

```
1 % NAME: ADITYA BARMAN
2 % ROLL: 002320601024
3 % PROBLEM 9. Regression of X on Y (with plot)
4
5
6 clc, clearvars, close all
7
8 x = [56 42 72 36 63 47 55 49 38 42 68 60];
9 y = [147 125 160 118 149 128 150 145 115 140 152 155];
10 n = length(x);
11
12 sumx = 0;
13 sumy = 0;
14
15 for i = 1:n
16     sumx = sumx + x(i);
17     sumy = sumy + y(i);
18 end
19
20 sumxx = sum(x.^ 2);
21 sumyy = sum(y.^ 2);
22 sumxy = sum(x.* y);
23 mean_x = sumx / n;
24 mean_y = sumy / n;
25 Sx = n * (sumxy) - ((sumx) * (sumy));
26 Sy = n * (sumyy) - (sumy) ^ 2;
27 bxy = Sx / Sy;
28 x = mean_x + bxy * (y - mean_y);
29
30 fprintf('Equation of the given regression line of x on y is: \n');
31 fprintf('x-%f=%f(y-%f) \n',mean_x,bxy,mean_y);
32 plot(x, y, 'm-*')
33 title('REGRESSION LINE OF X ON Y')
34
35
36 % ===== OUTPUT =====
37
38 % Equation of the given regression line of x on y is:
39 % x-52.333333=0.705678(y-140.333333)
40
41 % =====
```

