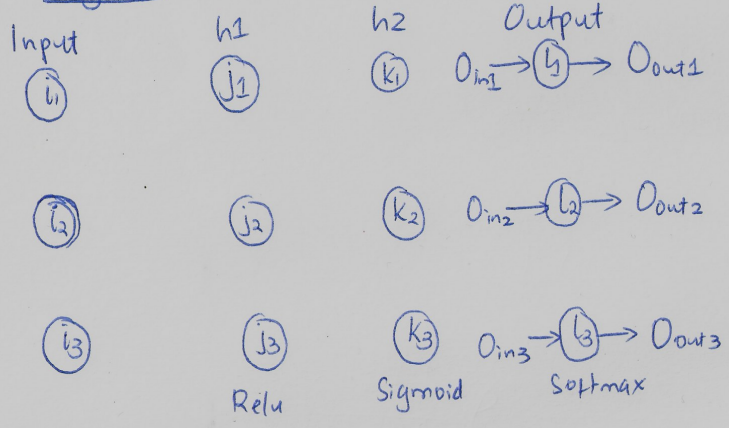
Layer 3:



$$[h_{2out1}\ \ h_{2out2}\ \ h_{2out3}] \times \begin{bmatrix} W_{k1l1} & W_{k1l2} & W_{k1l3} \\ W_{k2l1} & W_{k2l2} & W_{k2l3} \\ W_{k3l1} & W_{k3l2} & W_{k3l3} \end{bmatrix} + [b_{l1}\ \ b_{l2}\ \ b_{l3}] = [O_{in1}\ \ O_{in2}\ \ O_{in3}]$$

Softmax is given by: $e^{l_{inq}} / (\sum_{q=1}^{3} e^{O_{inq}})$

$$\therefore [O_{out1}\ \ O_{out2}\ \ O_{out3}] = [e^{O_{in1}} / (\sum_{q=1}^{3} e^{O_{inq}})\ \ e^{O_{in2}} / (\sum_{q=1}^{3} e^{O_{inq}})\ \ e^{O_{in3}} / (\sum_{q=1}^{3} e^{O_{inq}})]$$

$$[0.938\ \ 0.94\ \ 0.98] \times \begin{bmatrix} 0.1 & 0.4 & 0.8 \\ 0.3 & 0.7 & 0.2 \\ 0.5 & 0.2 & 0.9 \end{bmatrix} + [1.0\ \ 1.0\ \ 1.0] = [1.8658\ \ 2.2292\ \ 2.8204]$$

$$\sum_{q=1}^{3} e^{O_{inq}} = e^{1.8658} + e^{2.2292} + e^{2.8204} = 32.5371$$

$$[O_{out1}\ \ O_{out2}\ \ O_{out3}] = [e^{1.8658}/32.5371\ \ e^{2.2292}/32.5371\ \ e^{2.8204}/32.5371]$$

$$= [0.19858\ \ 0.2856\ \ 0.5158]$$

Actual correct output is [1.0 0.0 0.0] but we got [0.19858 0.2856 0.$158]