METU Dept. Of Business Administration
BA4318 Spring 2019

Homework Assignment #2 (Due 20.03.2019)

Develop a Python program to do the following:

1. Ask the user to input 2-dimensional (x,y) coordinates and store the input in a list of tuples, i.e. [(1.0,2.5), (3,4), (5,6)]. Note that coordinate values can be decimal values. **Hint**: Ask how many numbers will be given first.
2. Calculate the centre of mass for the given set of coordinates, i.e. ($\bar{x}$,$\bar{y}$) and display it.
3. Calculate the distance between each coordinate ant the center of mass using an Euclidean distance formula, and store the distances in a list. **Note:** You should learn how to calculate a square root using built-in Python math functions. You may also like to use the built-in **zip** function that processes tuples and lists.
4. Using the list of distances find the coordinates which are closest and farthest away from the center of mass, and then display them, along with the distance to center of mass. Hint: When you process the list of distances, if you get an index, the same index may be used in the list of coordinates as well.

Submission will be through Github.

- Create a folder named Homework 2 and upload your solution Python code there.