

# Linear regression

## -Brief description:

The code applies gradient descent algorithm ,assume initial values for weights and bias , calculate y and then optimize the parameters to reduce the cost function , learning rate it update to be smaller if cost is getting higher. I assumed termination will be when cost function is almost constant it can be also done through specific number of iterations.

Data is normalized if the dataset is multivariate .

Evaluating performance used mean absolute error metric calculating error.

$$MAE = \frac{1}{n} \sum_{i=1}^n |Y_i - \hat{Y}_i|$$

## -Findings:

Univariate data:

accuracy-> 72.06216290039492

cost-> 703.9233692722146

Multivariate data:

accuracy-> 26.120616706412246

cost-> 142529691861.11697 ??

-I do not know why is this so high 😞

