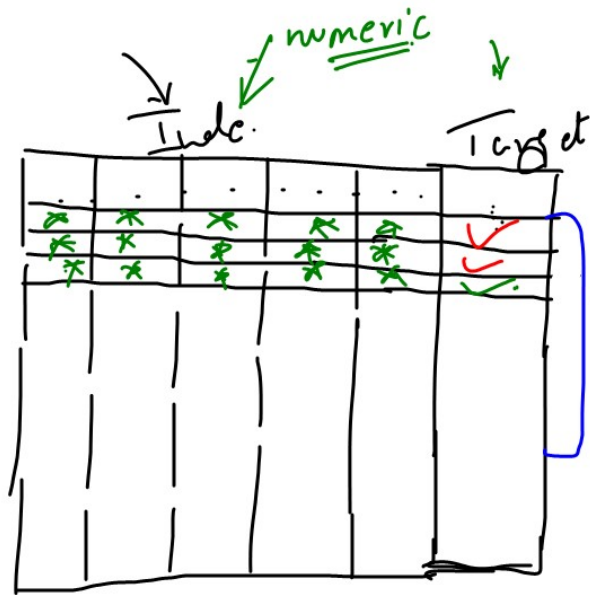


Cr. of
 x 's

y

x_1, x_2, x_3, \dots

$y \rightarrow \frac{1}{0}$



Cr of
 x 's

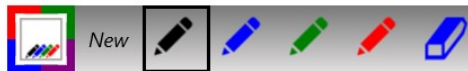
y

x_1, x_2, x_3, \dots

$y \rightarrow \frac{1}{0}$

☒ A ← Buy
☒ B ← Net.

- Logistic Regression
- Decision Tree
- Random forest → Ensembling
- KNN
- Ada Boost
- Gradient Boost
- SVM
- Linear discriminant Analysis.
- Naive bayes

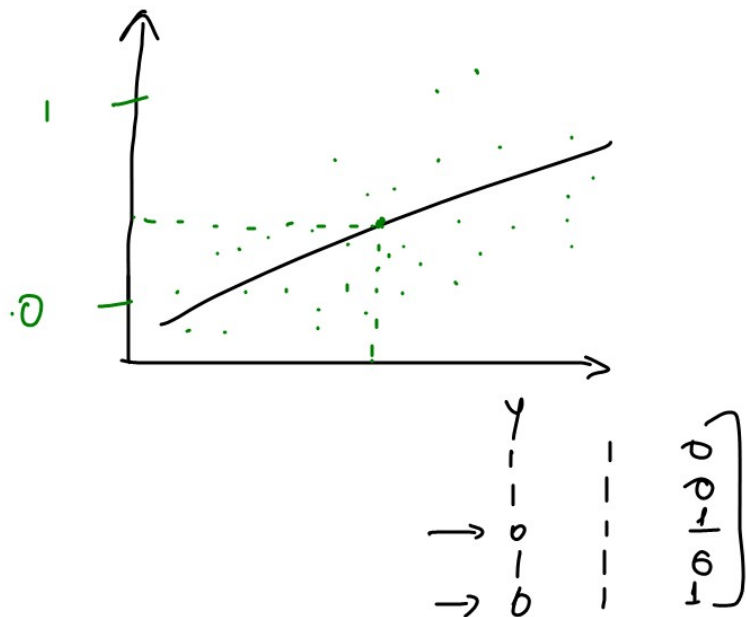


Logistic Regression

1/0 ✓

$$z = m_1 x_1 + m_2 x_2 + m_3 x_3 + \dots + m_n x_n + \beta$$

Probability



Sigmoid
Conversion

$$p(x) = \frac{1}{1 + e^{-z}}$$

$$z = -100$$

$$z = -10$$

$$z = -2$$

$$z = 0$$

$$z = 2$$

$$z = 10$$

$$z = 100$$

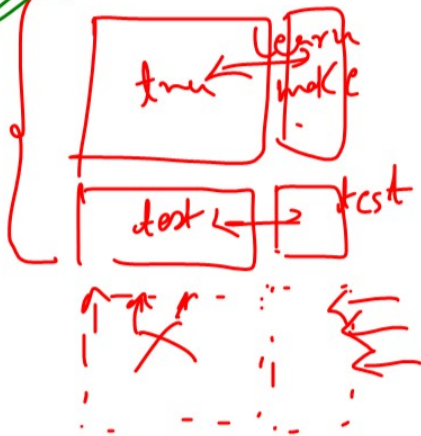


New



0	420 (TN)	5 (FP)
1	60 (FN)	15 (TP)
	0	1

Type 2



$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FP + FN}$$

$$= \frac{(\text{Correct Pred})}{(\text{All Pred})}$$

$$= \frac{435}{500} = 87\%$$

Sensitivity
True positive
Rate

$$\text{Recall} = \frac{TP}{TP + FN}$$

$$= \frac{(\text{Correctly Pred. Positives})}{(\text{Actual Positives})}$$

$$= \frac{15}{15 + 60} = \frac{15}{75} = 20\%$$

$$\text{Precision} = \frac{TP}{TP + FP}$$

$$= \frac{(\text{Correctly Pred. Positives})}{(\text{Predicted Positives})}$$

$$= \frac{15}{15 + 5} = \frac{15}{20} = 75\%$$



New



$$\text{Specificity} = \frac{\text{TN}}{\text{TN} + \text{FP}}$$

(True Negative Rate)

$$= \frac{\text{(Correctly Pred Negatives)}}{\text{(Actual Negatives)}}$$



New

