ROHAN DILIP BADGUJAR

E1 502

ASSIGNMENT 5

INPUT:

import matplotlib.pyplot as plt

import seaborn as sns

import pandas as pd

# Create a DataFrame with the provided data

data = {

    'GrainName': ['Ragi', 'Bajra', 'Ragi', 'Bajra', 'Ragi', 'Bajra', 'Oats', 'Sattu', 'Sooji', 'Brown rice', 'Wheat', 'Corn',

                  'Ragi', 'Bajra', 'Oats', 'Sattu', 'Sooji', 'Brown rice', 'Wheat', 'Corn', 'Sooji', 'Brown rice', 'Wheat',

                  'Corn', 'Ragi', 'Brown rice', 'Wheat'],

    'State': ['Maharashtra', 'Panjab', 'Maharashtra', 'Panjab', 'Maharashtra', 'Panjab', 'Hariyana', 'Gujarat', 'Tamil Nadu',

              'Telangana', 'West Bengol', 'UP', 'Maharashtra', 'Panjab', 'Hariyana', 'Gujarat', 'Tamil Nadu', 'Telangana',

              'West Bengol', 'UP', 'Tamil Nadu', 'Telangana', 'West Bengol', 'UP', 'Maharashtra', 'Telangana', 'West Bengol'],

    'City': ['Nagpur', 'Amritsar', 'Nagpur', 'Amritsar', 'Nagpur', 'Amritsar', 'Gurugram', 'Surat', 'Madurai', 'Hyderabad',

             'Asansole', 'Kanpur', 'Nagpur', 'Amritsar', 'Gurugram', 'Surat', 'Madurai', 'Hyderabad', 'Asansole', 'Kanpur',

             'Madurai', 'Hyderabad', 'Asansole', 'Kanpur', 'Nagpur', 'Hyderabad', 'Asansole'],

    'Months': ['JAN', 'FEB', 'JAN', 'FEB', 'JAN', 'FEB', 'MARCH', 'APRIL', 'MAY', 'JUNE', 'JULY', 'AUG', 'JAN', 'FEB', 'MARCH',

               'APRIL', 'MAY', 'JUNE', 'JULY', 'AUG', 'MAY', 'JUNE', 'JULY', 'AUG', 'JAN', 'JUNE', 'JULY'],

    'Year': [2023] \* 27,

    'Sales': [1000000, 1500000, 1000000, 1500000, 1000000, 1500000, 2000000, 2500000, 3000000, 3500000, 4000000, 4500000,

              1000000, 1500000, 2000000, 2500000, 3000000, 3500000, 4000000, 4500000, 3000000, 3500000, 4000000, 4500000,

              1000000, 3500000, 4000000]

}

df = pd.DataFrame(data)

# Create the interactive dashboard

sns.set(style="darkgrid")

# Plot 1: Count of Grains

plt.subplot(2, 3, 1)

sns.countplot(data=df, x='GrainName')

plt.title('Count of Grains')

plt.xlabel('Grain Name')

plt.ylabel('Count')

# Plot 2: Sales by State

plt.subplot(2, 3, 2)

sns.barplot(data=df, x='State', y='Sales')

plt.title('Sales by State')

plt.xlabel('State')

plt.ylabel('Sales')

# Plot 3: Sales by City

plt.subplot(2, 3, 3)

sns.barplot(data=df, x='City', y='Sales')

plt.title('Sales by City')

plt.xlabel('City')

plt.ylabel('Sales')

plt.xticks(rotation=45)

# Plot 4: Sales by Month

plt.subplot(2, 3, 4)

sns.lineplot(data=df, x='Months', y='Sales')

plt.title('Sales by Month')

plt.xlabel('Month')

plt.ylabel('Sales')

# Plot 5: Sales by Year

plt.subplot(2, 3, 5)

sns.lineplot(data=df, x='Year', y='Sales')

plt.title('Sales by Year')

plt.xlabel('Year')

plt.ylabel('Sales')

# Plot 6: Sales by GrainName and Month

plt.subplot(2, 3, 6)

sns.boxplot(data=df, x='GrainName', y='Sales', hue='Months')

plt.title('Sales by Grain and Month')

plt.xlabel('Grain Name')

plt.ylabel('Sales')

plt.legend(title='Month', loc='upper right')

# Adjust layout

plt.tight\_layout()

# Show the dashboard

plt.show()

OUTPUT: