Gradient descent algorithm

$$\theta_j := \theta_j - \alpha \frac{\partial}{\partial \theta_j} J(\theta_0, \theta_1)$$

$$\partial \theta_j = 0$$
(for  $j = 1$  and  $j = 0$ )

$$\begin{pmatrix} 1 \end{pmatrix} = \begin{pmatrix} 1 \end{pmatrix} \begin{pmatrix} m \\ k \end{pmatrix}$$

**Linear Regression Model** 

$$J(\theta_0, \theta_1) = \frac{1}{2m} \sum_{i=1}^{m} (h_{\theta}(x^{(i)}) - y^{(i)})^2$$

 $h_{\theta}(x) = \theta_0 + \theta_1 x$ 

$$=\frac{1}{2m}\sum_{i=1}^{m} (h_{\theta}(x^{(i)}))$$

$$\frac{1}{2m} \sum_{i=1}^{m} \left( h_{\theta}(x^{(i)}) - \right)$$

$$u_{\theta}(x^{(i)}) - y^{(i)}$$