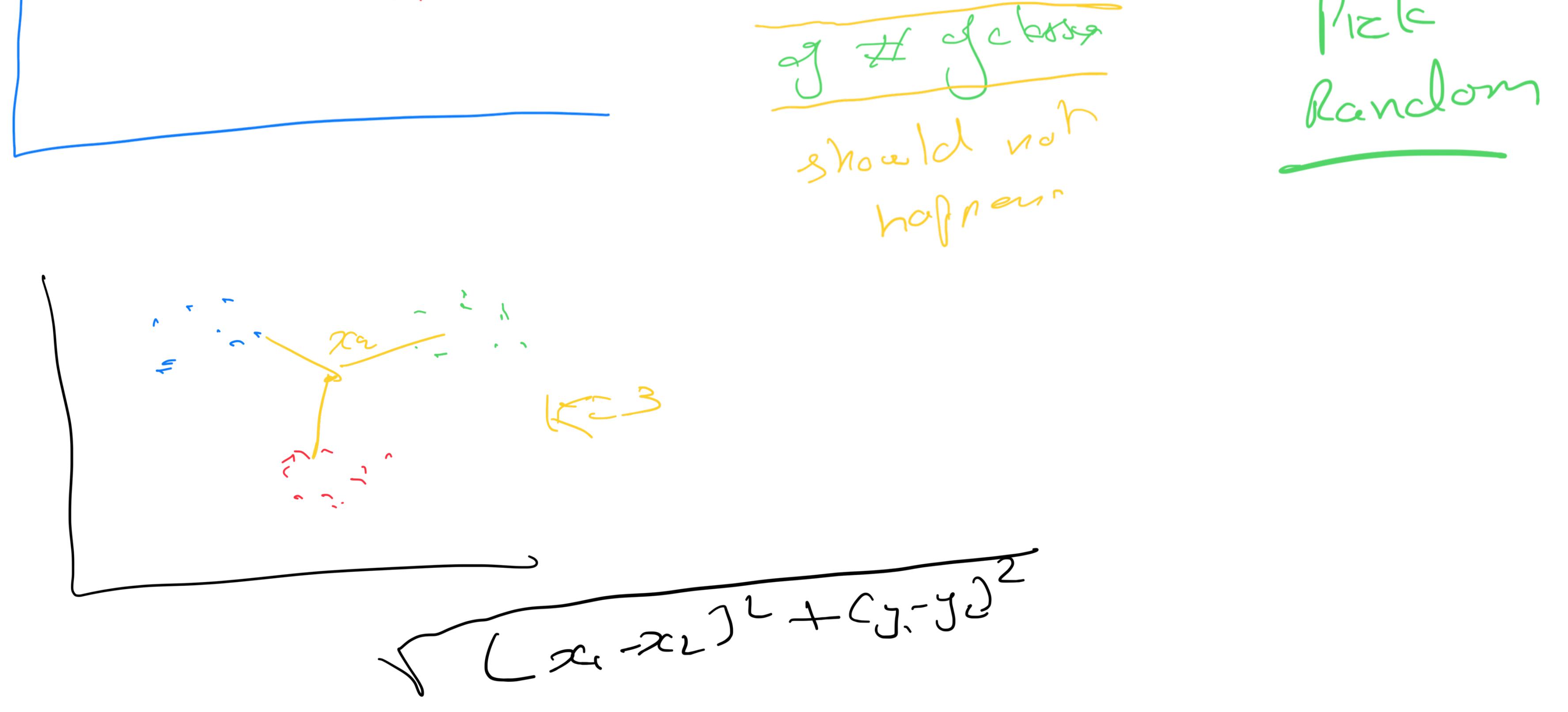


KNN → Nearest Neighbours



- ① take your unknown data point (x_{test}) and find the distance (Euclidean) w.r.t over training data point
 - ② sort all the training data points based on the distance (ascending order)
 - ③ pick top 5 nearest neighbours and find what is the majority label
- $\hookrightarrow K=5$
 ↳ Hyperparameter



$x_1 (0, 0)$
 $x_2 (0, 0)$
 $x_3 (5, 0)$
 x_i
 $\sqrt{4^2 + 3^2} = 5$

δ_1
 $(0 - 0)$
 $0 \rightarrow 0.1$
 0.1^2

δ_2
 $(0 - 100)$
 $0 \rightarrow 100$
 100^2



$[1 \rightarrow 2 \rightarrow 2 \rightarrow 1 \rightarrow 2]$
 unsort

1, 2, 3

$f_1 \rightarrow f_2 \rightarrow f_3 \rightarrow f_4$

$\hookrightarrow n^2$

$\hookrightarrow 1$