import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

from sklearn import linear\_model

dataset = pd.read\_csv('D:\GDM\GDM.csv')

import math

mean\_BMI = dataset.BMI.mean()

mean\_BMI

dataset.BMI.fillna(mean\_BMI, inplace = True)

mean\_HDL = math.floor(dataset.HDL.mean())

mean\_HDL

dataset.HDL.fillna(mean\_HDL, inplace = True)

dataset.Sys\_BP.mean()

mean\_BP = math.floor(dataset.Sys\_BP.mean())

mean\_BP

dataset.Sys\_BP.fillna(mean\_BP, inplace = True)

mean\_OGTT = math.floor(dataset.OGTT.mean())

dataset.OGTT.fillna(mean\_OGTT, inplace = True)

reg = linear\_model.LinearRegression()

reg.fit(dataset[['Age','No\_of\_Pregnancy','Gestation\_in\_previous\_Pregnancy','BMI','HDL','Family\_History','unexplained\_prenetal\_loss','Large\_Child\_or\_Birth\_Default','PCOS','Sys\_BP','Dia\_BP','OGTT','Hemoglobin','Sedentary\_Lifestyle','Prediabetes']],dataset.Result)

dataset.head()

reg.coef\_

reg.intercept\_

result = reg.predict([[26,2,1,28,52,0,0,0,1,110,72,172,14.4,0,0

]])

print(result)

if result < 0.5:

print("No GDM detected")

else:

print("GDM detected")

plt.scatter([1,2,3,4,5,6,7,8,9,10,11,12,13,14,15], reg.coef\_)

xvals = {1:'Age',2:'NOP',3:'Gest',4:'BMI',5:'HDL',6:'Fam',7:'UPL',8:'Def',9:'PCOS',10:'Sys',11:'Dia',12:'OGTT',13:'Hemo',14:'SLyf',15:'PreD'}

plt.xticks(list(xvals.keys()), xvals.values())

plt.figure(figsize=(20, 6))

x\_values = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]

y\_values = reg.coef\_

x\_labels = {

1: 'Age', 2: 'NOP', 3: 'Gest', 4: 'BMI', 5: 'HDL', 6: 'Fam',

7: 'UPL', 8: 'Def', 9: 'PCOS', 10: 'Sys', 11: 'Dia', 12: 'OGTT',

13: 'Hemo', 14: 'SLyf', 15: 'PreD'

}

plt.figure(figsize=(15, 6))

plt.scatter(x\_values, y\_values)

xtick\_positions = list(x\_labels.keys())

xtick\_labels = list(x\_labels.values())

plt.xticks(xtick\_positions, xtick\_labels, rotation=35)

plt.axhline(y=0, color='red', linestyle='--')

plt.xlabel("Factors")

plt.ylabel("Result")

plt.title("Scatter Plot")

plt.show()

