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1 % NAME: ADITYA BARMAN
2 % ROLL: 002320601024
3 % PROBLEM 10. Regression of Y on X (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 * (sumxx) - (sumx) ^ 2;
27 byx = Sx / Sy;
28 y = mean_y + byx * (x-mean_x);
29
30 fprintf('Equation of the given regression line of y on x is: \n');
31 fprintf('y-%f=%f(x-%f) \n',mean_y,byx,mean_x);
32 plot(x,y,'m-*')
33 title('REGRESSION LINE OF Y ON X')
34
35
36 % ===== OUTPUT =====
37
38 % Equation of the given regression line of y on x is:
39 % y-140.333333=1.138005(x-52.333333)
40
41 % =====
```