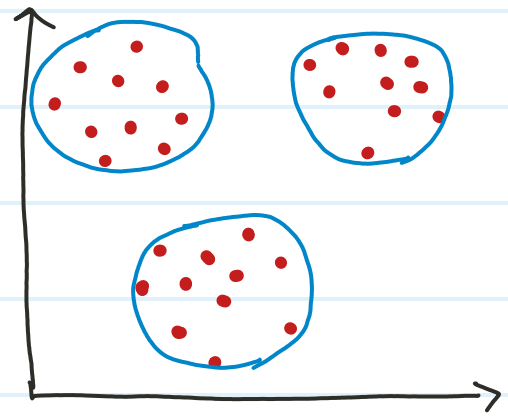
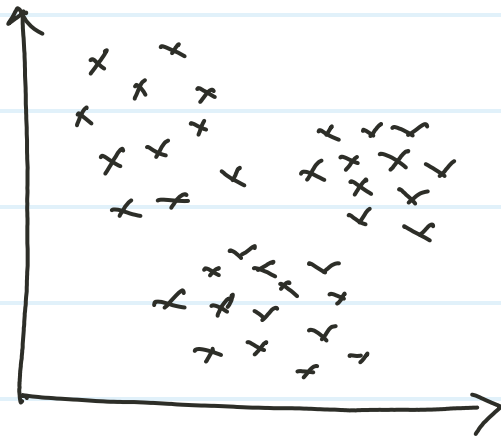


Hierarchical clustering

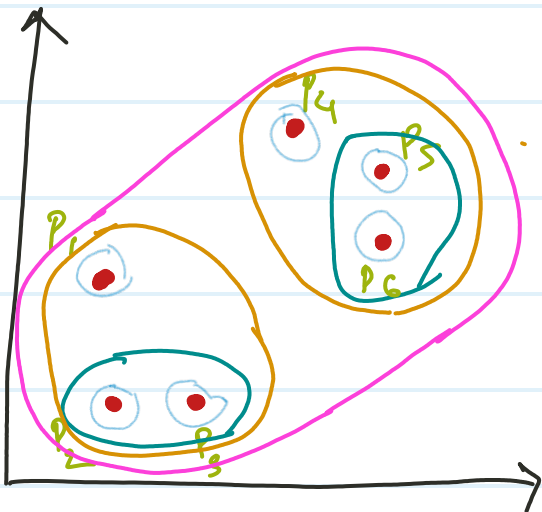


Two types of Geometric Intuition

(1) Agglomerative

(2) Divisive

* Agglomerative



Steps Required

① for each point initially we will consider it as a separate cluster.

② Find the nearest point and create a new cluster.

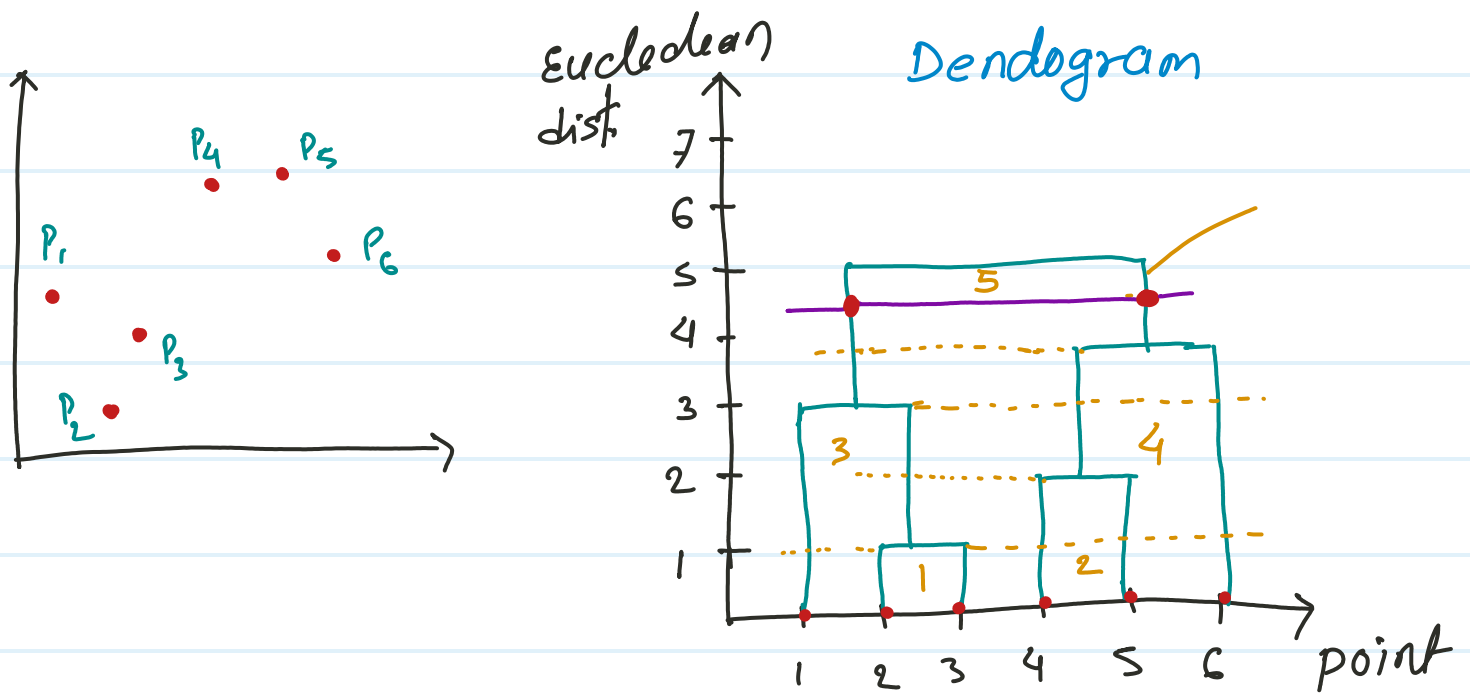
③ keep on doing the same process until we get a single cluster.

→ Down arrow shows agglomerative clustering.
→ Up arrow shows Divisive clustering

How to find how many cluster is there?

① We use Dendrogram method.

and to find distance we use Euclidean distance.



To find cluster we need to select threshold but how

Whichever vertical line is long without intersecting by any horizontal line it would be help to select threshold and with it we can have number of cluster.

$$K = 2$$

K-means and hierarchical

