Name: Mubashar Khan **Assignment #:** 3

Summary of Problem Statement

Problem # 3

Using user provided input determine the distance x the weight moves

Known / Input

Weight = [N]
k_1 Spring constant [N/m]
k_2 Spring constant [N/m]
d = distance [m]

Unknown / Output

x if x < d [m]
y if x > d [m]

Assumptions

None

Other Variables

None

Algorithm

I started this problem by asking the user to input values for the weight of the mass, the 2 spring constants and the total distance the spring was pressed
Then using this information, I found the largest value in the vector.
If the vector had only 1 value, it was a straightforward calculation of the displacement using the formula and an if statement to separate the section that is x<d and x>=d
Then I used the largest value I found in my calculations.
Then I created another matrix which held the new values of x based on the matrix the user created and from this matrix, I created the graph. Of course when you run the program you will see the issue that I was having with that.
I used the title, xlabel, ylabel, and axis commands to create the axis and label them properly.

Test Cases

Using Test Case 2: Weight = [100 500 2000 400 5000 950 1500 7000]
k_1 = 1000
k_ 2 = 1000
d = 0.7

Output:The max given weight (7000) will pass through a distance of 2.80 [m].

The graph was also created .