## Linear Regrenion

	classmate	R
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finear Regrenton in a ruperwised ML algorithm used for predictive analysis. Finear Regression shows a linear relationship between the autput (y) was and imput (x) variables.

Nothernatically, Unear regression to represented as -

y -) output worldble

a -) x-intercept

a - rhope (soefficient) of 21

E + random error

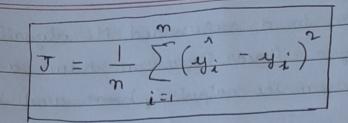
Types of Tinear Regression:

simple Timear Regression - 1 imput warlable

. ruetiple Tenear Regression - multiple input warkable

C bart function : -

The goal of Genear Regrenton algorithm in to find the best get line. The best get time cart function (J) thelps to find the best get line by minimizing to Mean aquared Error (MSE).



J -> car function

n -> no. of observation

j. -> predicted value

y. -> actual

Gradient descent is used to minimize the care function (MS)

R2 reare:

R2 reare de (coefficient of determination) edetermine.

The goodner of fit, It will to find the accuracy of model. The scale is 0-100.

R2 reare = explained varianteen

Total variation

Arrumptions of Tinear Regression:

1. Henear relationship between the features and target 2. small or no multi-collinearity between the features.