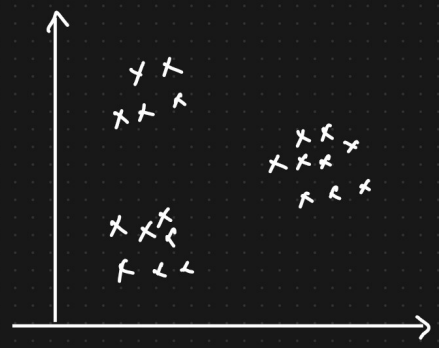
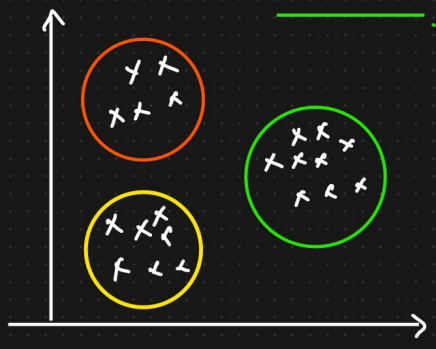
Hieraridal Clustering

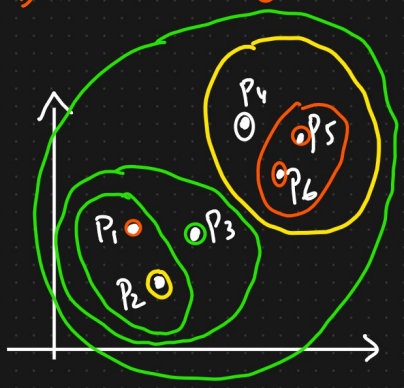


⇒ Hieraridal Clustering



HC

① Agglomerative
② Divisive
⇒ Geometric Intuition.



Steps

① For each point initially will consider it as a separate cluster

② Find the nearest point and create a new cluster

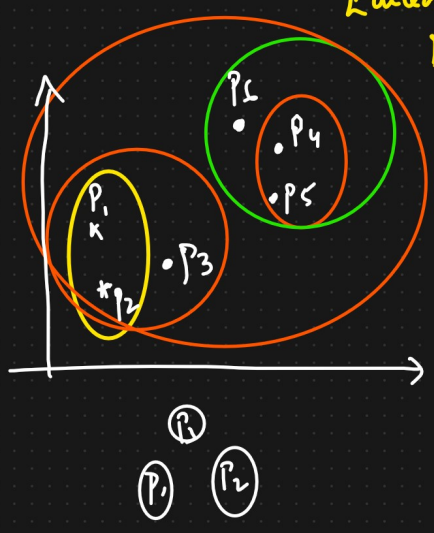
③ Keep on doing the same process until we get a single cluster

Cosine Similarity

No. of clusters

Dendogram

Euclidean Distance



Threshold

K=2

↑↑↑↑

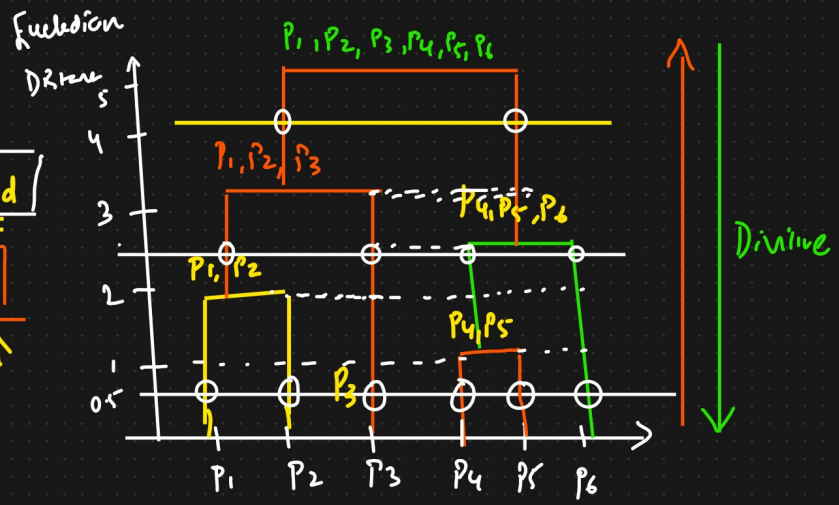
K=4

Dendogram

K=2

K=1

Agglomerative



④ Select the longest vertical line such that no horizontal line passes through it }

Threshold {Euclidean Distance}.

K Means Vs Hierarchical Clustering

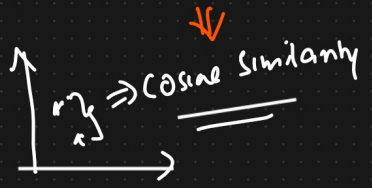
Scalability ✓ And Flexibility ✓

① Dataset size → Huge → K Means

Small → Hierarchical Clustering

② Kmean → Numerical data

Hierarchical clustering → Variety of data. }



③ Centroids → Elbow method → No. of centroids

→ No. of Clusters