ML Problems → Classification
ML Problems → Regression

Our problem → Rain today → 0, 1

Label → 0, 1 Features → Temp, Hum, wind speed

Dataset

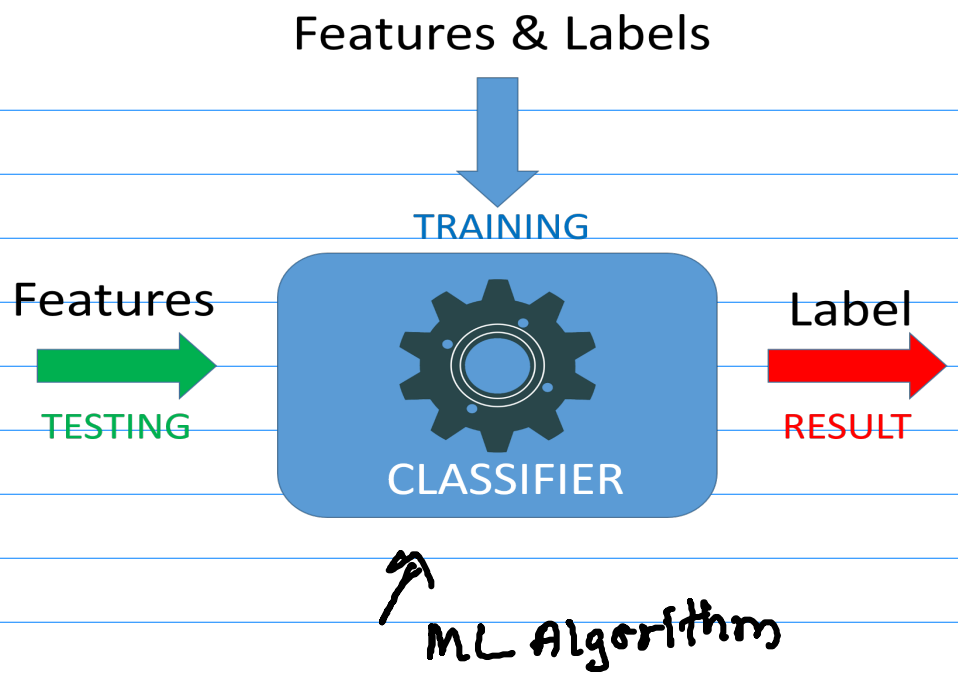
Features			Label
temp	Hum	wind/s	
27	80%	21	0
31	52%	23	0
22	80%	29	1

← classification
label → class/category

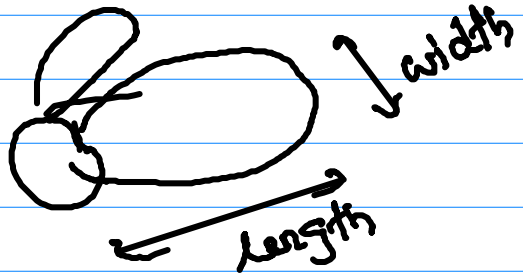
Dataset

Features			Label
temp	Hum	wind/s	
27	80%	21	0mm
31	52%	23	10mm
22	80%	29	110 mm

← Regression
label → number
-∞ to +∞



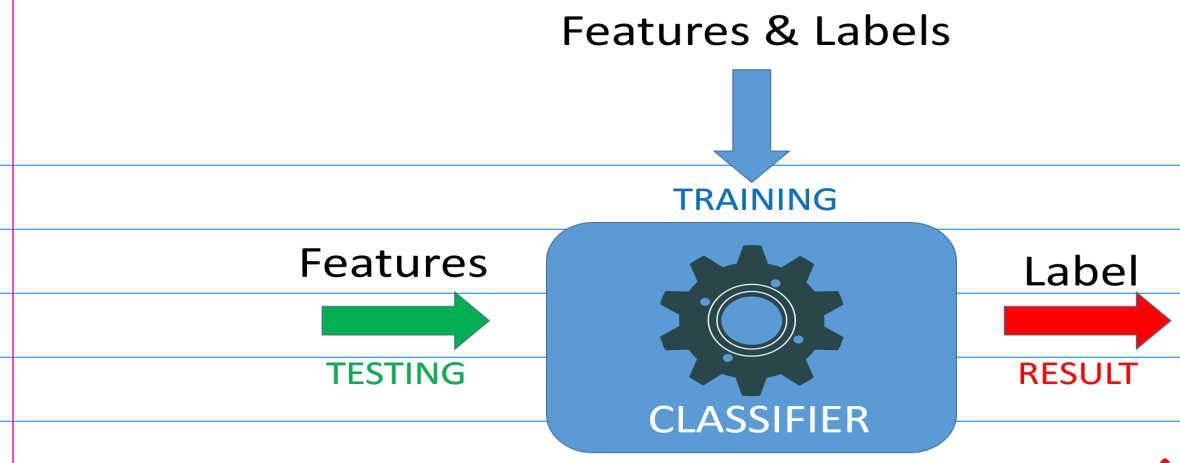
Iris flower example

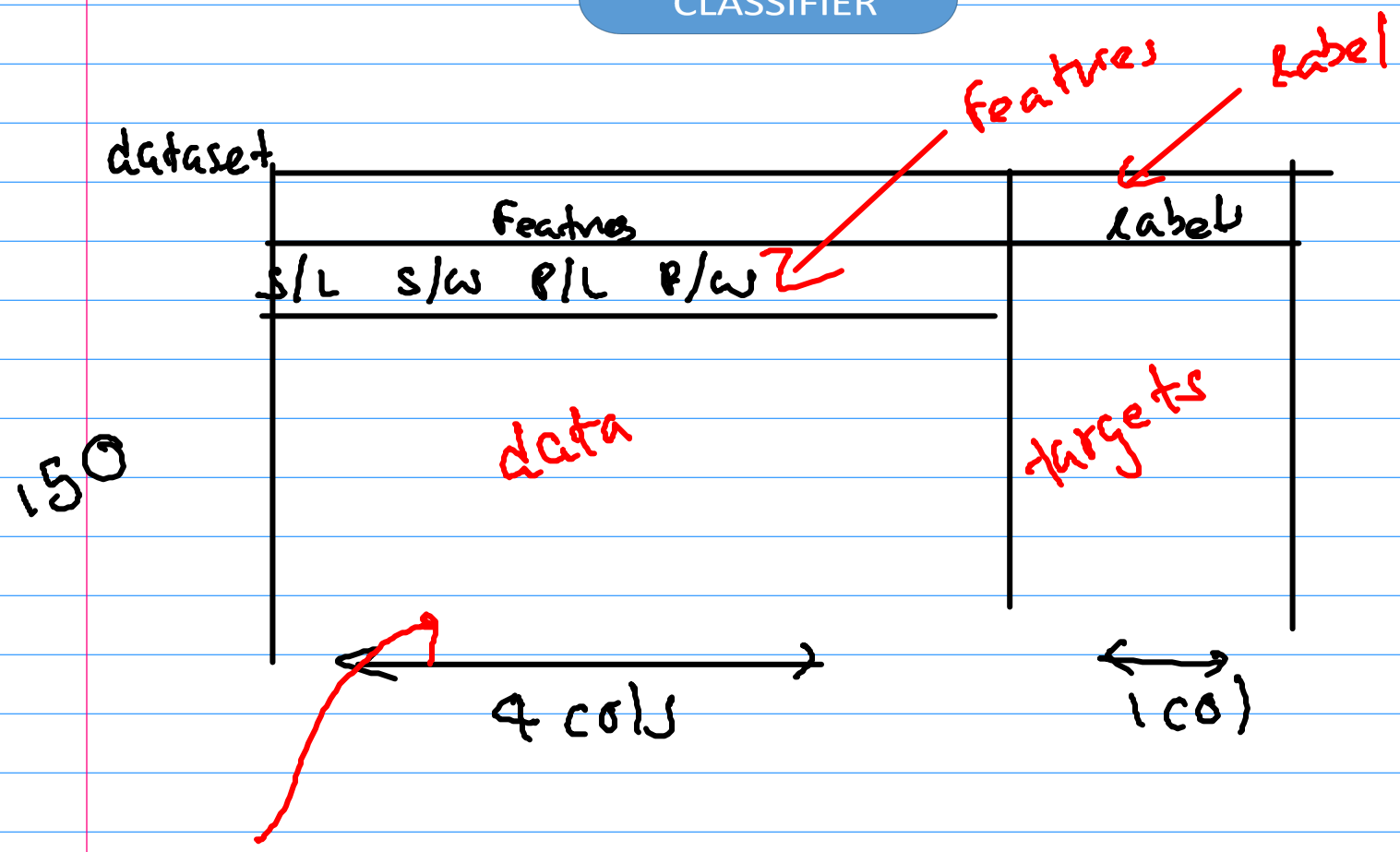


ML model

You need Features and labels

* Feature → S/L , S/W , P/L , P/W
* Labels → Setosa, versicolor, verginca
  0 1 2





data
150x4

target
150x1

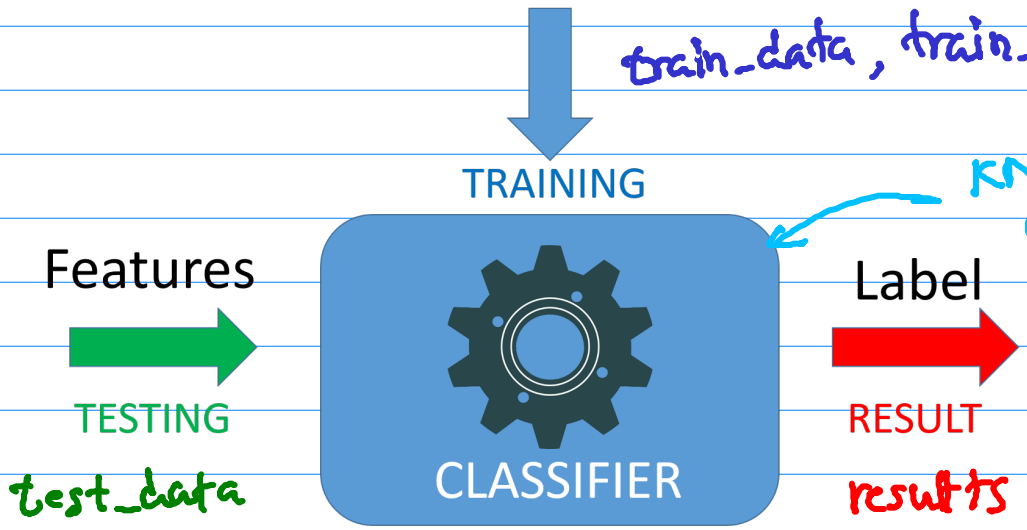
train data

test data

train target

test target

Features & Labels

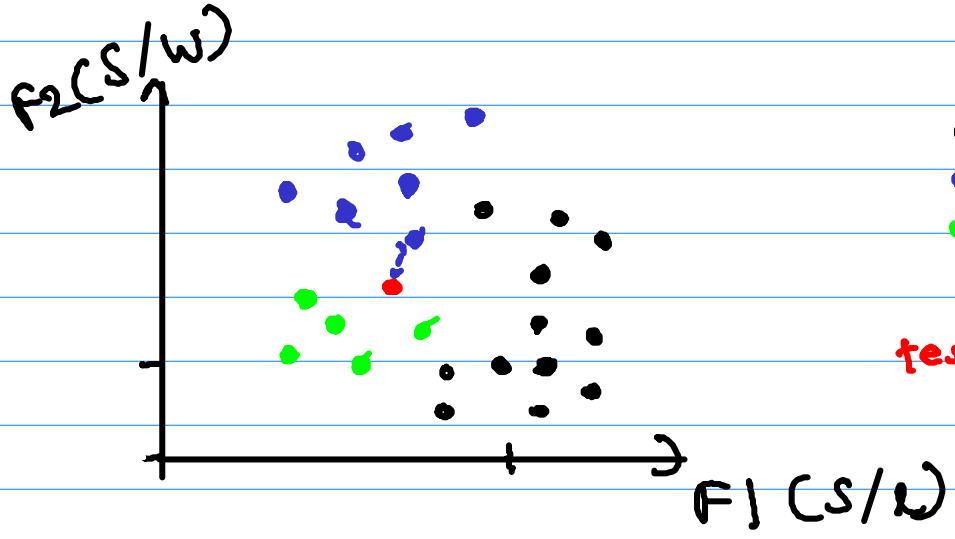


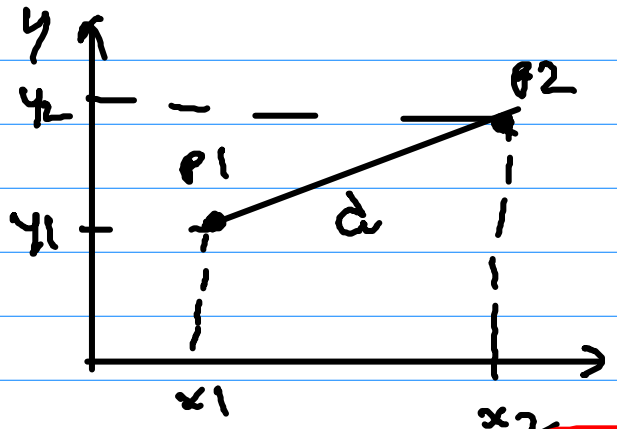
predicted results → results
Actual results → test_target

KNN classifier

s/l s/w 0 1 2

train → train_data , train target





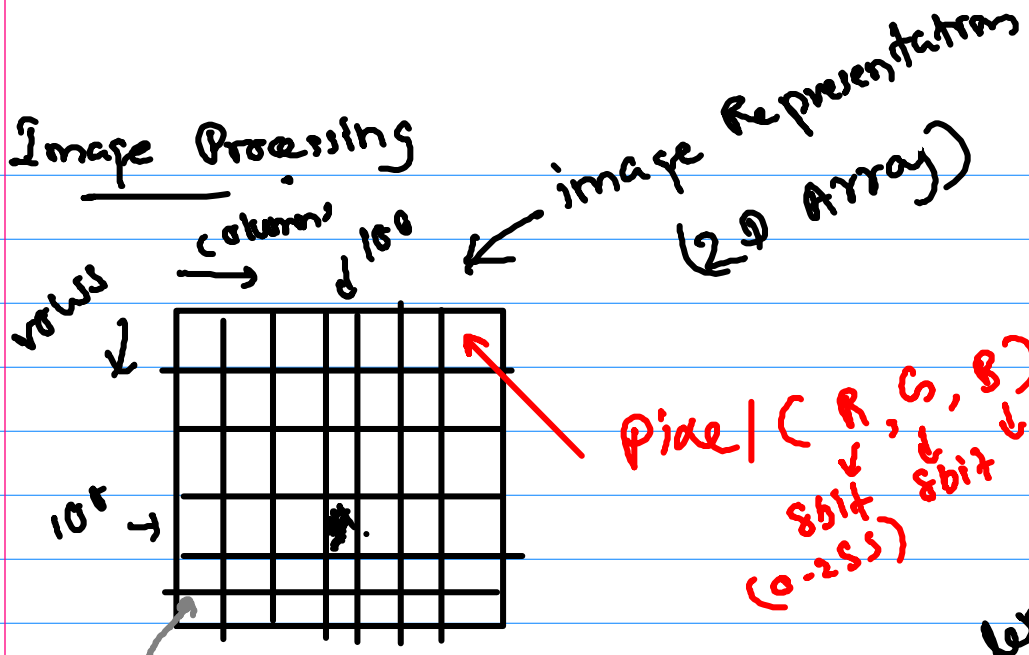
$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

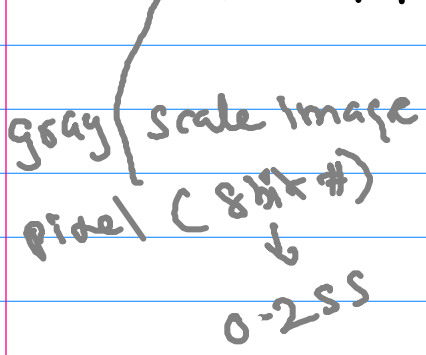
$$d = \sqrt{(Sl_1 - Sl_2)^2 + (SW_1 - SW_2)^2}$$

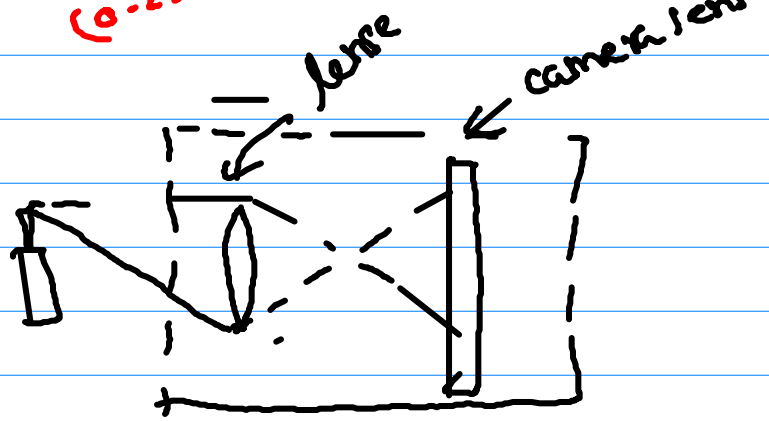
Euclidean Distance

$$d = \sqrt{(Sl_1 - Sl_2)^2 + (SW_1 - SW_2)^2 + (PW_1 - PW_2) + (PL_1 - PL_2)^2}$$

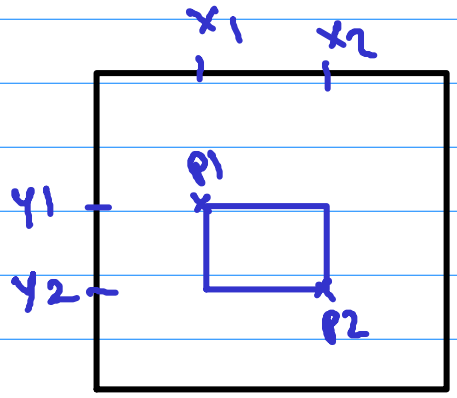
Image Processing





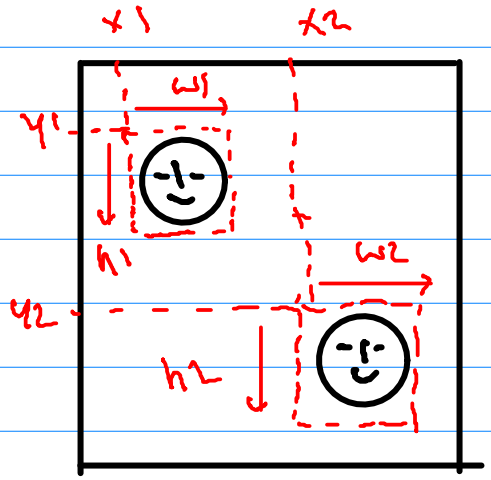


OPencv Rectangle



(x_1, y_1) , (x_2, y_2)

```
faces=clsfr.detectMultiScale(gray)
```



faces = [[x1, y1, w1, h1], [x2, y2, w2, h2]]