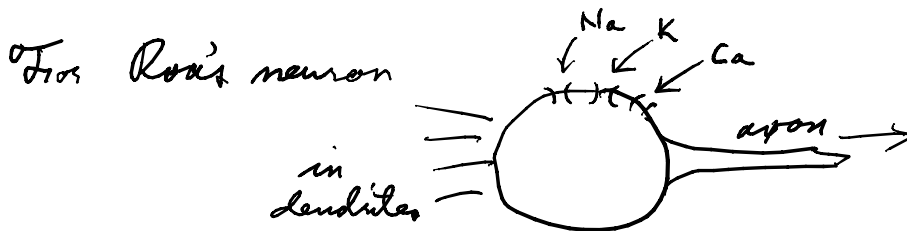
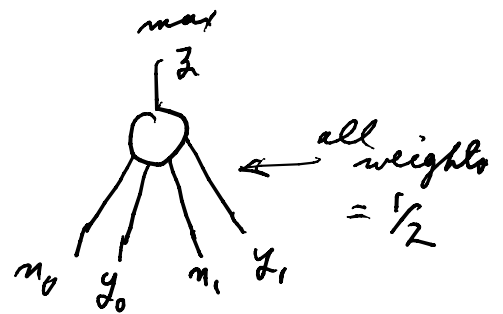
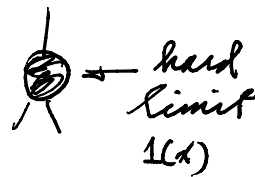
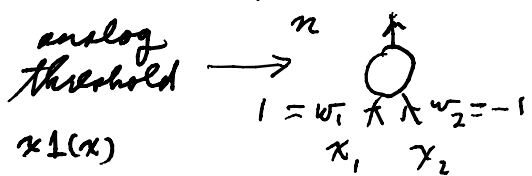


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$$\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} \Rightarrow \begin{bmatrix} a \\ b \\ c \\ \hline d \\ e \\ f \\ \hline g \\ h \\ i \end{bmatrix}$$



For Lipsmann



$$n(x_1, x_2) = (x_1 - x_2) \cdot 1(x_1 - x_2)$$

$$z = \frac{1}{2} (n_0 + y_0 + n_1 + y_1) \cdot 1\left(\frac{1}{2} (n_0 + y_0 + n_1 + y_1)\right)$$

$$n_0 = (y_0 - y_1) \cdot 1(y_0 - y_1)$$

$$n_1 = (y_1 - y_0) \cdot 1(y_1 - y_0)$$

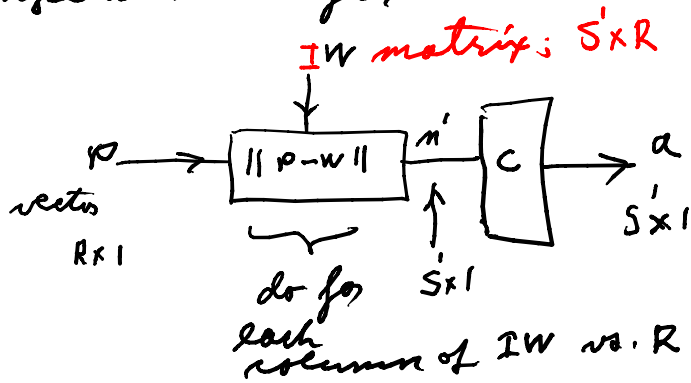
$$\text{if } y_0 > y_1, n_0 = (y_0 - y_1) \text{ \& } n_1 = 0 \Rightarrow z = \frac{1}{2} ((y_0 - y_1) + y_0 + 0 + y_1)$$

$$1\left(\frac{1}{2} (y_0 - y_1 + y_0 + y_1)\right)$$

$$= \left(\frac{1}{2} \times 2 y_0\right) \cdot 1(y_0)$$

if have positive inputs, $1(y_0) = 1$; $z = y_0$ which is $\max(y_0, y_1)$

Competitive layers



(Euclidean)

$dist(x, y)$: x & y n -vectors

$$= \sqrt{\sum_{i=1}^n (x_i - y_i)^2}$$

= Euclidean distance

linkdist

mandist

boxdist