



## K - means clustering [unsupervised Learning]

Given  $N$  points and number  $K$ ; group data into  $K$  clusters

- i) Initialize cluster centers  $\underline{\mu}_j, j=1, \dots, K$
- ii) Assign each data to a cluster that minimizes
 
$$|\underline{\mu}_j - \underline{x}_n|$$
- iii) Recalculate new cluster centers for each cluster.
- iii) Iterate step ii & iii until there is no changes in assignments or centers.