sum of square of deviations of n

⇒ **Logistic Regression:** it is used for categorial data, means kind of Discrete Data, binary Data. The value to whom we predict is in categorial form. we predict always Dependent variable.

→ categorial Data like

   Spam or not smat, cat or dog, yes or No.

→ The word logistic refers to the logistic function, also known as sigmoid function.

Note:- with the help of independ variable we can find/predict the Dependend variable.

→ we use the sigmoid function.
   it state that y is your predicting variable.
   so in sigmoid function y values always come in 0 and 1 or in between 0 and 1.

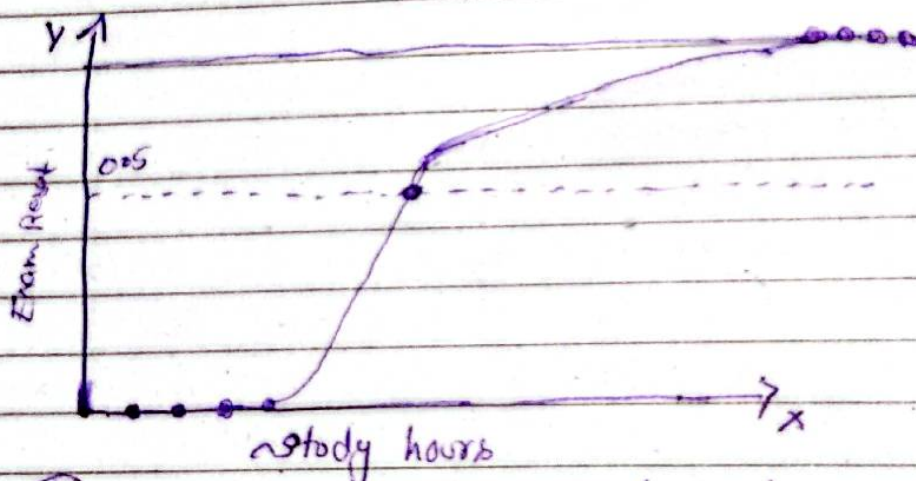→ formula for a sigmoid function:

$$y = \frac{1}{1 + e^{-(a_0 + a_1 x)}}$$

a_0 = here intercept, intercept means
if $n = 0$ then y where intercept inside the graph.

and a_1 = coefficient means if we increment n value by 1 then how much increment will occur in y.

and

x is independent variable.

study hours

This graph divide into two classes either into the pass category or in fail.

if $n = 5$

$a_0 = -1.5$

$a_1 = 0.6$

now puting value in formula
we get = 8.18

so it is lie on
Pass class