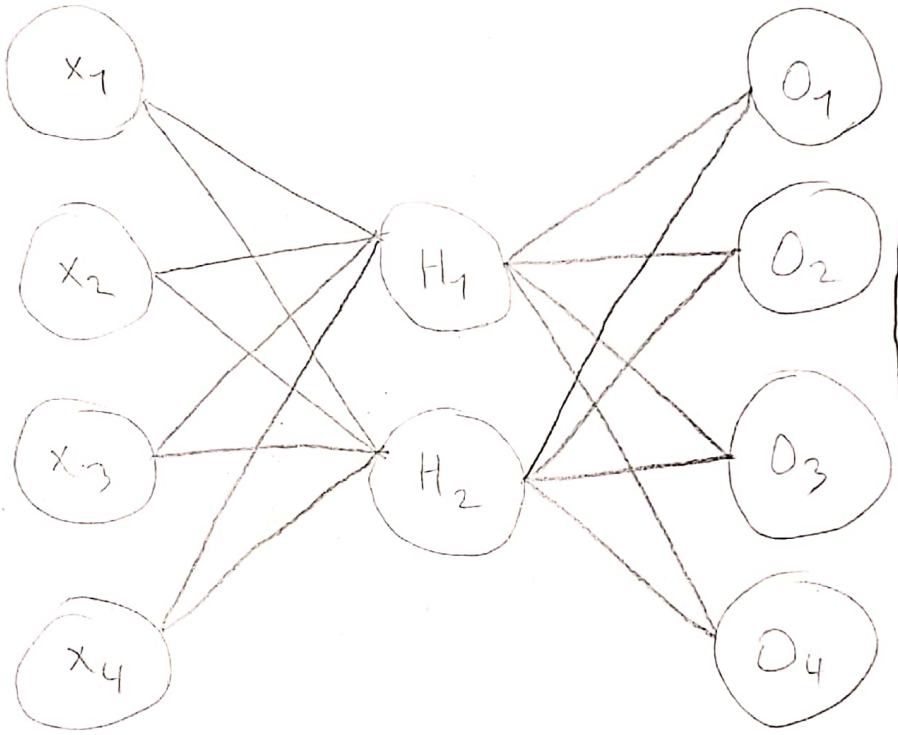
$$x=\begin{bmatrix}0.2\\0.1\\1.1\\1\end{bmatrix}\begin{matrix}x_1\\x_2\\x_3\\x_4\end{matrix} \quad w_1=\begin{bmatrix}0.1 & 0.25 & 0.5 & 0.3\\0.4 & 0.15 & 0.2 & 0.1\end{bmatrix}\begin{matrix}H_1\\H_2\end{matrix} \quad w_2=\begin{bmatrix}0.15 & 0.25 & 0.5 & 0.2\\0.4 & 0.3 & 0.2 & 0.1\end{bmatrix}$$
$$O_1 \quad O_2 \quad O_3 \quad O_4$$

$$b=[0\ 0\ 0\ 0] \qquad y=\begin{bmatrix}1\\0\\0\\1\end{bmatrix}$$

Aktivasyon fonksiyonu olarak ReLU kullanılmıştır.

cost fonksiyonu = MSE

$$\frac{1}{n}\sum_{i=1}^{n}(y_i-\hat{y}_i)^2$$



$$\begin{bmatrix}0.30025\\0.34825\\0.5305\\0.2205\end{bmatrix}$$

$H_1 = (0.2\times0.1)+(0.1\times0.25)+(1.1\times0.5)+(1\times0.3)+0 = 0.895$

$H_2 = (0.2\times0.4)+(0.1\times0.15)+(1.1\times0.2)+(1\times0.1)+0 = 0.415$

$O_1 = (0.895\times0.15)+(0.415\times0.4) = 0.30025$

$O_2 = (0.895\times0.25)+(0.415\times0.3) = 0.34825$

$O_3 = (0.895\times0.5)+(0.415\times0.2) = 0.5305$

$O_4 = (0.895\times0.2)+(0.415\times0.7) = 0.2205$

calc Error

$$\frac{1}{4}\left((1-0.30025)^2+(0-0.34825)^2+(0-0.5305)^2+(1-0.2205)^2\right)$$

$$= 0.374994665625$$