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

"""

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"""

import pandas as pd

from sklearn.linear\_model import LinearRegression

from sklearn.svm import SVC # "Support Vector Classifier"

def reg(file,impacts,outcome,inps):

data = pd.read\_csv(file)

X = data[impacts]

Y = data[outcome]

linear\_regressor = LinearRegression()

linear\_regressor.fit(X, Y)

nx = [inps]

pred = linear\_regressor.predict(nx)

return pred

def classify(file,impacts,outcome,inps):

data = pd.read\_csv(file)

X = data[impacts]

Y = data[outcome]

Y=Y.round()

clf = SVC(kernel='linear')

clf.fit(X,Y)

nx = [inps]

pred = clf.predict(nx)

return pred

def inputu(a):

print("Bot: please enter the following data for me to predict")

area=int(input("area: "))

sexratio = int(input("sexratio: "))

rcases = int(input("rcases: "))

crimes = int(input("crimes: "))

wineshops = int(input("wineshops: "))

menliteracy = int(input("menliteracy: "))

pornaccess = int(input("pornaccess: "))

pyschcases = int(input("pyschcases: "))

dessertedarea = float(input("dessertedarea: "))

ringroads = int(input("ringroads: "))

slumareas = float(input("slumareas: "))

season = int(input("season: "))

timeofvisit = int(input("timeofvisit: "))

if(a=="regression"):

p = reg('AreaSafetyPrediction.csv',["area","sex ratio","r cases","crimes","wine shops","men literacy","porn access","psych cases","desserted area","ring roads","slum areas","season","time of visit"],"outcome",[area,sexratio,rcases,crimes,wineshops,menliteracy,pornaccess,pyschcases,dessertedarea,ringroads,slumareas,season,timeofvisit])

print("Bot : The outcome is: ",float(p[0]))

if((a=="classification")or(a=="classify")):

p = classify('AreaSafetyPrediction.csv',["area","sex ratio","r cases","crimes","wine shops","men literacy","porn access","psych cases","desserted area","ring roads","slum areas","season","time of visit"],"outcome",[area,sexratio,rcases,crimes,wineshops,menliteracy,pornaccess,pyschcases,dessertedarea,ringroads,slumareas,season,timeofvisit])

print("Bot :The outcome is: ",float(p[0]))

print("Bot: Hello.How can I help you?")

msg=input("You: ")

print("Bot: I can help you in predicting if the places 1,2,3,4,5 are safe for you to visit")

print("Bot:Do you want me to the predict data ?")

y=input("You : ")

if("yes" in y):

print("BOT: please enter 'predict' :")

c=input("You:")

if "predict" in c:

print("Bot : I can predict regression and classification for you")

print("Bot :please enter the model that I can help you with in predicting your data : ")

a=input("You: ")

inputu(a)

else:

print("Sorry we don't predict this kind of data ")

else:

print( "Bot: It's ok. Thank you")