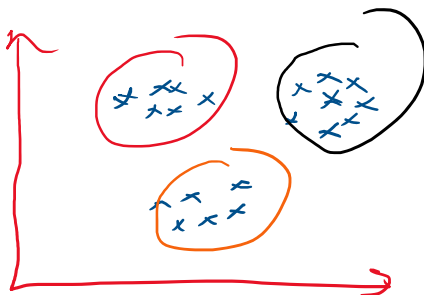
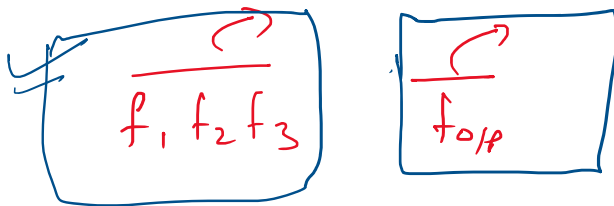


Unsupervised ML

Clustering Algos

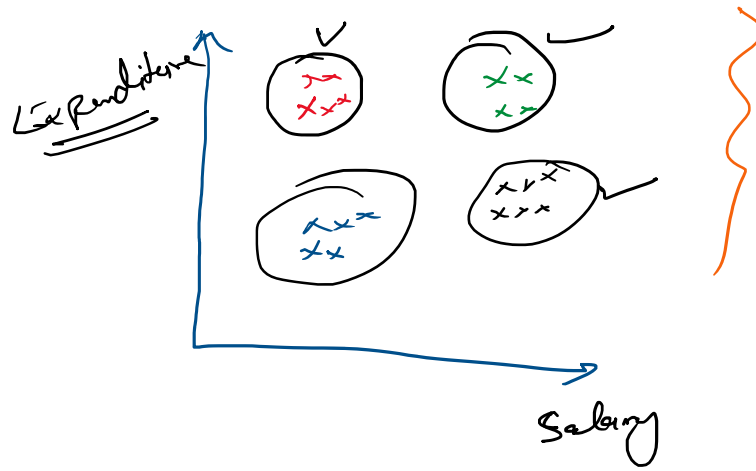
- ① K means Clustering
 - ② DBSCAN
 - ③ PCA
- }

Supervised ML



Uses

→ Customer Segmentation



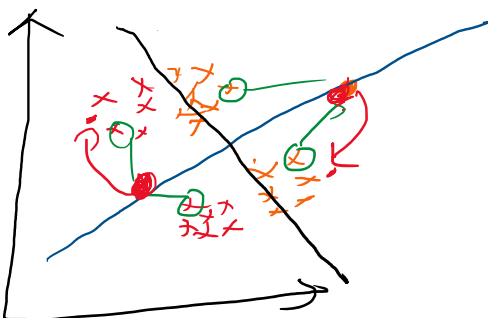
→ Document Clustering

→ Image Segmentation

5 Recommendation Engines

K Means Clustering

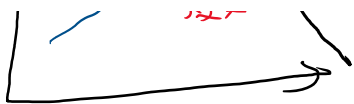
Steps



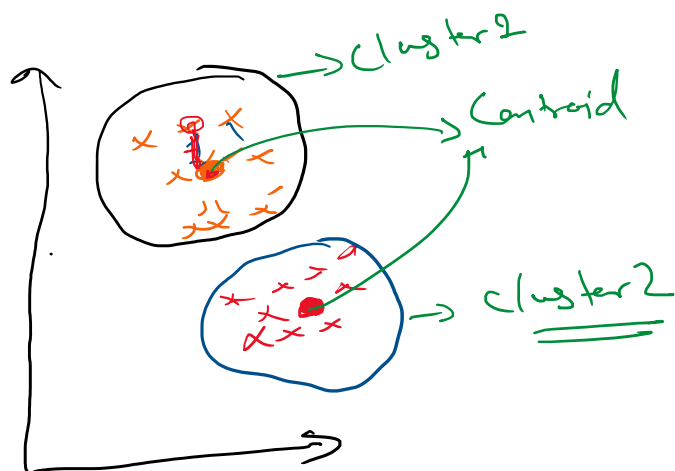
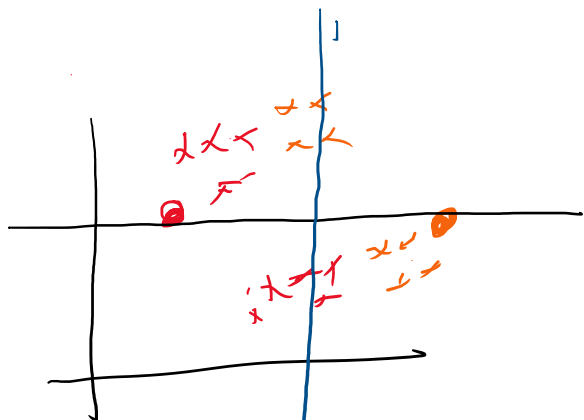
① Initiate some 1c \rightarrow Centroids

② points that are nearest
to Centroid \rightarrow Group

→ $\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$ → 1/4



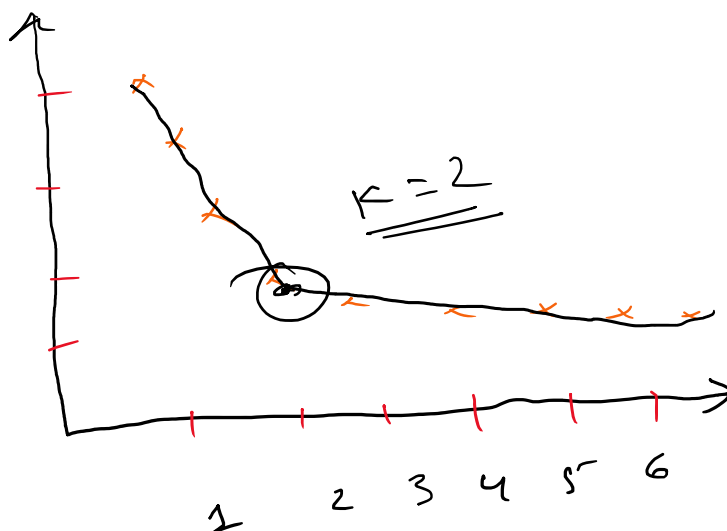
move the Centroid \rightarrow mean



WCSS \Rightarrow Within cluster Sum of Squares

$$WCSS = \sum_{j=1}^K \left(\text{Distance b/w points to the nearest-Centroid} \right)^2$$

WCSS



<https://www.simplilearn.com/tutorials/machine-learning-tutorial/k-means-clustering-algorithm>
<https://www.analyticsvidhya.com/blog/2019/08/comprehensive-guide-k-means-clustering/>