

derivative for logsig

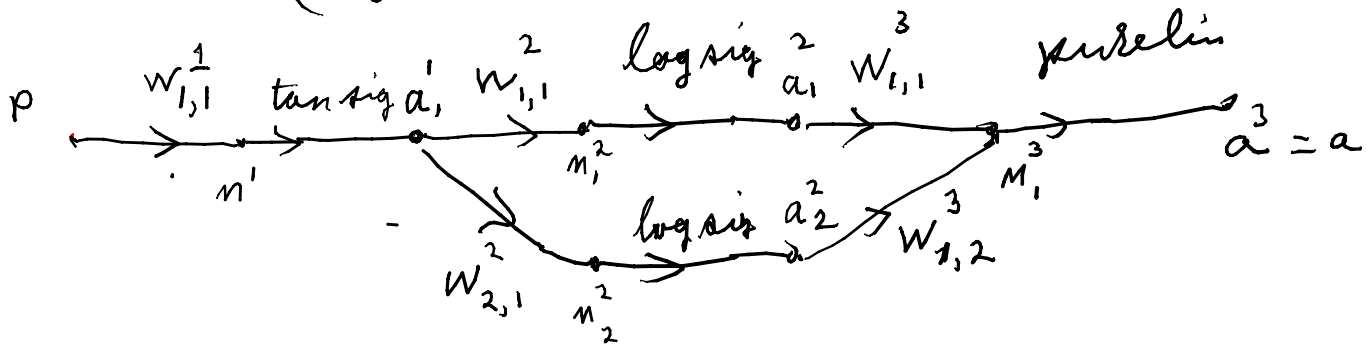
$$f(n) = \frac{1}{1 + e^{-n}}$$



$$\frac{df(n)}{dn} = \frac{-1}{(1 + e^{-n})^2} \times (-) e^{-n} = \frac{e^{-n}}{(1 + e^{-n})^2}$$

$$= f \times (1 - f) = \frac{1}{1 + e^{-n}} \left(1 - \frac{1}{1 + e^{-n}} \right)$$

$$= \frac{1}{(1 + e^{-n})^2} [e^{-n}]$$



\hat{F} is next needed for backprop.