

```
1 % NAME: ADITYA BARMAN
2 % ROLL: 002320601024
3 % PROBLEM 5. Co-variance without Frequency
4
5
6 clc, clearvars, close all
7
8 n_women = 12;
9 x_ages = [56, 42, 72, 36, 63, 47, 55, 49, 38, 42, 68, 60];
10 y_BP = [147, 125, 160, 118, 149, 128, 150, 145, 115, 140, 152, 155];
11
12 x_y = zeros(1, 12);
13 x_ages_sum = 0;
14 y_BP_sum = 0;
15 xy_sum = 0;
16
17 for i = 1:12
18     x_ages_sum = x_ages_sum + x_ages(i);
19     y_BP_sum = y_BP_sum + y_BP(i);
20     x_y(i) = (x_ages(i) * y_BP(i));
21 end
22
23 for j = 1:12
24     xy_sum = xy_sum + x_y(j);
25 end
26
27 x_mean = x_ages_sum / n_women;
28 y_mean = y_BP_sum / n_women;
29
30 covariance = (xy_sum - n_women * x_mean * y_mean) / n_women;
31
32 fprintf('Covariance between x and y: %.4f\n', covariance);
33
34
35 % ===== OUTPUT =====
36
37 % Covariance between x and y: 147.0556
38
39 % =====
```