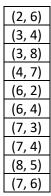
## Assignment 3

1. Consider the following dataset:



- a. Perform K-Means Clustering where K=3
- b. Perform K-Medoid Clustering where K=2,  $C_1=x_2$  and  $C_2=x_8$
- 2. Given 2 objects represented by the tuples (22, 1, 42, 10) and (20, 0, 36, 8):
  - a) Compute the Euclidean distance between two objects
  - b) Compute the Manhattan distance between two objects
  - c) Compute the Minkowski distance between two objects where q=3
- 3. Construct the dendrogram, draw the nested clusters and show all the steps for single link and complete link hierarchical clustering for the distance matrix given below:

P1	(1, 1)
P2	(1.5, 1.5)
Р3	(5, 5)
P4	(3, 4)
P5	(4, 4)
P6	(3, 3.5)

- 4. Explain Hadoop ecosystem with a diagram
- 5. How does MapReduce help in Big Data?