import pandas as pd

import matplotlib.pyplot as plt

# Read the dataset from a CSV file

data = pd.read\_csv('L2RogateDailyMet.csv')

# Convert the 'date' column to a datetime object with the correct format

data['date'] = pd.to\_datetime(data['date'], format='%d/%m/%Y')

# Function to create a line plot

def create\_line\_plot(data, x\_col, y\_col, title, x\_label, y\_label):

plt.figure(figsize=(10, 6))

for col in data[y\_col].unique():

subset = data[data[y\_col] == col]

plt.plot(subset[x\_col], subset['mean/sum'], label=col)

plt.title(title)

plt.xlabel(x\_label)

plt.ylabel(y\_label)

plt.xticks(rotation=45) # Rotate x-axis labels for better readability

plt.legend()

plt.grid(True)

plt.show()

# Function to create a scatter plot

def create\_scatter\_plot(data, x\_col, y\_col, title, x\_label, y\_label):

plt.figure(figsize=(10, 6))

plt.scatter(data[x\_col], data[y\_col], c=data['mean/sum'], cmap='viridis')

plt.title(title)

plt.xlabel(x\_label)

plt.ylabel(y\_label)

plt.colorbar(label='Mean/Sum')

plt.grid(True)

plt.show()

# Function to create a histogram

def create\_histogram(data, col, title, x\_label, y\_label):

plt.figure(figsize=(10, 6))

plt.hist(data[col], bins=15, edgecolor='k', alpha=0.7)

plt.title(title)

plt.xlabel(x\_label)

plt.ylabel(y\_label)

plt.grid(True)

plt.show()

# Create line plot

create\_line\_plot(data, 'date', 'met type', 'Air Temperature Over Time', 'Date', 'Air Temperature')

# Create scatter plot

create\_scatter\_plot(data, 'mean/sum', 'max', 'Scatter Plot of Maximum Temperature vs. Mean/Sum', 'Mean/Sum', 'Max Temperature')

# Create histogram

create\_histogram(data, 'mean/sum', 'Histogram of Mean/Sum of Air Temperature', 'Mean/Sum', 'Frequency')