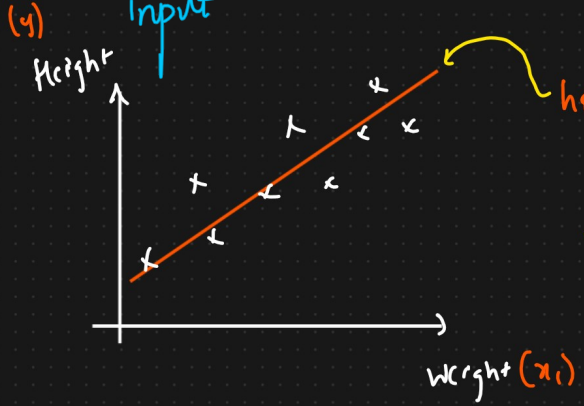
Multiple Linear Regression

Dataset

I/p feature → Weight (input)

O/p → Height (output)

One input, one output → Linear regression



$h_\theta(x) = \theta_0 + \theta_1 x_1$ (Independent feature)

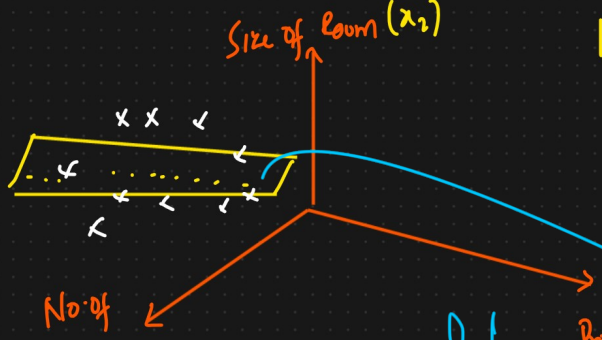
θ_0 = Intercept

θ_1 = Slope or coefficient

in real world more indep features.

House Price Dataset

x_1	x_2	y (output)
No. of Rooms	Size of Room	Price

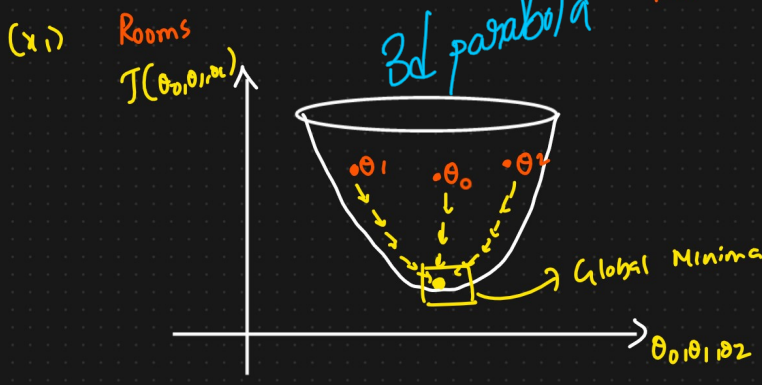


$h_\theta(x) = \theta_0 + \theta_1 x_1 + \theta_2 x_2$ {Multiple linear Regression}

θ_1, θ_2 => Slope or coefficient

θ_0 => Intercept

Here as 3d so we won't find best fit line but a best fit 3d plane



Generic Equation for Multiple Regression

$$h_\theta(x) = \theta_0 + \theta_1 x_1 + \theta_2 x_2 + \theta_3 x_3 + \cdots + \theta_n x_n$$

2d ⟶ best fit line

more than 2d ⟶ best fit plane