DWML

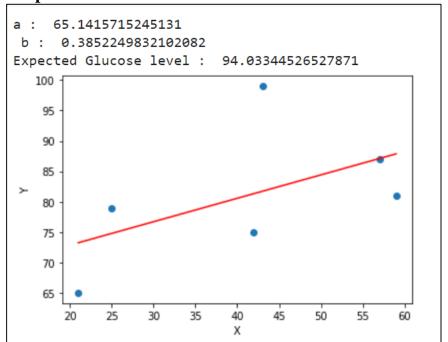
CLASS: TE CMPN A PID:182027 NAME: Rebecca Dias ROLL NO.: 19

Aim: Implement Linear Simple Regression model

Code:

```
import numpy as np
import matplotlib.pyplot as plt
def predict(b0,b1,x):
    return b1+b0*x
def coefficient(x,y):
    xm=np.mean(x)
    ym=np.mean(y)
    X2=[(x[i])*(x[i]) \text{ for } i \text{ in range}(len(x))]
    Y2=[(y[i])*(y[i]) for i in range(len(y))]
    XY=[(y[i])*(x[i]) for i in range(len(y))]
    num1=sum(y)*sum(X2)-sum(x)*sum(XY)
    den=len(x)*sum(X2)-sum(x)**2
    num2=len(x)*sum(XY)-sum(x)*sum(y)
    b1=num1/den
    b0=num2/den
    return b0,b1
# x=list(map(int,input("Enter x : ").split()))
x=[43,21,25,42,57,59]
# y=list(map(int,input("Enter y : ").split()))
y = [99, 65, 79, 75, 87, 81]
b0,b1=coefficient(x,y)
print("a : ",b1,"\n","b : ",b0)
# n=int(input("Enter value : "))
n = 75
print("Expected Glucose level : ",predict(b0,b1,n))
x1=np.linspace(min(x), max(x), 10)
y1=b1+b0*x1
plt.scatter(x, y)
plt.xlabel("X")
plt.ylabel("Y")
plt.plot(x1, y1, '-r')
plt.show()
```

Output:



Sum:

ouiii:	
	Rebecca Dias 19/182027 TE CMPN A M T W T F S S Page No.: YOUVA
	Aim: Tour loss out live and less waited
	Aim: Implement Linear regression needel
	ALCO G. C. S.
5	Strict Agex Shucose (V1) XY X2 Y2
	Abject Age x Chucose (v1) Xy X2 y2 1 43 99 4257 1849 9801
	2 21 65 1365 441 4225
	3 25 79 1975 625 6241
	4 42 76 3150 1764 5625
	5 57 87 4959 18249 7569
	C 59 81 4779 3481 6561
	Total 247 486 20485 11409 4022
	74.0825 PARTE
	n=6
	2x = 247 $2y = 486$
	$22y = 20485$ $22 = 11409$ $2y^2 = 40022$
	$a = (\xi y)(\xi x^2) - (\xi x)(\xi xy)$ $n(\xi x^2) - (\xi x)^2$
	$n (22) - (22)^2$
	$= (486 \times 11409) - (247 \times 20485)$
	G (11409) - (247) ²
	= 65.14
	$b = n(\xi xy) - (\xi x)(\xi y)$
	$n\left(\xi x^2\right) - \left(\xi x\right)^2$
	$n(\xi x^{2}) - (\xi x)^{2}$ $= 6(20485) - (247 \times 186)$ $6(11409 - (247)^{2}$
	6 (1140) - (247) 2
	= 0.38522
CS 9	anned with Came wher

	M T W T F S S Page No.: Obte: Youva
	b= 0.38522
s y losp	Insert value into equation y= a+b2
Agga	14= a+bx, 20 10 0
C 24	y = 65 141 + 0.38522 2
Par	PAWWON 1 12 75. +8 +2 2
1200	1348 PATE 18 PA 2
210022	14 65.141+ 0.88522 x75 A2 loter
	= 94.0325
-	n c
e can h	502 = 04 ± 486 -04 = 04 = 0486 -04 = 04 = 0486
	= 12: when n=75; y=94.0325
	a=1 (£4)(£23) = (£2)(£24)
	n (£2°) - (£2°)-
-	
- (3	= (486x 11409) - (247 x 2048 C (11401) - (247)2
-	P1.63 =
	$(p = n(\xi x y) - (\xi x)(\xi y)$
	n(ex) - (ex)
-	G (20485) - (247 x 186)
-	C (NAO) - (247) 2
4	= 0.38622
<u></u>	nechwith CamScanner /