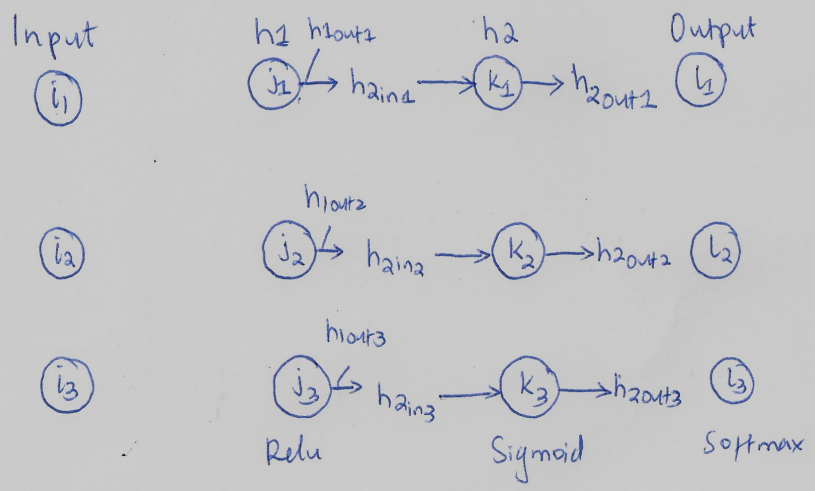
Layer - 2



$$[h_{1out1} \quad h_{1out2} \quad h_{1out3}] \times \begin{bmatrix} W_{j1k1} & W_{j1k2} & W_{j1k3} \\ W_{j2k1} & W_{j2k2} & W_{j2k3} \\ W_{j3k1} & W_{j3k2} & W_{j3k3} \end{bmatrix} + [b_{k1} \quad b_{k2} \quad b_{k3}] = [h_{2in1} \quad h_{2in2} \quad h_{2in3}]$$

For the second layer, we use the sigmoid activation function:

Sigmoid is given by: $1/(1+e^{-x})$

$$[h_{2out1} \quad h_{2out2} \quad h_{2out3}] = \cancel{[1/(1+e^{-x})]}\,[1/(1+e^{-h_{2in1}}) \quad 1/(1+e^{-h_{2in2}}) \quad 1/(1+e^{-h_{2in3}})]$$

$$[1.35 \quad 1.27 \quad 1.8] \times \begin{bmatrix} 0.2 & 0.3 & 0.5 \\ 0.3 & 0.5 & 0.7 \\ 0.6 & 0.4 & 0.8 \end{bmatrix} + [1.0 \quad 1.0 \quad 1.0] = [2.73 \quad 2.76 \quad 4.004]$$

$$[h_{2out1} \quad h_{2out2} \quad h_{2out3}] = [1/(1+e^{(-2.73)}) \quad 1/(1+e^{(-2.76)}) \quad 1/(1+e^{(-4.004)})]$$

$$= [0.938 \quad 0.94 \quad 0.98]$$