# -\*- coding: utf-8 -\*-

"""

Created on Fri Jan 12 14:13:52 2024

@author: kurva

"""

#import libraries

import matplotlib.pyplot as plt

import pandas as pd

# Define a function to read the data from the Excel file

def read\_data(file\_path):

# Read the data from the Excel file

data = pd.read\_excel(file\_path)

# Return the data

return data

# Define a function to plot the pie chart

def plot\_pie(data):

# Create a figure

plt.figure()

# Define the colors and properties

colors = ['green', 'blue', 'red', 'pink', 'silver', 'steelblue', 'yellow']

explode = (0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05)

# Plot the pie chart with the data

plt.pie(data['SHARES'], labels = data['COUNTRIES'],

autopct = "%1.0f%%", explode = explode, colors = colors)

# Add a title

plt.title("Share of World in Oil Production")

# Return the figure

return plt

# Define a function to display the plot

def display\_plot(plt):

# Display the plot

plt.show()

# Main part of the program

# Call the read\_data function

data = read\_data(

"C:\\Users\\kurva\\Downloads\\APPLIED DATA SCIENCE\\PROJECT 1\\PIE GRAPH\\PIE CHART EXCELSHEET.xlsx")

# Call the plot\_pie function and store the result in a variable

plt = plot\_pie(data)

# Call the display\_plot function and pass the variable

display\_plot(plt)

# -\*- coding: utf-8 -\*-

"""

Created on Fri Jan 12 14:11:11 2024

@author: kurva

"""

#import libraries

import pandas as pd

import matplotlib.pyplot as plt

# Define a function to read the data from the Excel file

def read\_data(file\_path):

# Read the data from the Excel file

data = pd.read\_excel(file\_path)

# Assign the values of the first row of the data as the column names

data.columns = data.iloc[0]

# Select all rows of data from the second row onwards

data = data[1:]

# Rename the axis and reset the index

data.rename\_axis(columns = None).reset\_index(drop = True)

# Return the data

return data

# Define a function to plot the bar chart

def plot\_bar(data):

# Create a figure

plt.figure()

# Plot the bar chart with the data

data.plot(x = 'COUNTRIES', kind = 'bar', stacked = True,

title = 'AREA IN MILLION HECTERS BARLEY IS PRODUCED')

# Label the y-axis and the legend

plt.ylabel("AREA COVERED IN MILLION HECTERS")

plt.legend()

# Add grid lines to the graph

plt.grid(True)

# Return the figure

return plt

# Define a function to display the plot

def display\_plot(plt):

# Display the plot

plt.show()

# Main part of the program

# Call the read\_data function

data = read\_data("C:\\Users\\kurva\\Downloads\\APPLIED DATA SCIENCE\\PROJECT 1\\BAR GRAPH\\Data.xlsx")

# Call the plot\_bar function and store the result in a variable

plt = plot\_bar(data)

# Call the display\_plot function and pass the variable

display\_plot(plt)

# -\*- coding: utf-8 -\*-

"""

Created on Tue Nov 7 22:59:40 2023

@author: kurva

"""

#import libraries

import pandas as pd

import matplotlib.pyplot as plt

# function to read data from a file

def read\_data(file):

# check the file extension and use appropriate function

if file.endswith(".csv"):

data = pd.read\_csv(file)

elif file.endswith(".xlsx"):

data = pd.read\_excel(file)

else:

print("Invalid file format")

return None

return data

# function to prepare the data for plotting

def prepare\_data(data):

# assigns the values of the first row of the data as the column names

data.columns = data.iloc[0]

# selects all rows of data from the second row onwards

data = data[1:]

# resets the index and removes the axis name

data = data.rename\_axis(columns = None).reset\_index(drop = True)

return data

# function to plot the data as a line graph

def plot\_data(data):

# creates figure in matplotlib

plt.figure()

# customizes the properties of the figure, such as color and labels

plt.plot(data["YEARS"], data["RG Sharma"], color = "red", label = "RG Sharma")

plt.plot(data["YEARS"], data["AB de Villiers"],

color = "blue", label = "AB de Villiers")

plt.plot(data["YEARS"], data["MS Dhoni"], color = "green", label = "MS Dhoni")

plt.plot(data["YEARS"], data["V Kohli"], color = "purple", label = "V Kohli")

plt.plot(data["YEARS"], data["SK Raina"], color = "pink", label = "SK Raina")

# adds labels

plt.xlabel("YEARS")

plt.ylabel("RUNS")

# adds title

plt.title("RUNS SCORED BY PLAYERS IN IPL FROM 2008 TO 2023")

# adds legend to plot

plt.legend()

# adds grid lines to graph

plt.grid(True)

# displays the plot

plt.show()

# main function to execute the program

def main():

# reads data from excel file

data = read\_data(

"C:\\Users\\kurva\\Downloads\\APPLIED DATA SCIENCE\\PROJECT 1\\LINE GRAPH\\DATA.xlsx")

# prepares data for plotting

data = prepare\_data(data)

# plots data as a line graph

plot\_data(data)

# calls the main function

if \_\_name\_\_ == "\_\_main\_\_":

main()