



**deeplearning.ai**

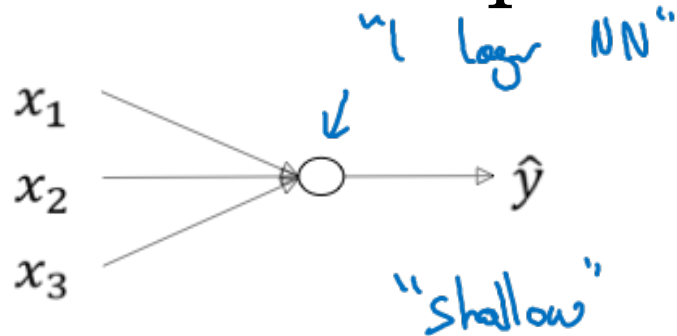
# Deep Neural Networks

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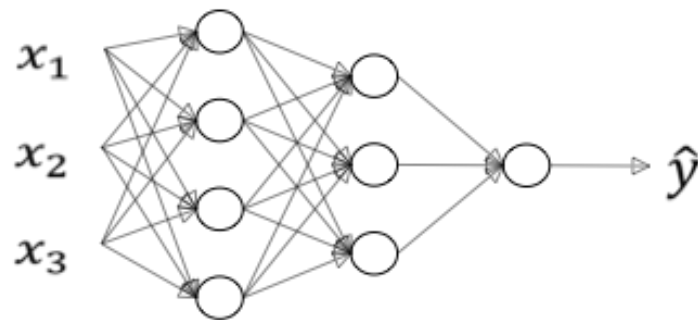
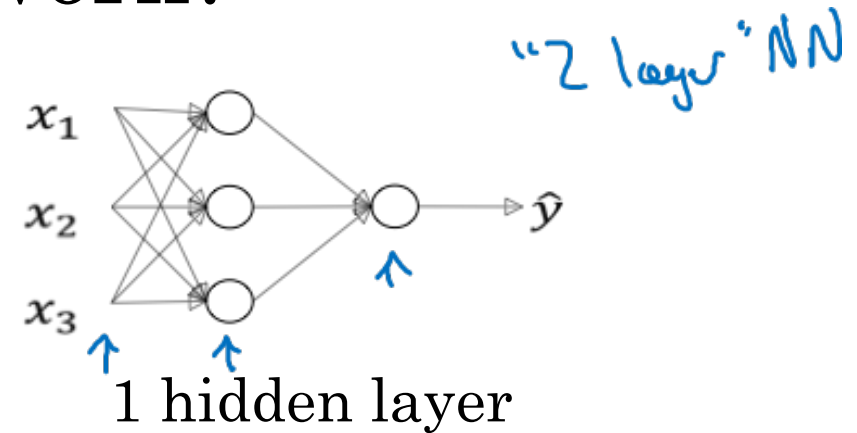
Deep L-layer  
Neural network

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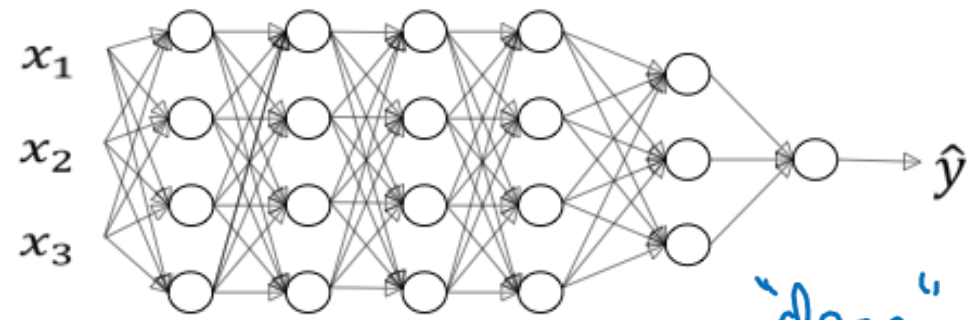
# What is a deep neural network?



logistic regression



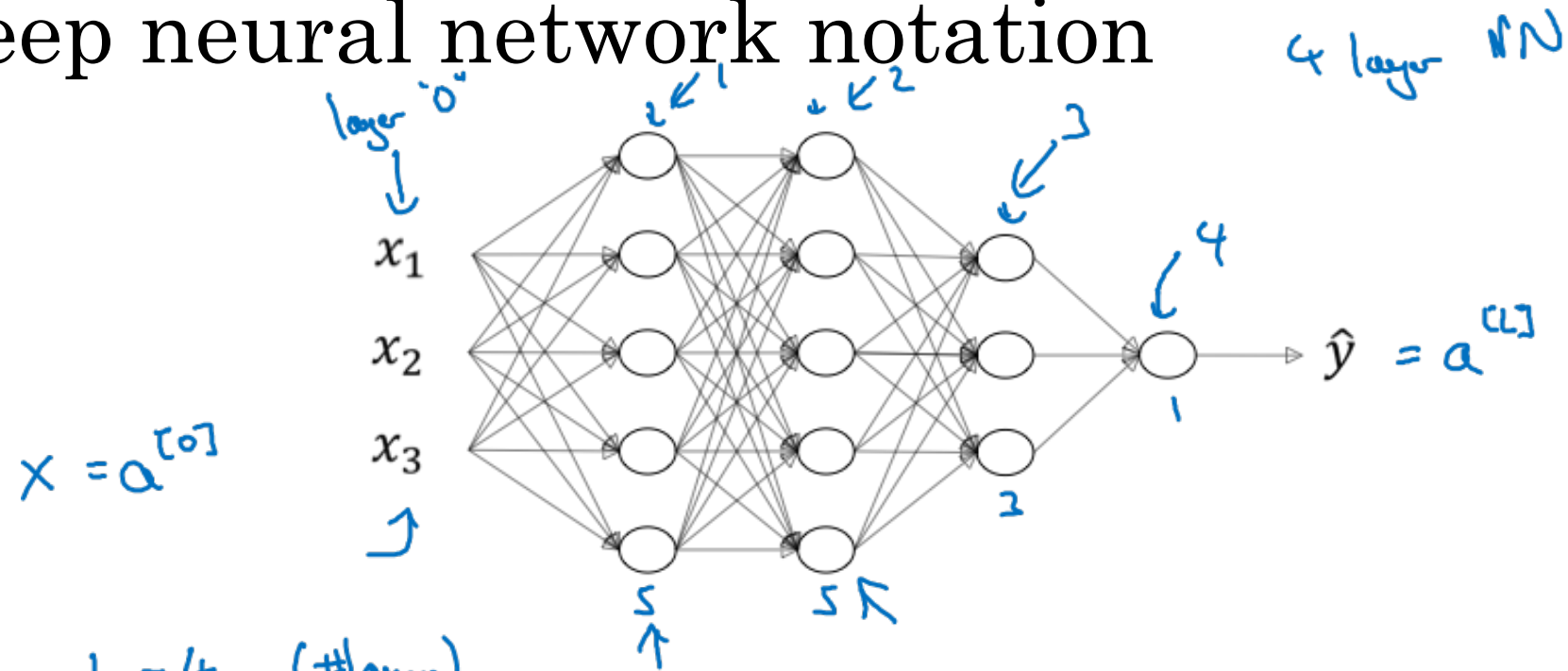
2 hidden layers



5 hidden layers

"deep"

# Deep neural network notation



$L = 4$  (#layers)

$n^{[l]} = \# \text{units in layer } l$

$a^{[l]} = \text{activations in layer } l$

$a^{[l]} = g(z^{[l]})$ ,  $w_{ba}^{[l]} = \text{weights for } \underline{z^{[l]}}$

$n^{[1]} = 5, n^{[2]} = 5, n^{[3]} = 3, n^{[4]} = n^{[L]} = 1$

$n^{[0]} = n_x = 3$