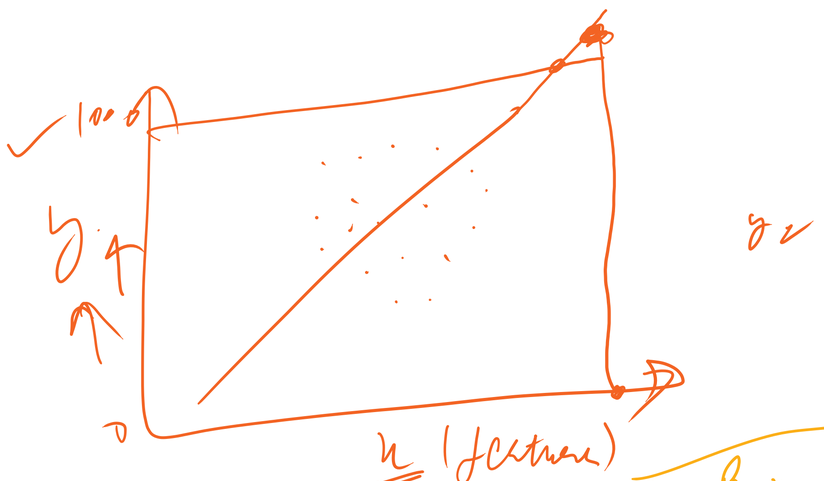

$y = \beta_0 x_1 + \beta_1$

$(0 \text{ to } 1)$

Logistic Regression

Binary

0, 1 Spam

+ve class

$z = \text{Sigmoid}(y)$

0 to 1

0.6

0.7333

0.49

$\log \; y = \beta_0 x + \beta_1$

$y \to z = \sigma(y)$

$\sigma = \frac{1}{1+e^{-y}}$

Sigmoid (fun)

$P(y=1|x) = \sigma(\beta_0 x + \beta_1)$

$= \sigma(\beta_0 + \beta_1 x_1 + \beta_2 x_2 \cdots \beta_n x_n)$

$y = \beta_0 + \beta_1 x$

Linear eq

Sigmoid

$\sigma(y) = \frac{1}{1+e^{-y}}$

$y = \beta_0 + \beta_1 x_1$

$z = \sigma(y)$

0 U 1

$z = 0.6$ if o/p of sigmoid probability is belongs to class 1 (true class)

threshold

0.4 then 0

0.5

0.6