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***Lab Task no 11***

***Q1:***

***Code:***

import pandas as pd

import matplotlib.pyplot as plt

# Step 1: Create DataFrame for fruit prices with UAE cities and new fruits

data = {

'Fruits': ['Orange', 'Grapes', 'Pineapple'],

'Dubai': [80, 40, 60],

'Abu Dhabi': [100, 30, 90],

'Sharjah': [90, 50, 100]

}

df = pd.DataFrame(data)

# Display data overview

print("Data overview:")

print(df.head())

print("\nStatistics:")

print(df.describe())

# Plot bar graph for fruit prices

df.set\_index('Fruits').plot(kind='bar')

plt.title("Fruit Prices in Different Cities of UAE")

plt.ylabel("Price")

plt.show()

***Q2:***

***Code:***

import pandas as pd

import matplotlib.pyplot as plt

# Step 1: Create DataFrame with scores for different subjects

scores\_data = {

'Subject': ['Physics', 'Chemistry', 'Biology', 'Computer Science'],

'Score1': [78, 85, 90, 88],

'Score2': [82, 89, 76, 95],

'Score3': [80, 87, 84, 92]

}

scores\_df = pd.DataFrame(scores\_data)

# Calculate average, max, and min scores for each subject

scores\_df['Average'] = scores\_df[['Score1', 'Score2', 'Score3']].mean(axis=1)

scores\_df['Max'] = scores\_df[['Score1', 'Score2', 'Score3']].max(axis=1)

scores\_df['Min'] = scores\_df[['Score1', 'Score2', 'Score3']].min(axis=1)

# Display Average, Max, and Min scores

print("Average, Max, and Min scores for each subject:")

print(scores\_df[['Subject', 'Average', 'Max', 'Min']])

# Plot histogram for score distribution

scores\_df[['Score1', 'Score2', 'Score3']].plot(kind='hist', bins=10, alpha=0.5)

plt.title("Score Distribution")

plt.xlabel("Scores")

plt.show()

# Plot bar graph for average scores

scores\_df.plot(x='Subject', y='Average', kind='bar', color='skyblue')

plt.title("Average Scores by Subject")

plt.ylabel("Average Score")

plt.show()