import csv

import mysql.connector as my

import matplotlib.pyplot as plt

import tkinter as tk

import os

def main():

        new\_window = tk.Tk()

        new\_window.title("Functions")

        new\_window.geometry("400x400")

        tk.Label(new\_window, text = "\n\t     Welcome to the European Soccer Game Data Analysis Program.\

                 \nWhat do you want to do?\n").pack()

        bnew = tk.Button(new\_window, text = "Create a New File", command = New\_File).pack()

        bread = tk.Button(new\_window, text = "Read an Existing File", command = Read\_File).pack()

        bapp = tk.Button(new\_window, text = "Append in an Existing File", command = Append\_File).pack()

        bsearch = tk.Button(new\_window, text = "Search for a record in a File", command = Search\_File).pack()

        bmod = tk.Button(new\_window, text = "Modify a record in a File", command = Modify\_File).pack()

        bgraph = tk.Button(new\_window, text = "Plot graph for comparison", command = Graph\_File).pack()

        bdel = tk.Button(new\_window, text = "Delete a File", command = Delete\_File).pack()

        bmysql = tk.Button(new\_window, text = "Work with MySQL", command = New\_File).pack()

        bex = tk.Button(new\_window, text = "EXIT", command=new\_window.destroy).pack()

        new\_window.mainloop()

def Content():

   new\_window\_1 = tk.Tk()

   new\_window\_1.title("New Record!")

   new\_window\_1.geometry("400x400")

   def save\_text():

      with open("Soccer.csv", 'a', newline='') as fin:

         w = csv.writer(fin)

         t1 = tb1.get()

         t2 = tb2.get()

         t3 = tb3.get()

         t4 = tb4.get()

         w.writerow([t1, t2, t3, t4])

      b = tk.Label(new\_window\_1, text = "Contents Added! Do you want to enter more?").pack()

      b1 = tk.Button(new\_window\_1, text = "YES", command=input).pack()

      b2 = tk.Button(new\_window\_1, text = "NO", command = new\_window\_1.destroy).pack()

   def input():

      global tb1, tb2, tb3, tb4

      tk.Label(new\_window\_1, text = "Enter the country name of the team").pack()

      tb1 = tk.Entry(new\_window\_1)

      tb1.pack()

      tk.Label(new\_window\_1, text = "Enter the matches won by that team").pack()

      tb2 = tk.Entry(new\_window\_1)

      tb2.pack()

      tk.Label(new\_window\_1, text = "Enter player name").pack()

      tb3 = tk.Entry(new\_window\_1)

      tb3.pack()

      tk.Label(new\_window\_1, text = "Enter goals scored by that player").pack()

      tb4 = tk.Entry(new\_window\_1)

      tb4.pack()

      tk.Button(new\_window\_1, text = "Save to Soccer.csv", command = save\_text).pack(pady = 10)

   input()

def New\_File():

   fin = open("Soccer.csv", 'w', newline='')

   w = csv.writer(fin)

   w.writerow(["Country Name", "Matches Won", "Player Name", "Goals Scored by the Player"])

   fin.close()

   Content()

def Read\_File():

   global data

   data = []

   def open\_file():

      with open("Soccer.csv", 'r', newline = '') as fin:

         r = csv.reader(fin)

         for i in r:

            data.append(i)

   open\_file()

   new\_window\_1 = tk.Tk()

   new\_window\_1.title("File Reader")

   text = tk.Text(new\_window\_1, width=70, height=50)

   text.pack()

   for i in data:

      text.insert("end", ",\t".join(i) + "\n")

def Append\_File():

   Content()

def Search\_File():

  new\_window\_1 = tk.Tk()

  with open("Soccer.csv", 'r', newline = '') as fin:

    r = csv.reader(fin)

    pname = input("Enter player name whose record you wish to search: ")

    for i in r:

       if i[3].lower() == pname.lower():

          print(i+"\nPlease open the Functions window to continue.")

          break

       else:

          continue

    else:

       print("No such record found!\nPlease open the Functions window to continue.")

def Modify\_File():

  new\_window\_1 = tk.Tk()

  with open("Soccer.csv", 'r+', newline = '') as fin:

    r = csv.reader(fin)

    w = csv.writer(fin)

    pname = input("Enter player name whose record you wish to modify: ")

    for i in r:

       pos = fin.tell()

       if i[3].lower() == pname.lower():

          fin.seek(pos)

          '''Content to be modified'''

          print('Record updated.\nPlease open the Functions window to continue.')

          break

       else:

          continue

    else:

       print("No such record found!\nPlease open the Functions window to continue.")

def Delete\_File():

   def delete():

      os.remove("Soccer.csv")

   new\_window\_1 = tk.Tk()

   tk.Label(new\_window\_1, text = "Warning! You're going to delete the file. Do you want to go ahead?\n").pack()

   # lambda is used for multiple commands

   tk.Button(new\_window\_1, text = "YES", command=lambda: [delete(), new\_window\_1.destroy()]).pack()

   tk.Button(new\_window\_1, text = "NO", command = new\_window\_1.destroy).pack()

def Graph\_File():

   data = []

   with open("Soccer.csv", 'r', newline = '') as fin:

      r = csv.reader(fin)

      for i in r:

         data.append(i)

   def t():

      x = []

      y = []

      for i in data:

         if i[0] == "Country Name":

            continue

         else:

            y.append(i[0])

            x.append(i[1])

      plt.barh(y, x, label = "Goals Scored")

      plt.title("Team VS Goals")

      plt.ylabel("Countries")

      plt.xlabel("Goals Scored")

      plt.legend()

      for i,n in enumerate(x):

         plt.text(n, i, str(n))

      plt.show()

   def p():

      x = []

      y = []

      for i in data:

         if i[0] == "Country Name":

            continue

         else:

            y.append(i[2])

            x.append(i[3])

      plt.barh(y, x, label = "Goals Scored")

      plt.title("Player VS Goals")

      plt.ylabel("Players")

      plt.xlabel("Goals Scored")

      plt.legend()

      for i,n in enumerate(x):

         plt.text(n, i, str(n))

      plt.show()

   new\_window\_1 = tk.Tk()

   new\_window\_1.geometry("400x400")

   tk.Label(new\_window\_1, text = "Select one of the following")

   g1 = tk.Button(new\_window\_1, text = "Plot graph between Team and Goals Scored by the Team", command=t).pack(pady = 20)

   p1 = tk.Button(new\_window\_1, text = "Plot graph between Player and Goals Scored by the Team", command=p).pack()

main()