt.tight_layout()
plt.show()

plt.figure(figsize=(8, 5))
sns.boxplot(data=df, x="Payment Method", y="Profit (Rs.)", palette="Set2")
plt.title("Profit Distribution by Payment Method")
plt.xticks(rotation=15)
plt.tight_layout()
plt.show()

plt.figure(figsize=(8, 5))
sns.scatterplot(data=df, x="Customer Age", y="Sales (Rs.)", hue="Gender", palette="Set1")
plt.title("Customer Age vs Sales")
plt.tight_layout()
plt.show()
```