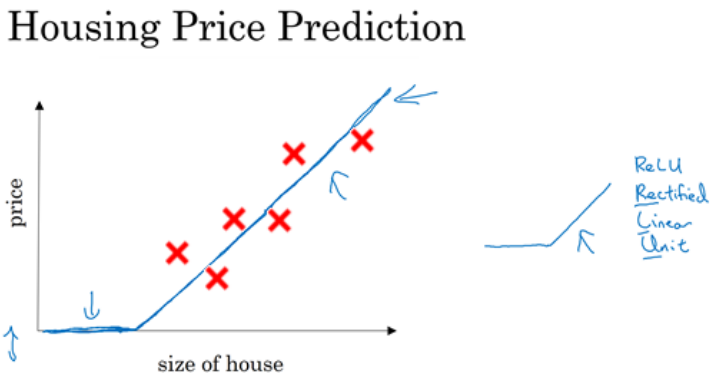
What is neural network?

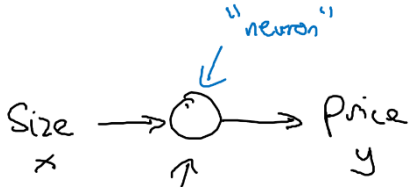
It is a powerful learning algorithm inspired by how the brain works.

Example 1 – single neural network

Given data about the size of houses on the real estate market and you want to fit a function that will predict their price. It is a linear regression problem because the price as a function of size is a continuous output.

We know the prices can never be negative so we are creating a function called Rectified Linear Unit (ReLU) which starts at zero.





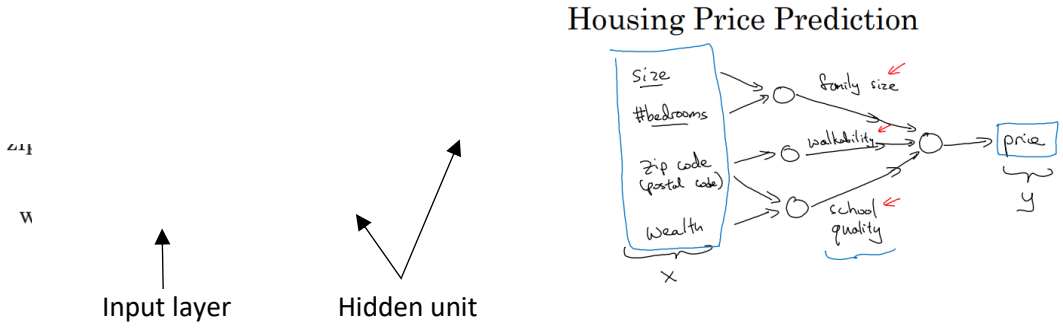
The input is the size of the house (x)

The output is the price (y)

The “neuron” implements the function ReLU (blue line)

Example 2 – Multiple neural network

The price of a house can be affected by other features such as size, number of bedrooms, zip code and wealth. The role of the neural network is to predicted the price and it will automatically generate the hidden units. We only need to give the inputs x and the output y.



现在搞清楚了神经网络的结构，w，b是权重，确定哪些参数被神经元利用，但是每层神经元都是全连接的，每个神经元的作用是输入变量，输出一个特定方面的结果，下一步是搞清楚神经元内部结构