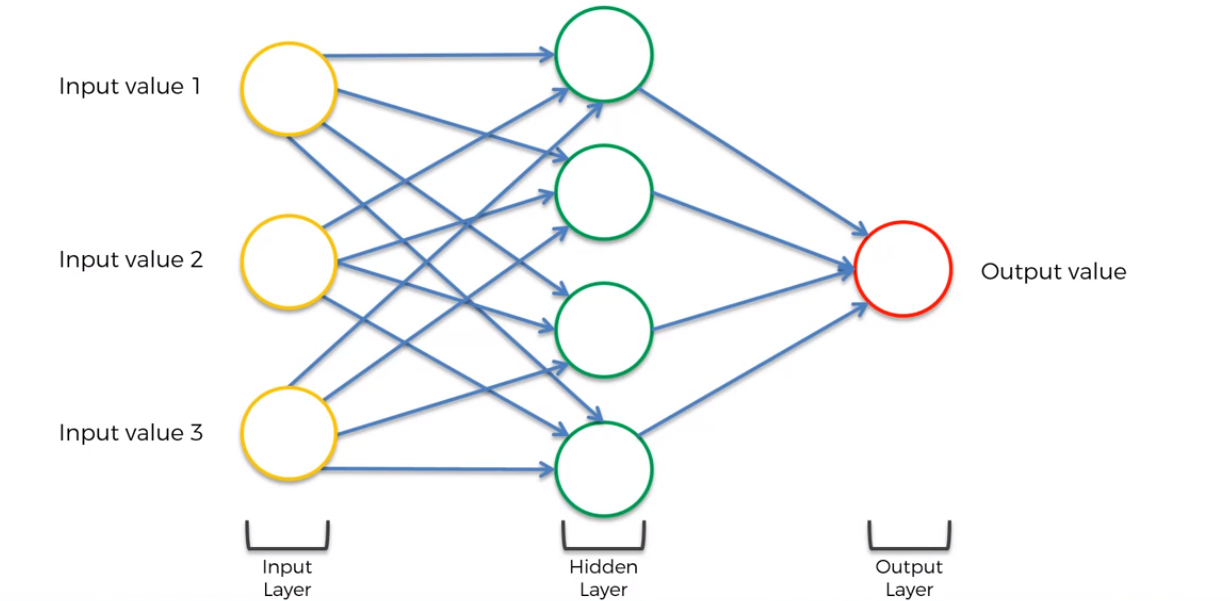
[Deep Learning A-Z™: Hands-On Artificial Neural Networks](https://www.udemy.com/course/deeplearning/) - Udemy

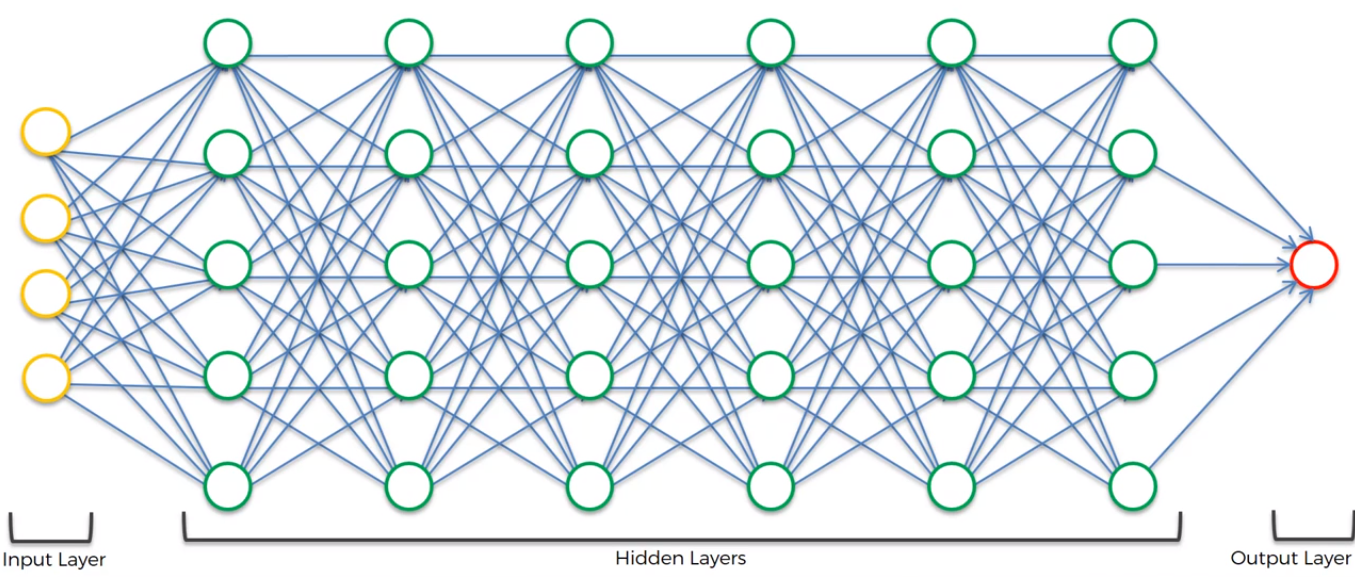
Input layer: an input to start the prediction.

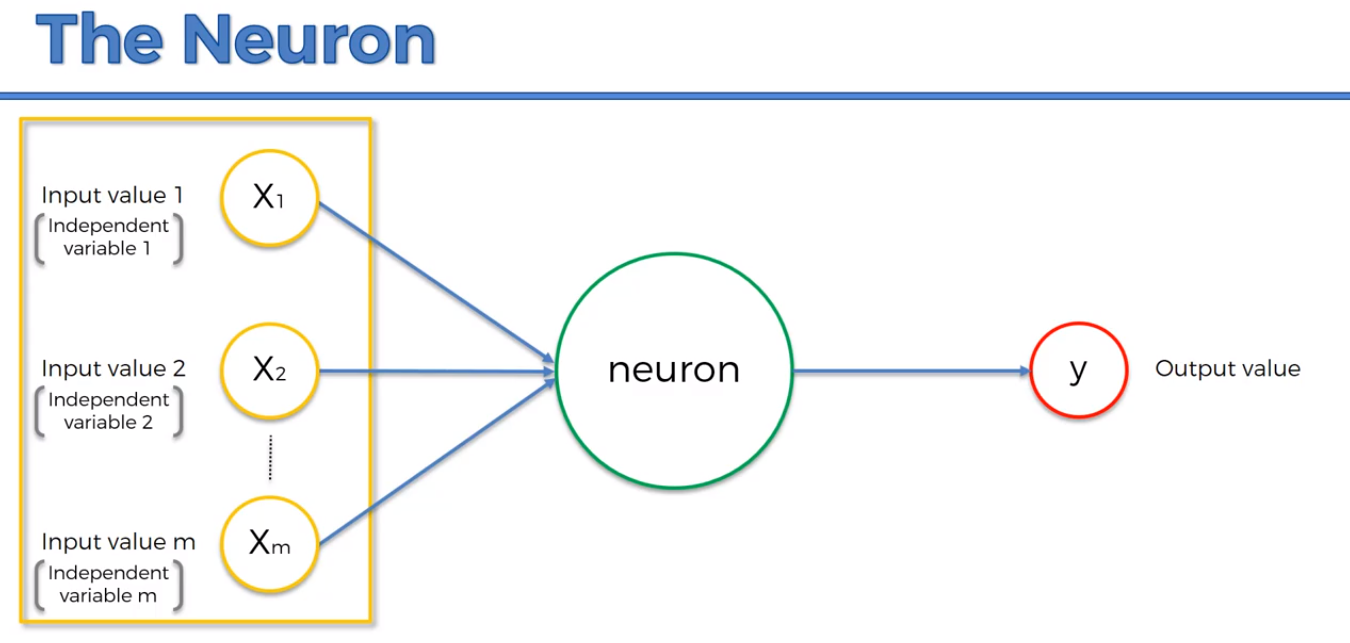
Output: a value that we want to predict price, someone leaves the bank, someone stays.

Hidden layer: information comes through the senses, and it goes through billions and billions of neurons before it gets to the output.



Deep learning: when we have lots of lots of hidden layers (just like a human brain).

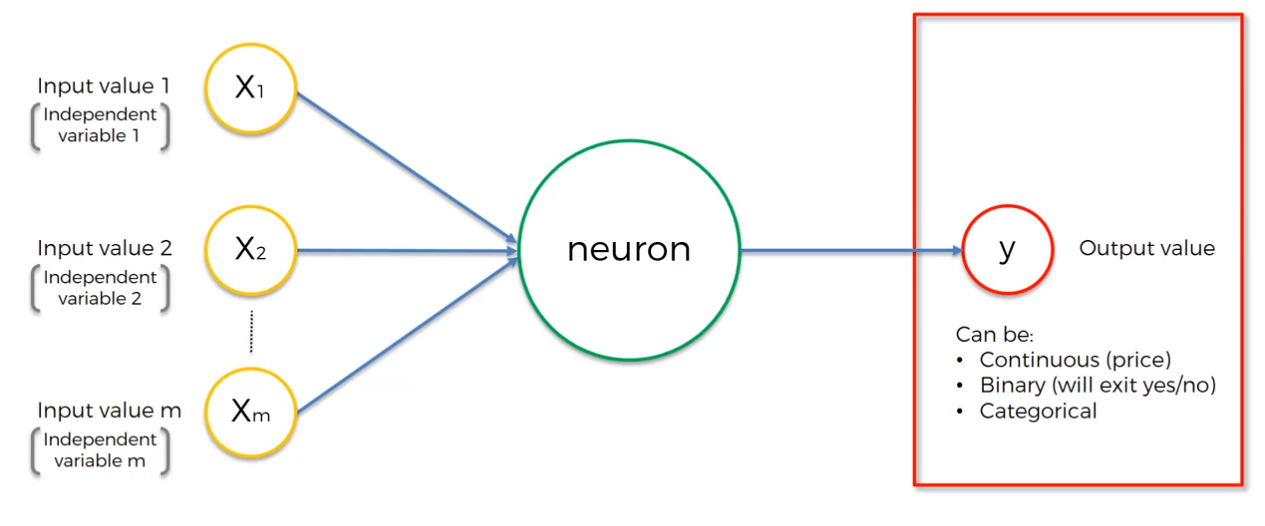


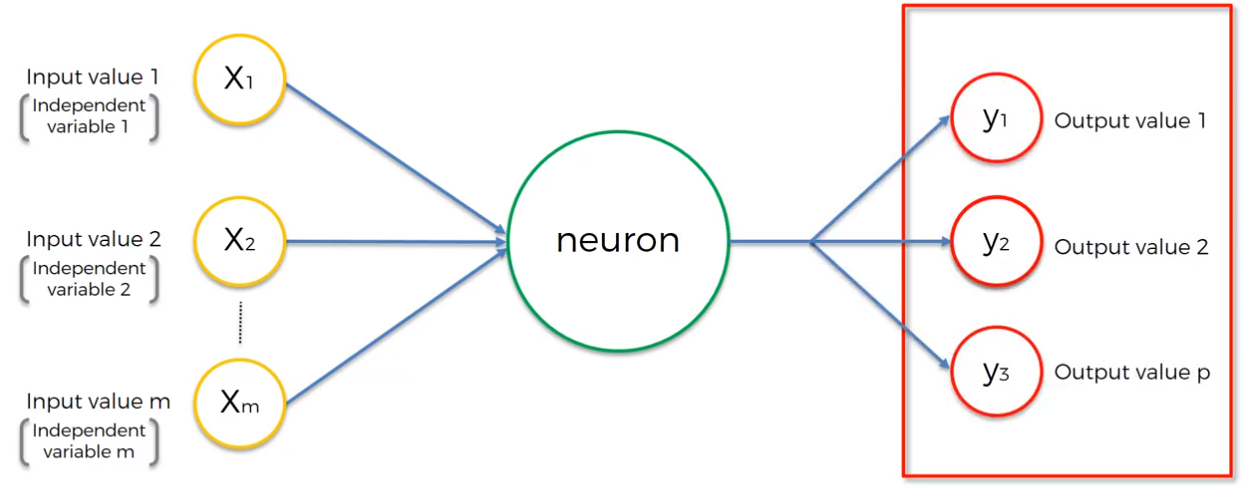


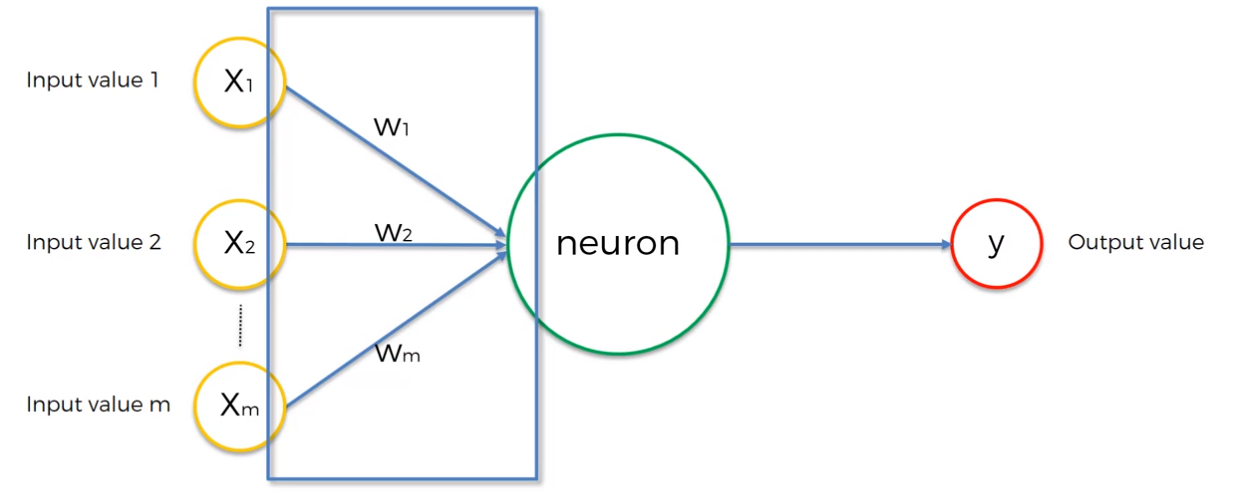
We need to standardize the variables, where they have a **zero mean** and **variance of 1.**

**S**ometimes we want to make them similar (the same range of values), so we do normalization, where we subtract the min value and then we divide by (max – min).

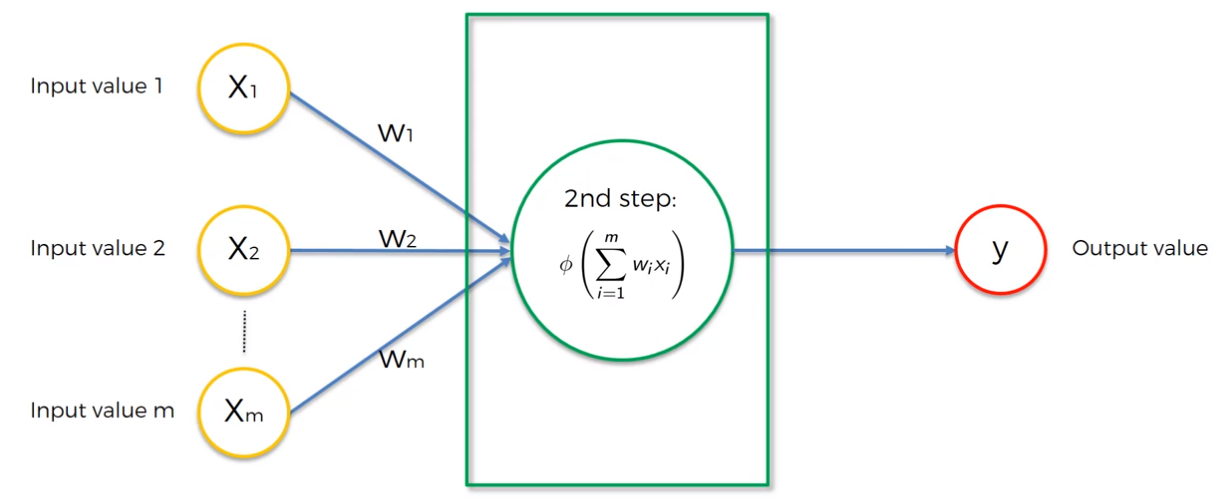
Its going to make it easier for the neural network to process them if they all about the same value, because they are going multiplied and added up several times.

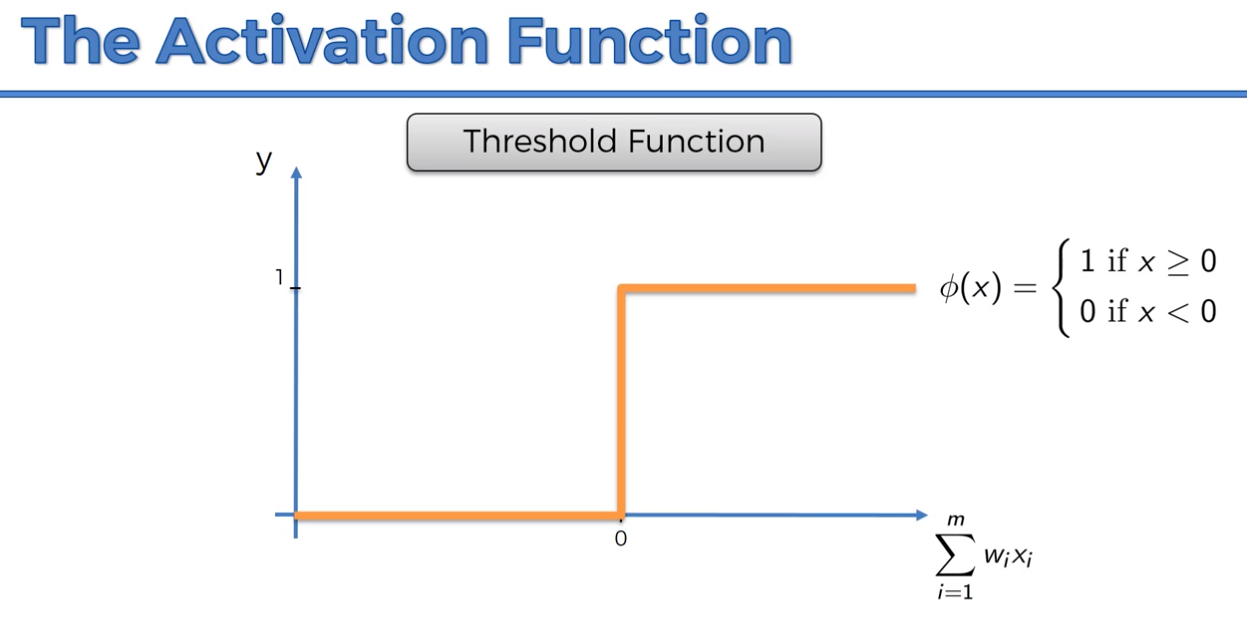


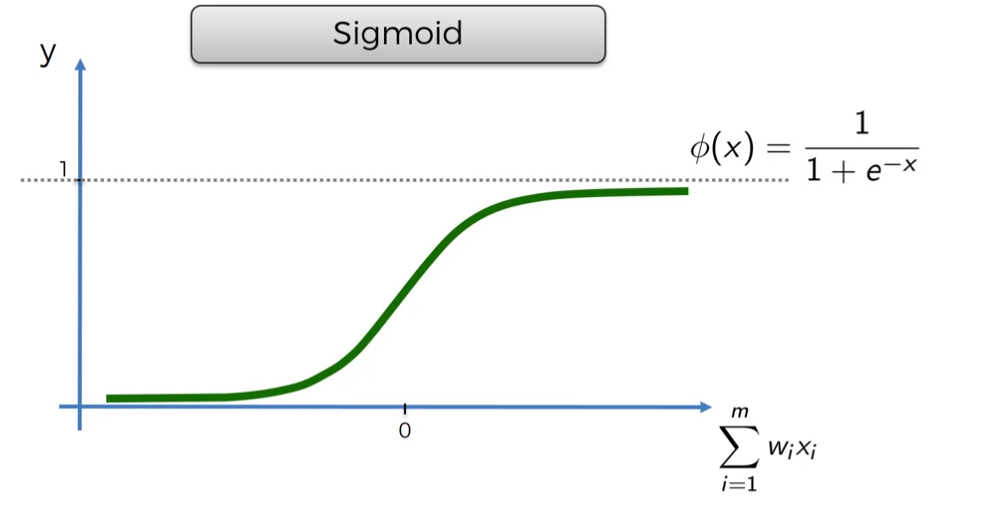


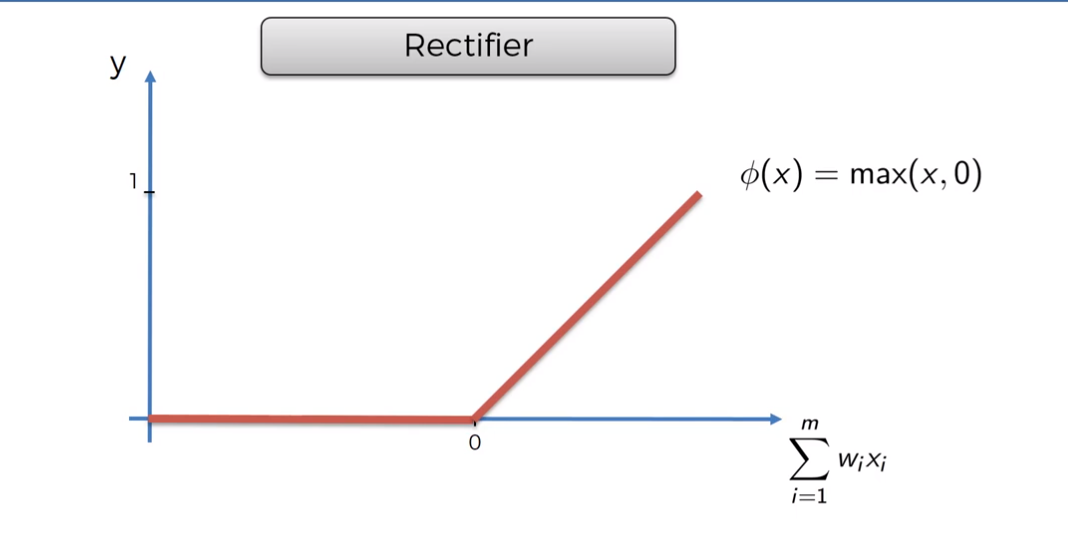


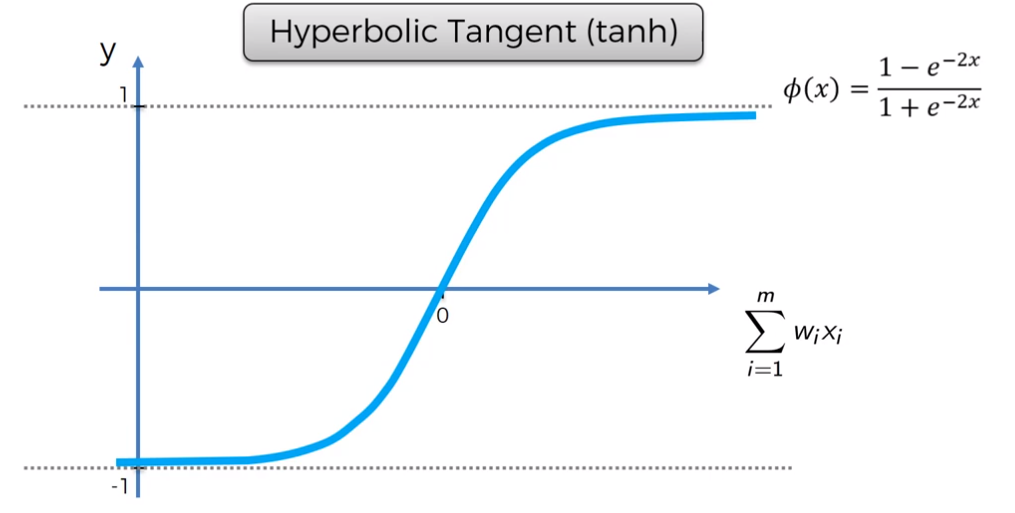
We add the weights then we apply a function Phi:

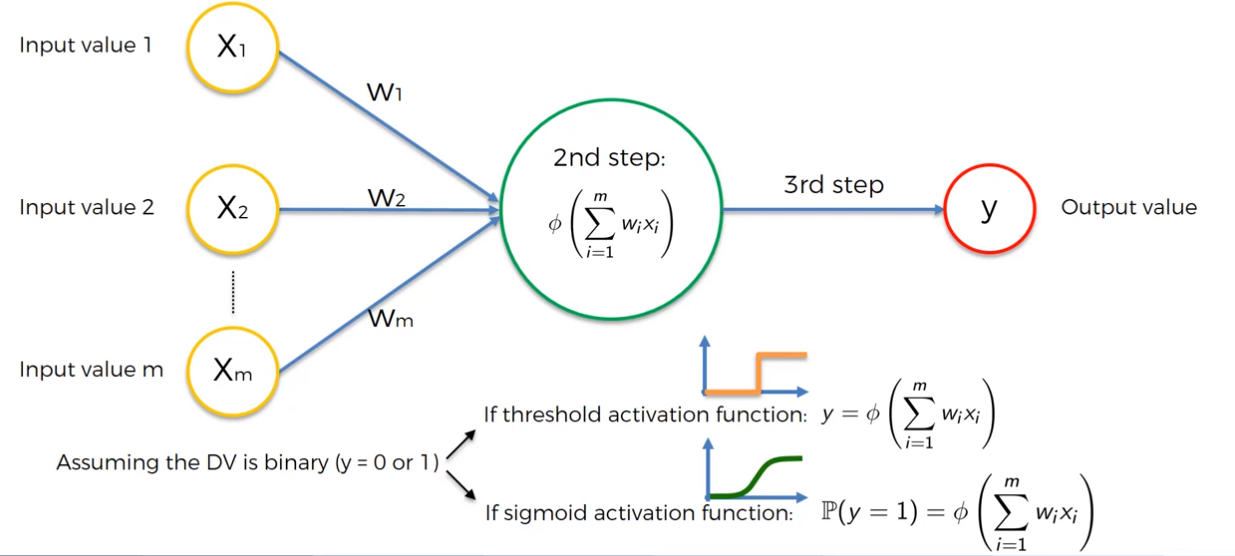












The sigmoid functions tells us what is the probability of being 0 or 1.