```
 1 % NAME: ADITYA BARMAN
 2 % ROLL: 002320601024
 3 % PROBLEM 3. Variance without Frequency
 4
 5
 6 clc, clearvars, close all
 7
 8 weights_pounds = [122, 173, 179, 176, 159, 175, 160, 102, 133
 9 159, 176, 151, 115, 105, 72, 170, 128, 112
10 101, 123, 117, 93, 117, 99, 90, 113, 128
11 129, 134, 178, 105, 107, 147, 157, 155, 95
12 177, 98, 174, 135, 97, 168, 160, 144, 174];
13
14 sum_wts_pds = 0;
15 matrix_length = size(weights_pounds);
16 length_weights_pounds = matrix_length(1) * matrix_length(2);
17
18 for i = 1:matrix_length(1)
19     for j = 1:matrix_length(2)
20         sum_wts_pds = (sum_wts_pds + weights_pounds(i, j));
21     end
22 end
23
24 mean_weight = (sum_wts_pds/length_weights_pounds);
25
26 sum_dist_mean = 0;
27
28 for x = 1:matrix_length(1)
29     for y = 1:matrix_length(2)
30         dist_mean = ((weights_pounds(x, y) - mean_weight)^2);
31         sum_dist_mean = (sum_dist_mean + dist_mean);
32     end
33 end
34
35
36 fprintf('The weights of %d persons in pounds is given below\n\n',↙
length_weights_pounds);
37 disp(weights_pounds)
38
39 variance = (sum_dist_mean/length_weights_pounds);
40 fprintf('Variance of the data is: %.4f\n', variance);
41
42
43 % ======================= OUTPUT ========================
44
45 % The weights of 45 persons in pounds is given below
46 %
```

```
47 %    122   173   179   176   159   175   160   102   133
48 %    159   176   151   115   105    72   170   128   112
49 %    101   123   117    93   117    99    90   113   128
50 %    129   134   178   105   107   147   157   155    95
51 %    177    98   174   135    97   168   160   144   174
52 %
53 % Variance of the data is: 930.7980
54
55 % ========================================================
```