Date __/__/____

(i) Hypothesis:
$$\boxed{h_\theta(x) = \theta_0 + \theta_1 x}$$

(ii) Parameters:
θ_0, θ_1

(iii) Cost func: $J(\theta_0, \theta_1)$

(iv) Goal: minimize $J(\theta_0, \theta_1)$

Choose the minimized $J(\theta_0, \theta_1)$ so that it can be close enough to y.

$\Rightarrow h_\theta(x) = 0.50 + 0.05x$

$\underbrace{J(\theta_0, \theta_1), \quad \theta_1 = \{10, 0, -10, -20\} \quad \theta_0 = \{10, 0, -10, -20\}}_{\text{3-D graph}}$

<u>Gradient descent</u>: algorithm:

$$\boxed{\theta_j := \theta_j - \alpha \frac{\partial}{\partial \theta_j} J(\theta_0, \theta_1)}$$ (for $j=0$ & $j=1$)

(i) $temp0 := \theta_0 - \alpha \frac{\partial}{\partial \theta_0} J(\theta_0, \theta_1)$

(ii) $temp1 := \theta_1 - \alpha \frac{\partial}{\partial \theta_1} J(\theta_0, \theta_1)$

α = learning rate. (how bigger baby step is to take for hill walk down)

(iii) $\theta_0 := temp0$

(iv) $\theta_1 := temp1$

Scanned with CamScanner