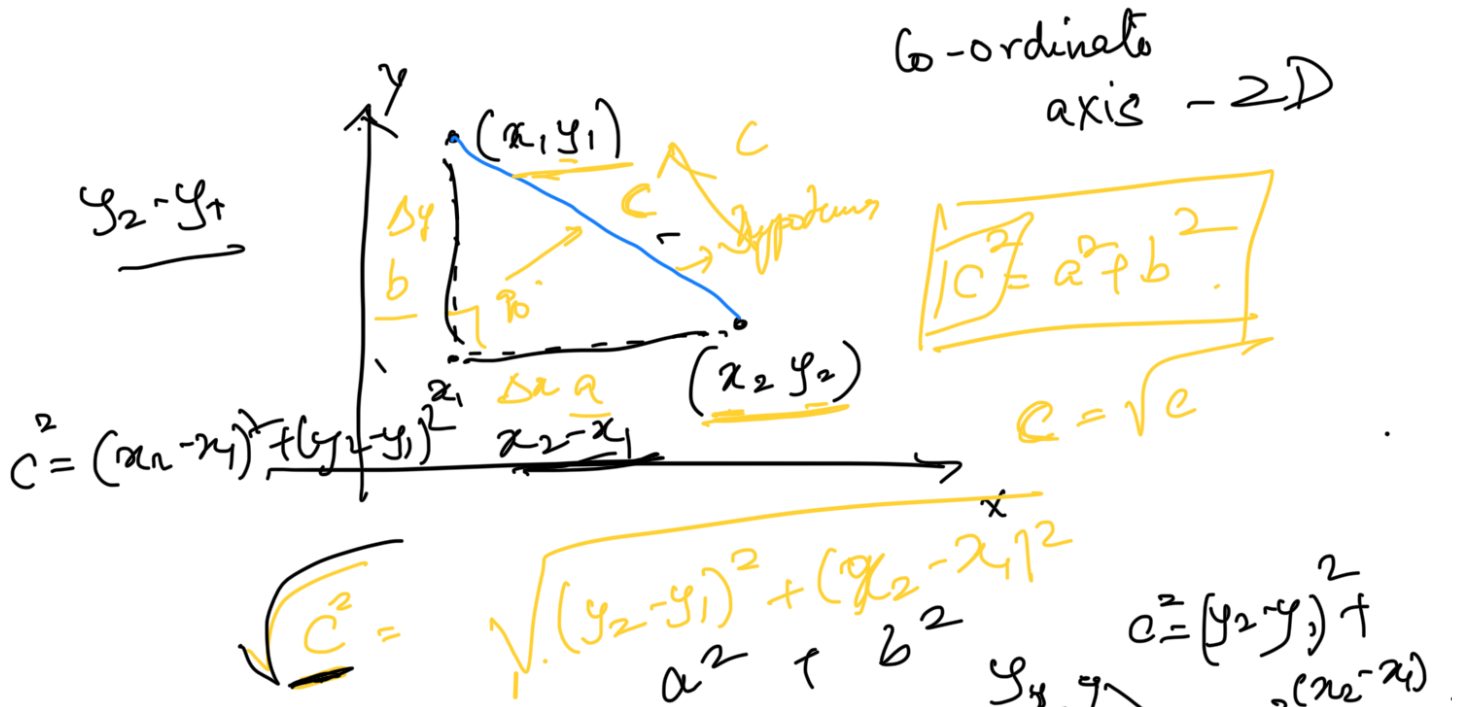


KNN

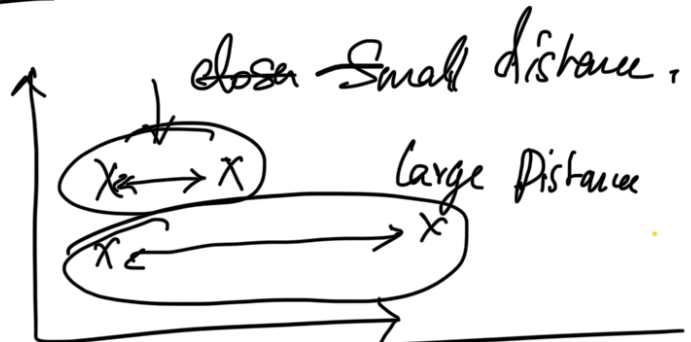
# ① Non-parametric technique



Distance formula

Euclidean Distance :-

	$x_1$	$x_2$	$x_3$	$y$
①	$x_{11}$	$x_{12}$	$x_{13}$	
②	$x_{21}$	$x_{22}$	$x_{23}$	



k-Nearest Neighbors → classification

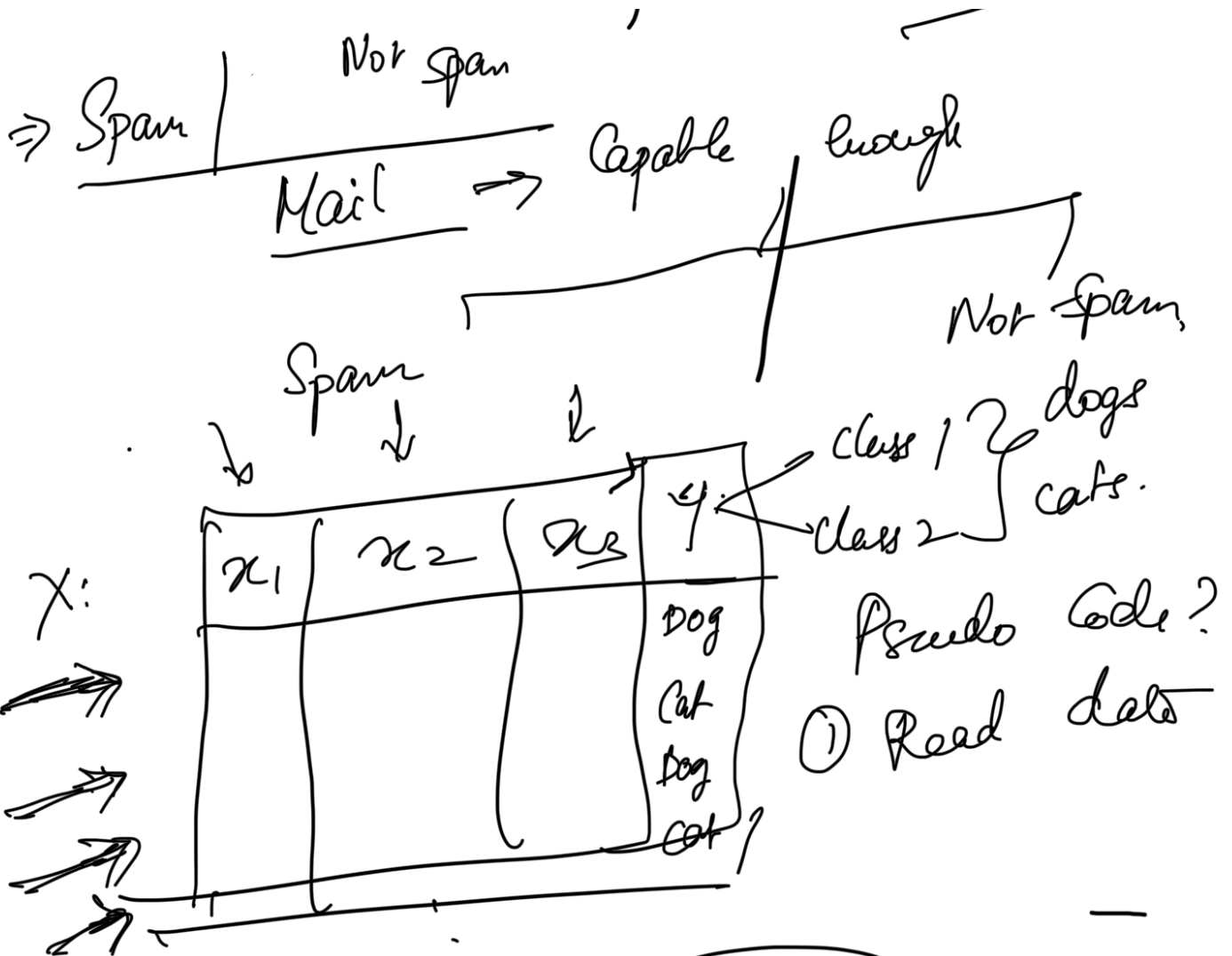
① Classification

Given  $K$  points

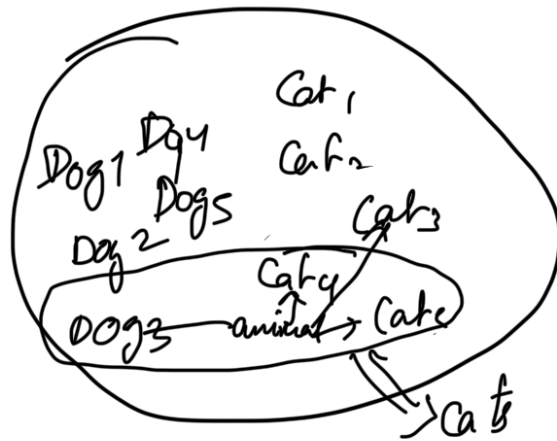
$n$  classes

Class 1

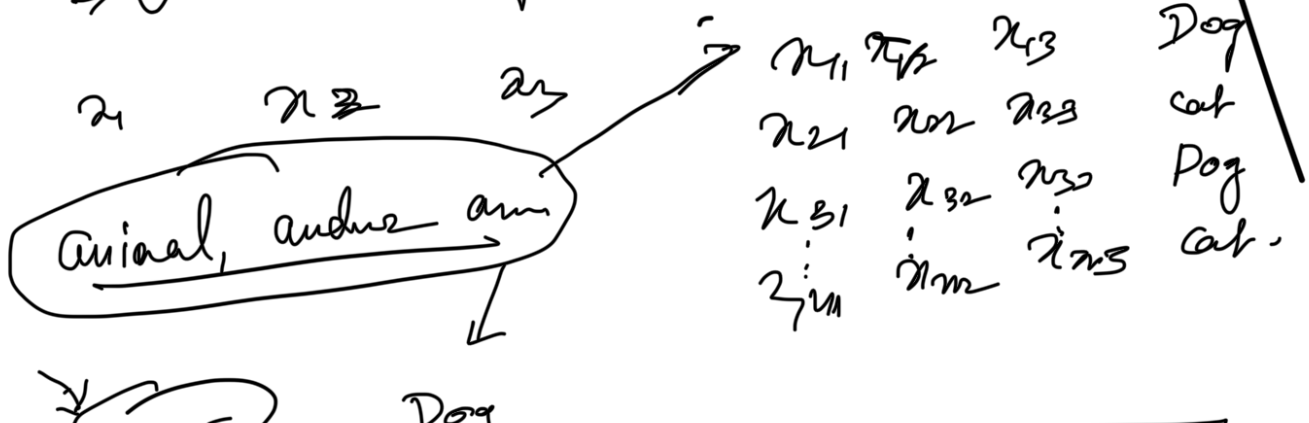
Class 2



New data →



⇒ ① Read  $(x_1, y)$  all data.



- ① 0.05
- ② 0.1
- ③ 0.9

raj  
Rah  
Dog  
...

KNN

$KNN \Rightarrow k=1$

$KNN \Rightarrow k=3$   
mode (Batch)

① Simple - Similarity measure.

② Non-parametric

③ Lazy-learning: Does not learn until test data is provided

Classifies  $\Rightarrow$  Majority Vote mode.