Assume that we are calculating for only one observation

I randomly Initialized some values/weights to calculate the node/neuron values

Let us calculate each Node values

Node 4: -0.4 + 1(0.2) + 0 (0.4) + 1 (-0.5)   = -0.7

Now, apply sigmoidal function i.e $\dfrac{e^{x\beta}}{1+e^{x\beta}}$ $= \dfrac{e^{-0.7}}{1+e^{-0.7}} = 0.332$

Node 5:   0.2 + 1(-0.3) + 0 (0.1) + 1 (0.2)   = 0.1

Now, apply sigmoidal function i.e $\dfrac{e^{x\beta}}{1+e^{x\beta}}$ $= \dfrac{e^{0.1}}{1+e^{0.1}} = 0.525$

Node 6:   0.1 + (-0.332)(-0.3) + (0.525) (-0.2)   = -0.105

Now, apply sigmoidal function i.e $\dfrac{e^{x\beta}}{1+e^{x\beta}}$ $= \dfrac{e^{-0.105}}{1+e^{-0.105}} = 0.474$

These process is called as **"Feed forward"**