

Step 2: Put any initial partition that classifies the data into  $k$  clusters. Assign each of the remaining  $(N-k)$  training sample to the cluster with the nearest centroid. After each assignment, recompute the centroid of the gaining cluster. You may assign the training samples randomly, or systematically as the following:

1. Take the first  $k$  training sample as single-element clusters
- 2.