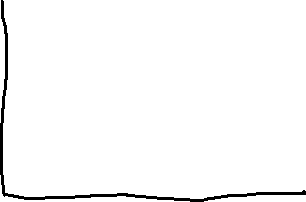
Linear Regression



Y=mx+c



Cost Function =



N=no. of points

Y= nearest point of the line



= point on the line

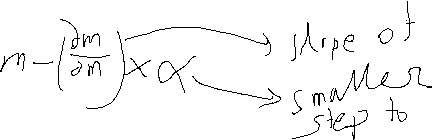
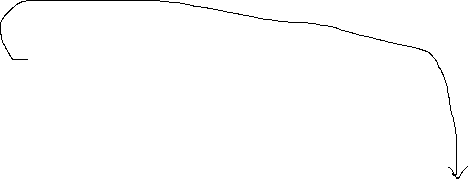
We have to minimize the error



When slope, m=1 and c=0

We get our C.F=0

\*When we get different m value we get different cost function value and by plotting those in graph we get a curvature-



Global Minima



Gradient Descent



\*At global minima point the slope will be 0, and at this point we can say that this will be the point of best fit line

Ridge and Lasso Regression

Reduce overfitting. That is the value of a point is higher from the best fit line.

In Ridge Regration =

**= 0 to any +ve value**

**We try to reduce**



Here is a huge path distance we see. This is steep slope

\*In the case of linear regression we stop if we get cf=0 which is = 0 . But in this case if it is 0 the cf will not be zero. So we will try to reduce that value



Here the slope will be reduce we will get a small value of this also, finally the cf will reduce

In this case this will be best fit line incase of another line

In this case the slope is moving towards 0.

**Lasso Regression:**

**Y= m1x+m2x+…+mnx**

**The magnitude of all the slope. It also works as feature selection. Here the slope is tending towards 0 and we don’t need the outliers of m we need just the value of m that’s minimize the value and the slope value is close to zero.**