for Classification ⇒ $y = 0$ or 1

$h_\theta(x)$ can be > 1 or < 0 ⇒ ∴, Linear Regression is not a great learning Algo for Classification problem

⇒ Logistic Regression ⇒ $0 \leq h_\theta(x) \leq 1$

↳ this is a better learning algo. for classification problems

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Logistic Regression Model

Want $0 \leq h_\theta(x) \leq 1$

$$h_\theta(x) = g(\theta^T x) = \frac{1}{1 + e^{-\theta^T x}}$$

$$g(z) = \frac{1}{1 + e^{-z}}$$

$z \in \mathbb{R}$

$g \in (0, 1)$

Sigmoid func^n OR Logistic func^n

$0 < g(z) < 1$

* we will use diff^n algo to fit parameters θ