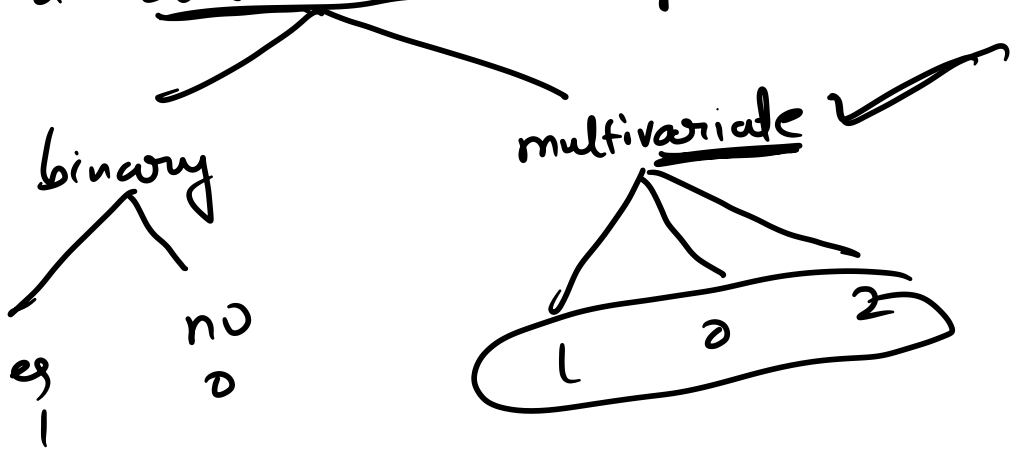
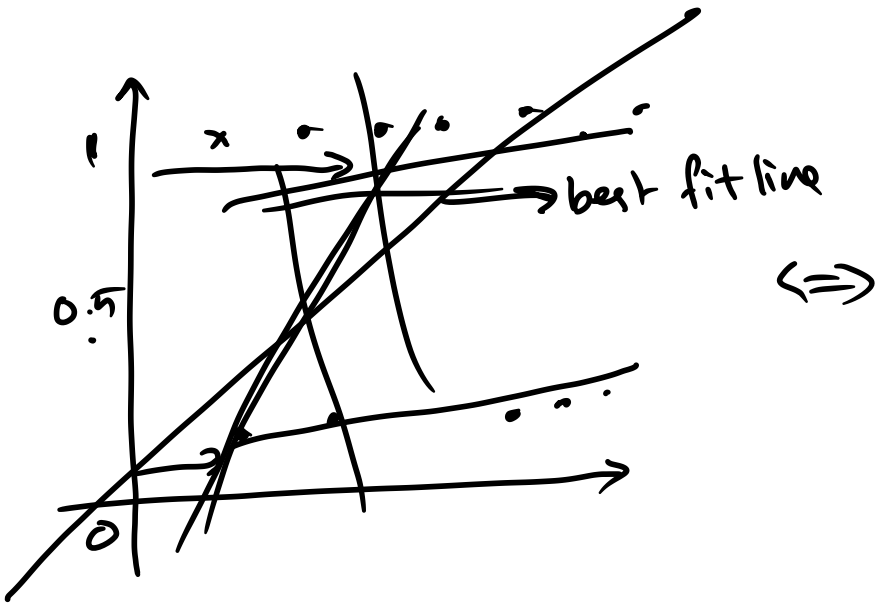
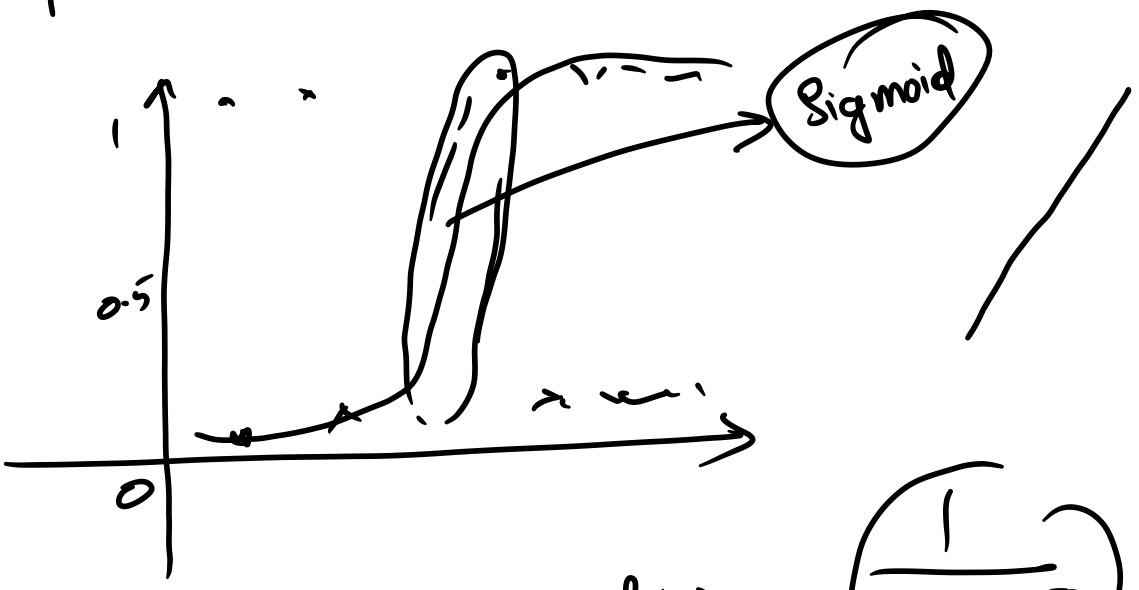
Logistic Regression

↳ it is a classification Algorithm







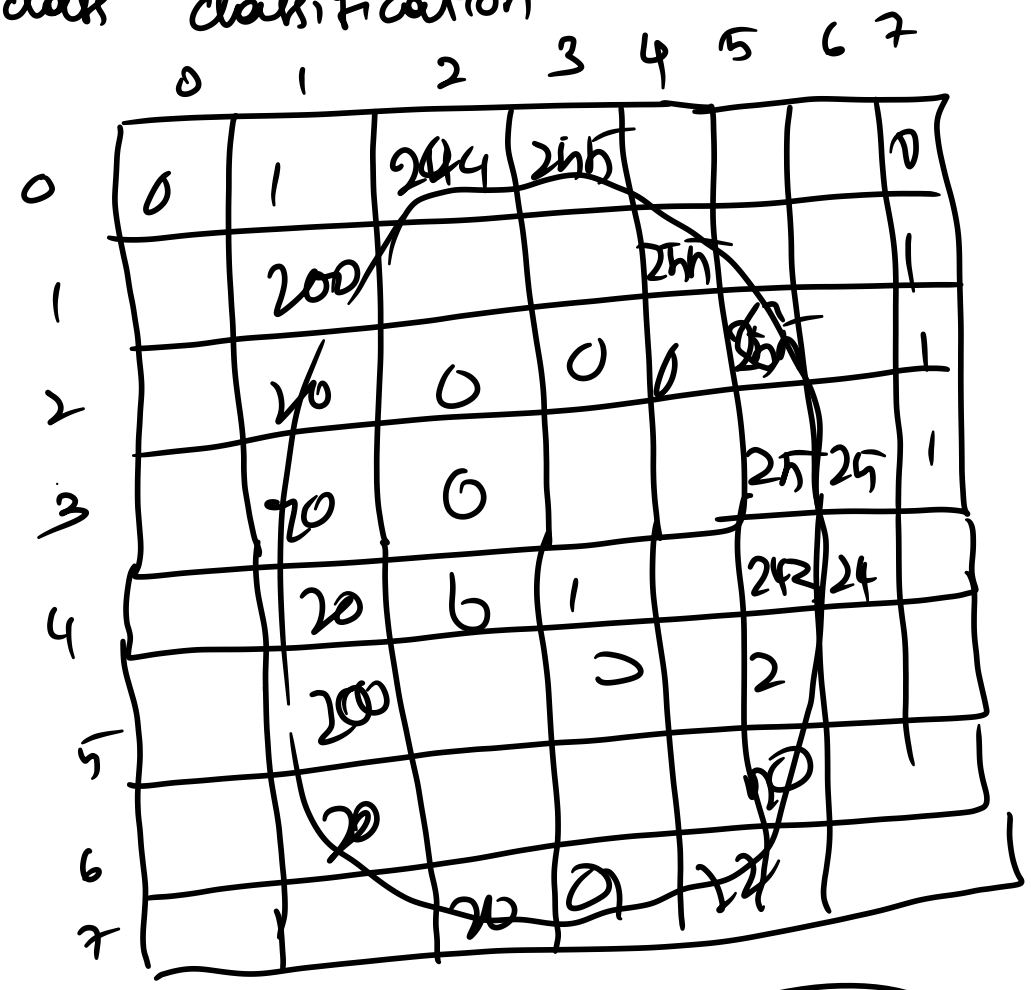
$$\text{Sigmoid}(z) = \frac{1}{1+e^{-z}}$$

$$= \frac{1}{1+e^{-(mx+b)}}$$

0.67 →

$z = 100 \Rightarrow 0 - 1$

multiclass classification



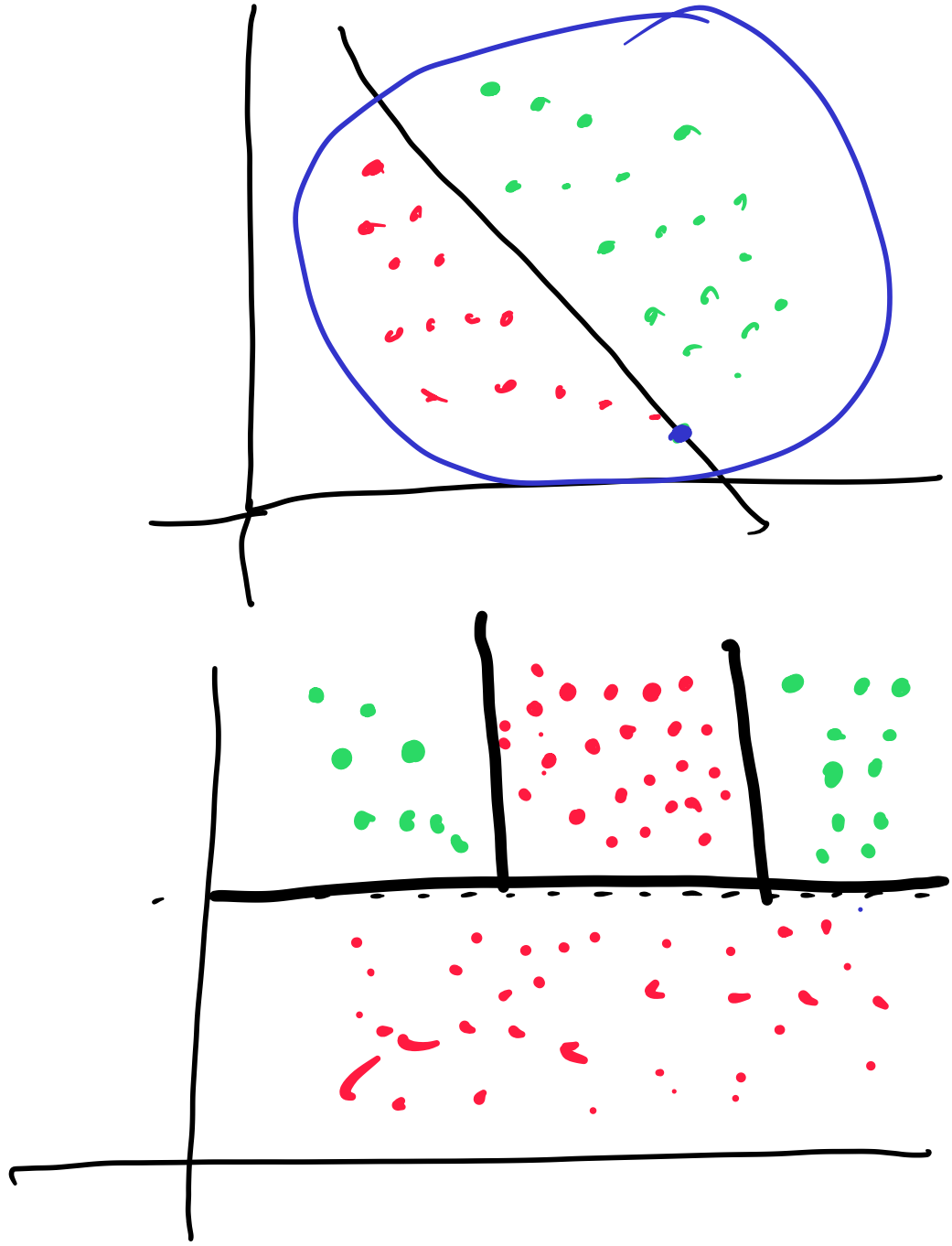
0 to 255

⇒ dataset from sklearn.datasets

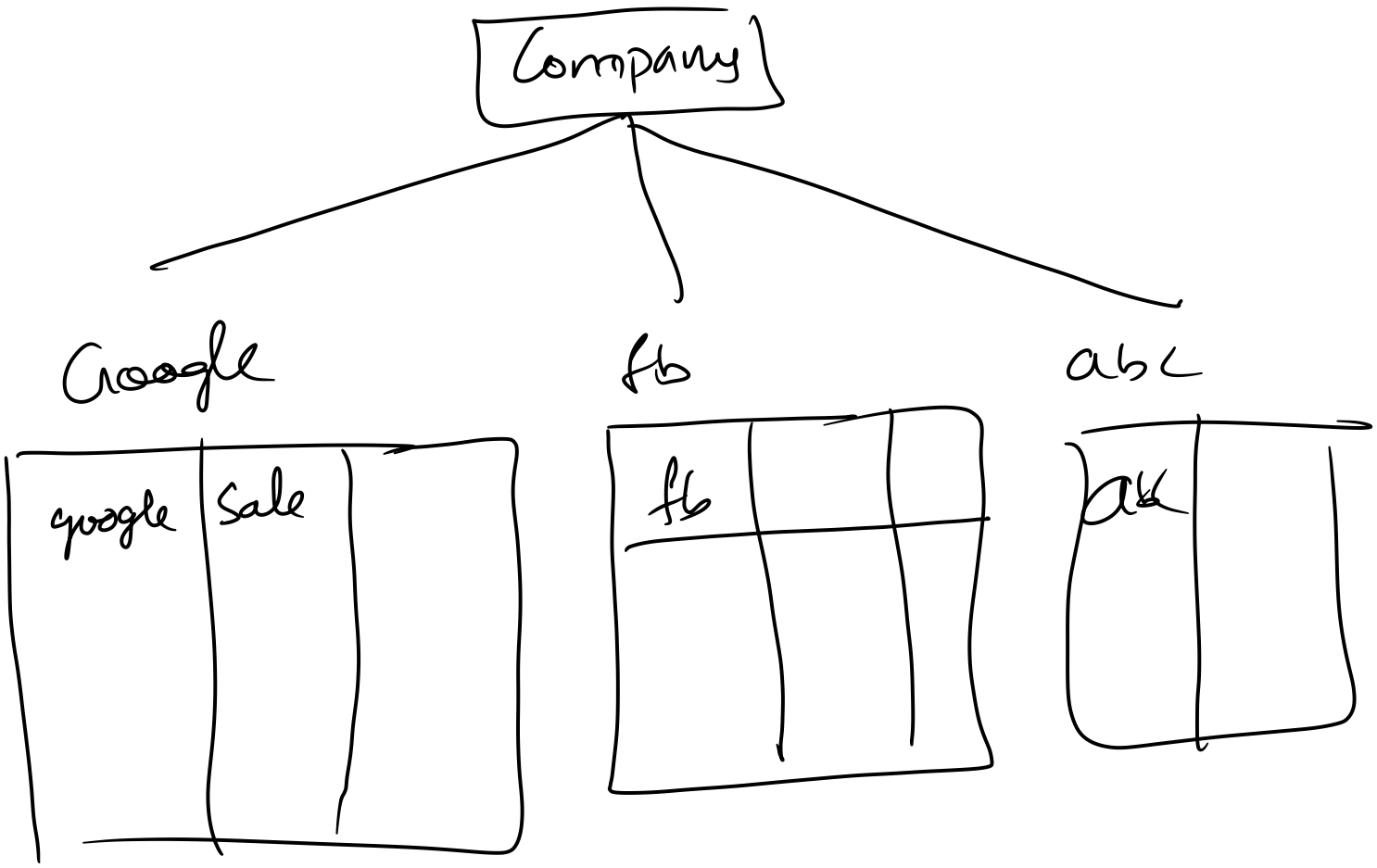
import load_digits

Decision Tree.

it both classification or regression



Company	Job	Degree	Salary_more_1L
google	Sales	bachelors	0
google	business	bachelors	1



Suprivised learning

↳ SVM
↳ Random forest } L1 and L2 Regression
↳ Navis Bayes

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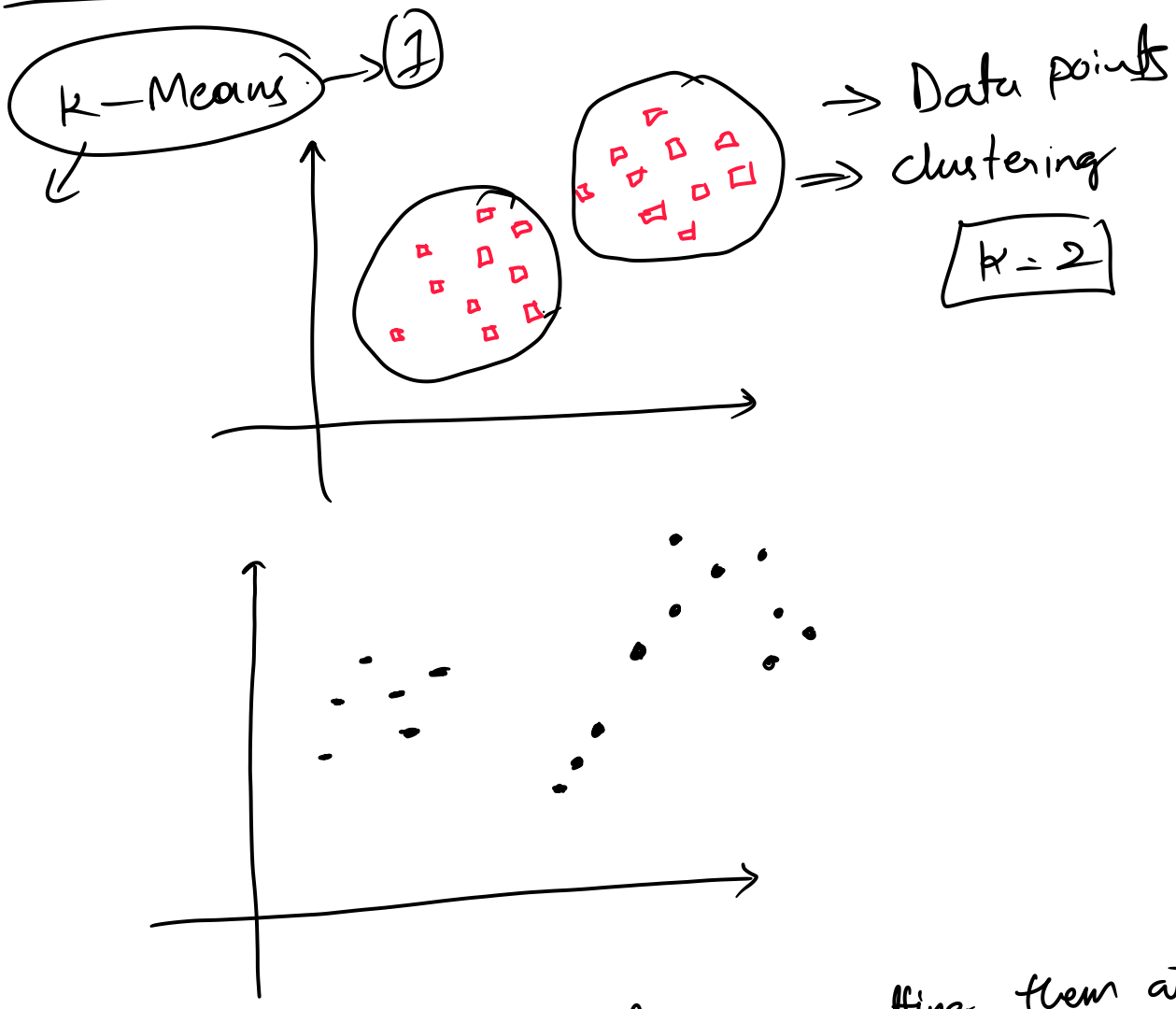
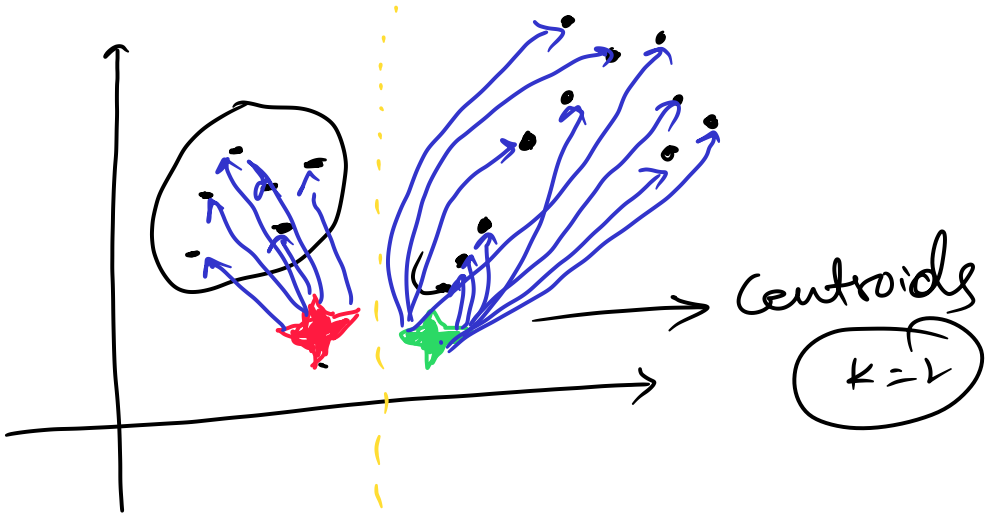
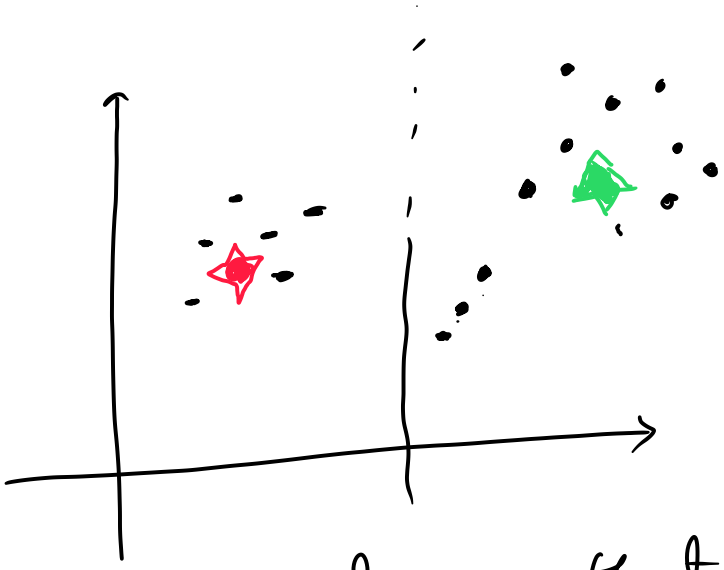
unsupervised Learning Algorithms



1. start with k centroids by putting them at random place Here K=2

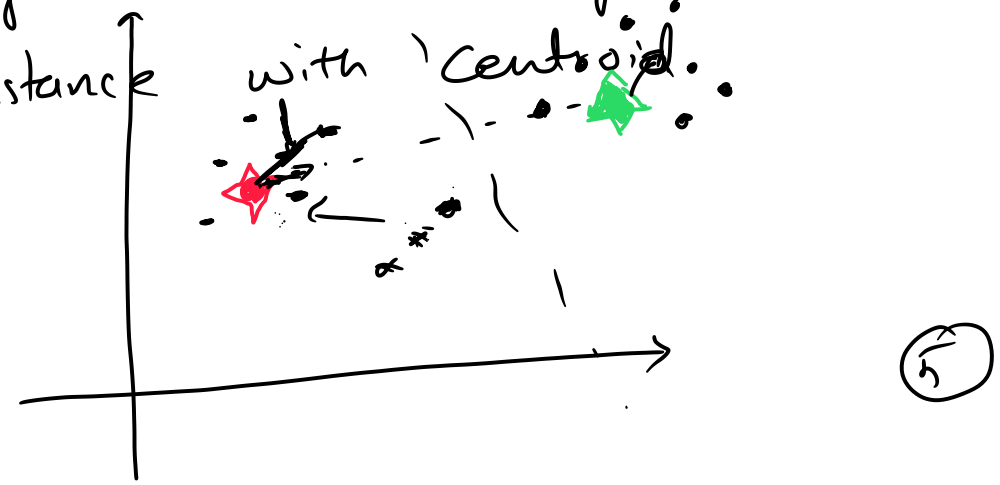


2. Compute distance of every point from centroid and cluster them accordingly



3. Adjust centroids so that they become center of gravity for given cluster

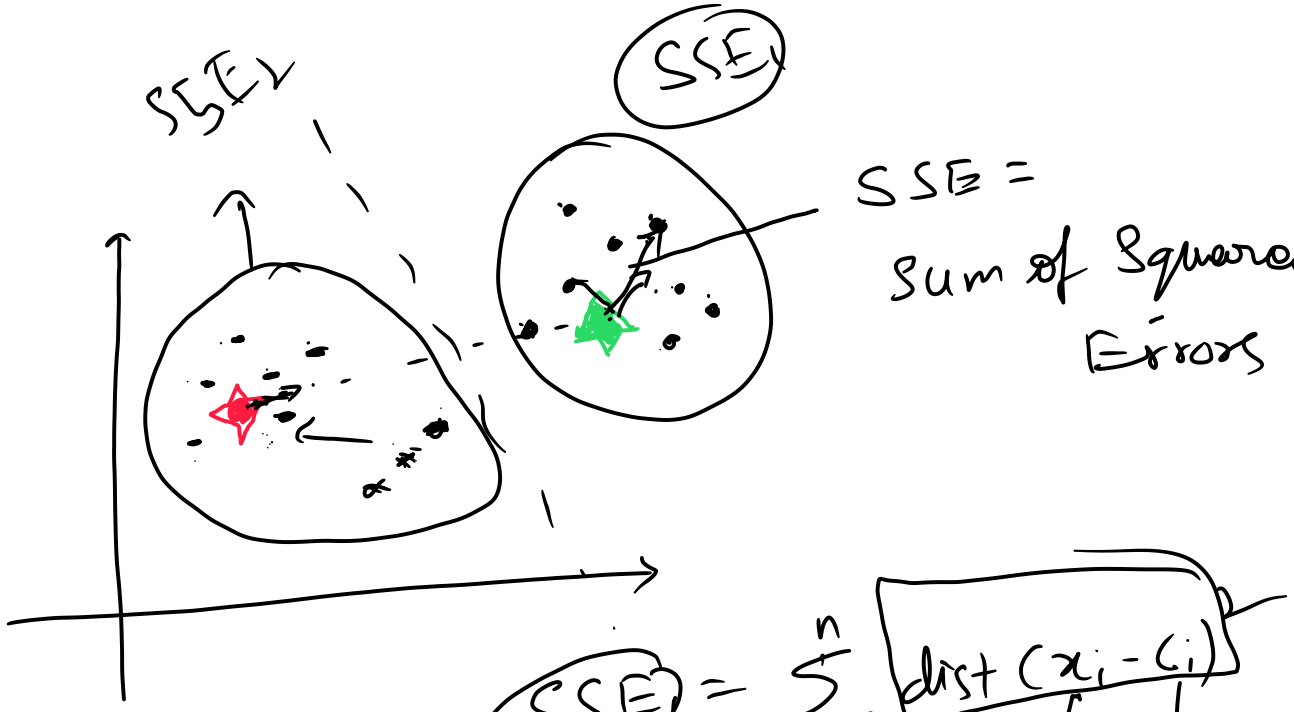
4. Again re-cluster every point based on their distance with centroid.



SSE

5

6. Recompute clusters and repeat this till data points stop changing cluster

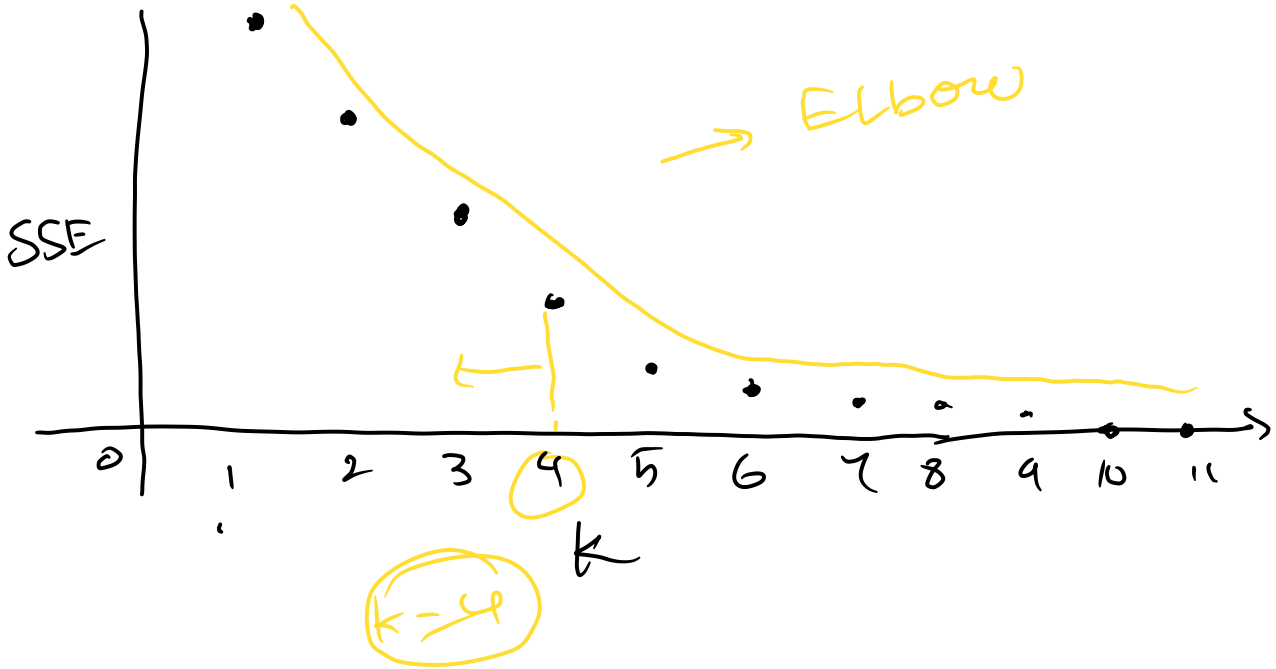


SSE =

$$SSE_1 = \sum_{i=0}^{n} dist(x_i - C_1)^2$$

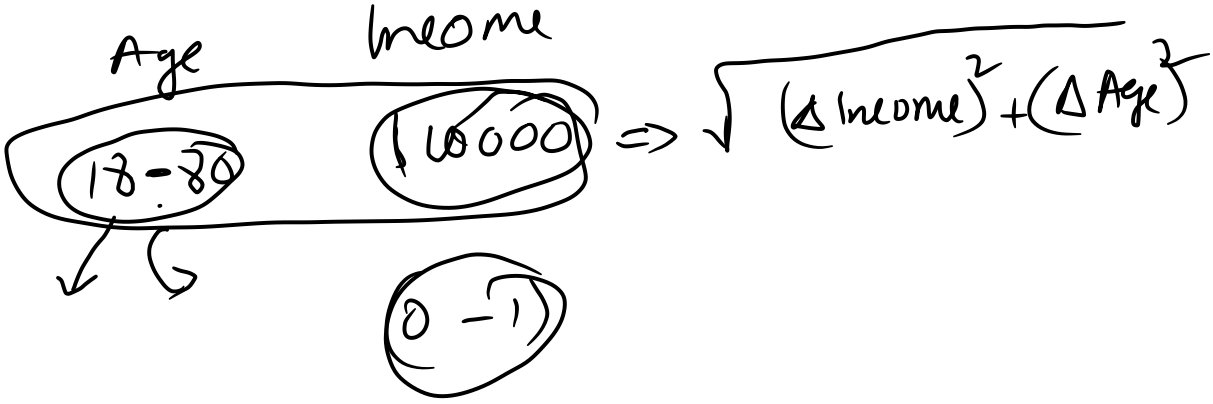
$$SSE_2 = \sum_{i=0}^{n} dist(x_i - C_2)^2$$

$$SSE = SSE_1 + SSE_2 + \cdots\cdots + SSE_k$$



MinMax Scaler

① Equalizing feature influence



Age	Income
55	$50000
44	$45000
25	$30000

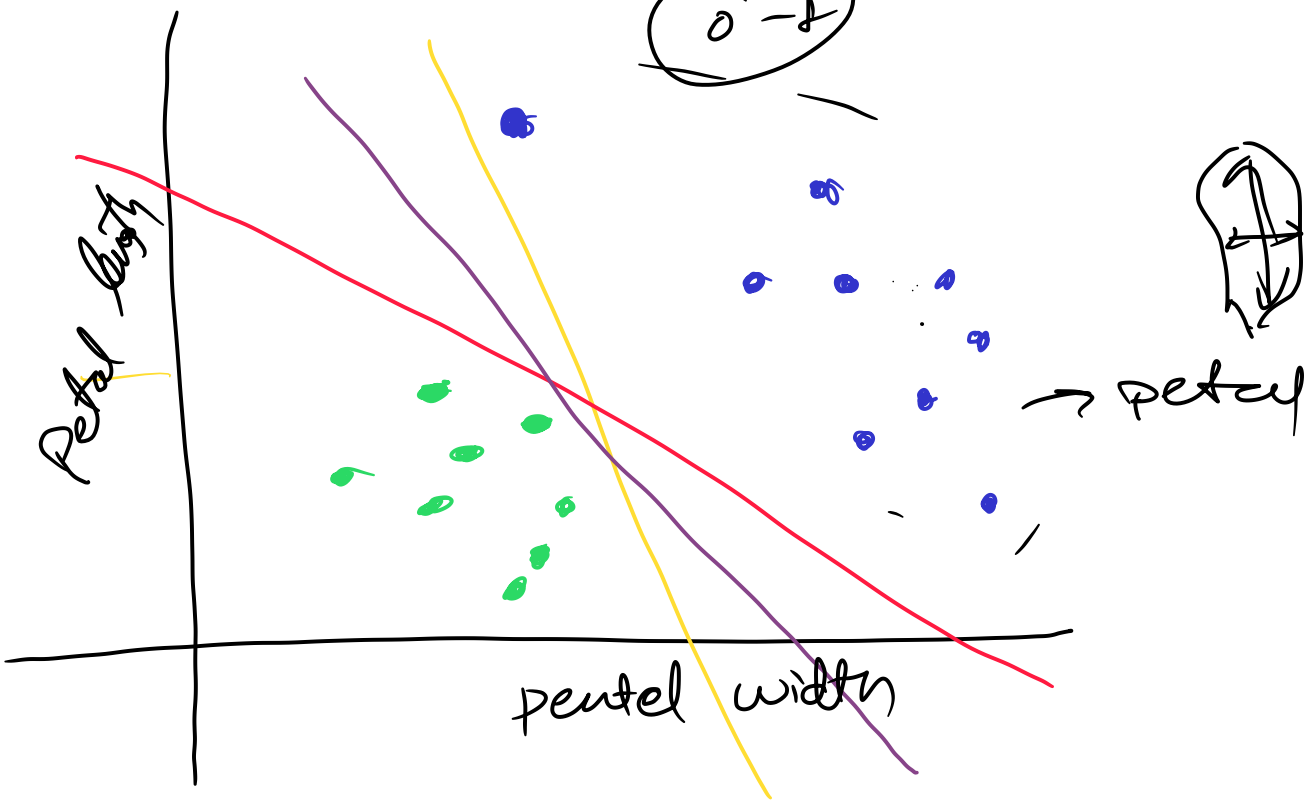
0.85

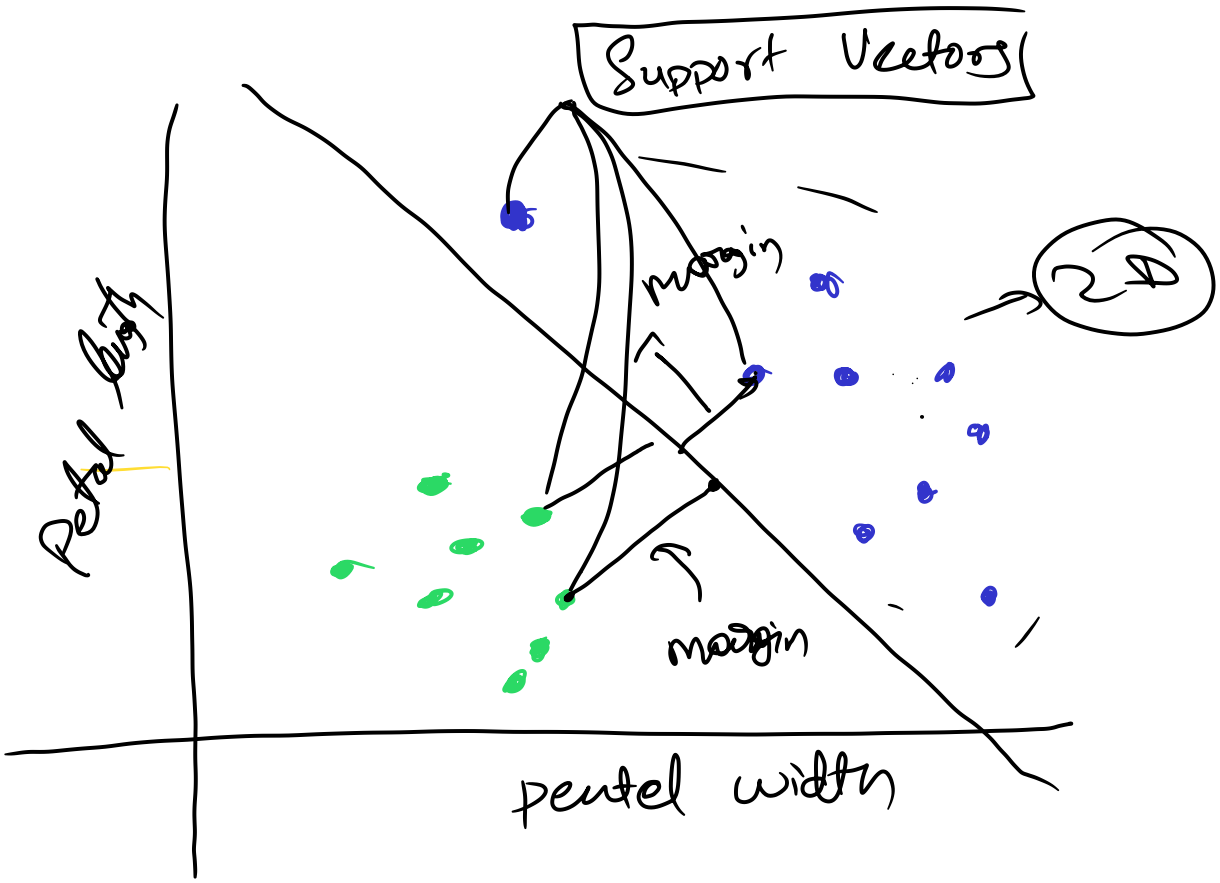
0.85000

55 → 1

50000 → 1

0 → 1




Support Vectors
margin
2D
Petal length
margin
pental width