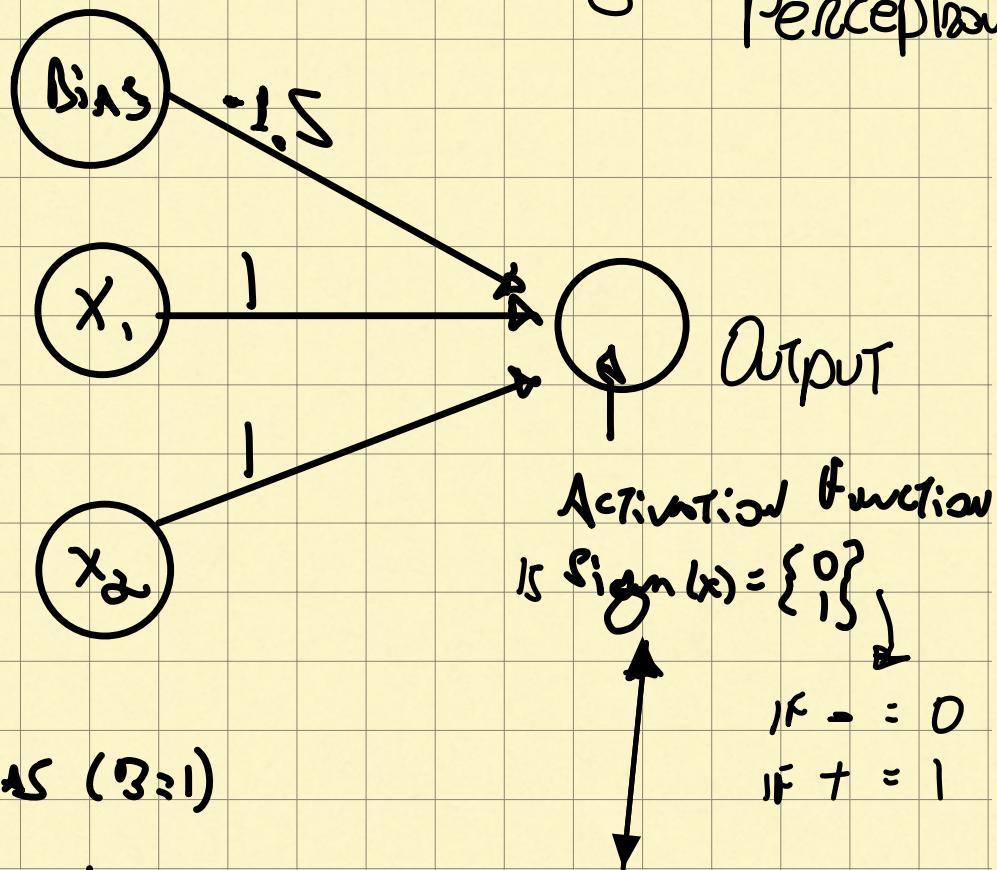


①

Single Layer Perception



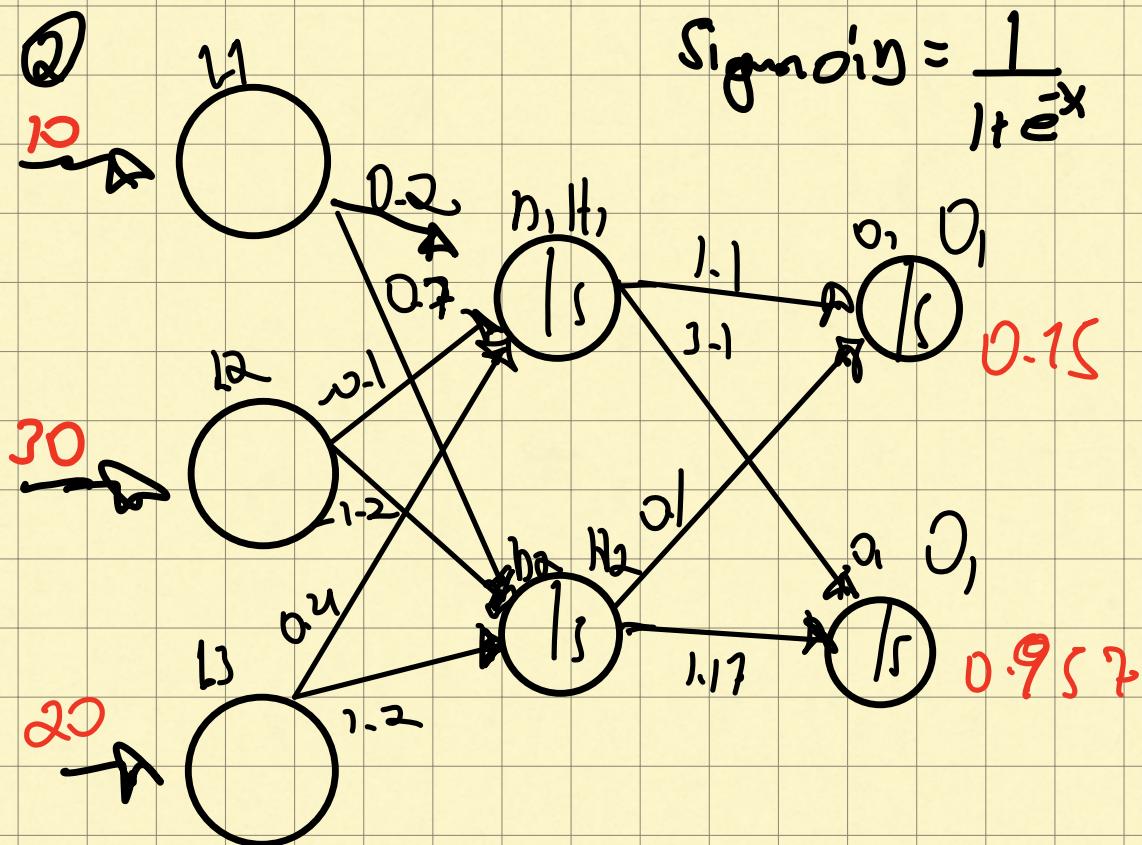
Bias (3:1)

INPUT	WEI \times SUM	OUTPUT
(0,0)	$-1.5 \times 1 + 1 \times 0 + 1 \times 0$	0
(0,1)	$-1.5 \times 1 + 0 \times 1 + 1 \times 1$	0
(1,1)	$-1.5 \times 1 + 1 \times 1 + 1 \times 1$	1
(1,0)	$-1.5 \times 1 + 1 \times 1 + 0 \times 1$	0

Bias ($B = -0.5$)

INPUT	WEIG \times SUM	OUTPUT
(0,0)	$1 \times -0.5 + 0 \times 1 + 0 \times 1$	0

$$\begin{array}{c|c|c}
 (0,1) & 1_{x=0.5+0x1+1x1} & 1 \\
 (1,1) & 1_{x=0.5+1x1+1x1} & 1 \\
 (1,0) & 1_{x=0.5+1x1+1x0} & 1
 \end{array}$$



$$H = 10(0.2) + 30(-0.1) + 20(0.4) = 7$$

$$\hat{y}_1 = \frac{1}{1 + e^{-7}} = .999$$

$$K_2 = 10(0.1) + 30(-1.2) + 20(1.2) = -5$$

$$K_2 = \frac{1}{1+e^{-\frac{-5}{1}} \times \frac{1}{1+e^{\frac{5}{1}}} = 0.00669}$$

$$\alpha = 1.1(0.999) + 0.1(0.00669) = 1.0996$$

$$\beta_1 = \frac{1}{1+e^{-\frac{-1.0996}{1}}} = 0.75$$

$$\alpha_2 = 3.1(0.997) + 1.17(0.00669) = 3.104$$

$$\beta_2 = \frac{1}{1+e^{-\frac{-3.104}{1}}} = .957$$

$$P(\text{O}_1) = \frac{0.75}{0.75 + 0.957} \approx 0.44 \text{ Y.}$$

$$P(\text{O}_2) = \frac{0.957}{0.75 + 0.957} \approx 0.56 \text{ Y.}$$