

Assignment 3

1. Consider the following dataset:

(2, 6)
(3, 4)
(3, 8)
(4, 7)
(6, 2)
(6, 4)
(7, 3)
(7, 4)
(8, 5)
(7, 6)

- Perform K-Means Clustering where $K = 3$
 - 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):
- Compute the Euclidean distance between two objects
 - Compute the Manhattan distance between two objects
 - 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)
P3	(5, 5)
P4	(3, 4)
P5	(4, 4)
P6	(3, 3.5)

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