

$$1(1) + 2(3) + 3(4) = 2$$

$$3 \rightarrow 4 \quad 1(1) + 4(3) + 5(4) = 47$$

$$\frac{1}{1+e^{-x}} \rightarrow \boxed{0.88} \quad \frac{1}{1+e^{-4.7}} = 0.99$$

$$H \rightarrow 0 \quad \frac{(0.88)^2}{\hat{y}_1 = z(x)} = 1(0.99)3 = 4.73$$

$$1(6) + 0.2(8) + 0.3(3) = 3.4$$

$$0.4(6) + 0.5(8) + 0.6(3) = 8.6$$

$$\frac{1}{1+e^{-3.1}} = 0.95 \quad \frac{1}{1+e^{-8.2}} = 0.99$$

$$0.9572 + (0.99)3 = 4.913$$

$$\hat{y}_2 = z(x) = \underline{\underline{0.82}}$$

New  $w_1 =$

$$\begin{bmatrix} 0.1432 & 0.5080 \\ 0.2648 & 0.6296 \\ 0.3864 & 0.7512 \end{bmatrix}$$

$$\text{New } w_2 = \begin{bmatrix} 2.095 \\ 3.22 \end{bmatrix}$$

$$E = \frac{1}{2} \left[ (10 - 0.82)^2 + (15 - 0.82)^2 \right] = 13.4958$$

$$\Delta O \approx 2$$

$$\Delta H = \frac{1}{2e-1} \left( 1 - \frac{1}{1+e^{-x}} \right)$$

$$\Delta E = \frac{1}{2} (y - \hat{y})^2 = 2 \cdot \frac{1}{2} (y - \hat{y}) \cdot (y - \hat{y})$$

$$(y - \hat{y}) \cdot (0 - 1) = \hat{y} - y$$

$$\textcircled{1} \quad 2(\hat{y} - y) \cdot 1 \cdot H_1 =$$

$$(0.54)(2)(0.88) = 0.95016$$

$$w_1 = 2 + 0.1(0.95) = 2.095$$

$$\textcircled{2} \quad (0.54)(2)(0.99) = 2.117$$

$$3 + 0.1(2.117) = 3.22$$

$$w_2 = \begin{bmatrix} 2.09 \\ 3.22 \end{bmatrix}$$

$$\textcircled{3} \quad (0.54)(2)(0.62) = 4.32 \cdot 0.1 = 0.432$$

$$(0.54)(2)(0.3) = 6.48 \cdot 0.1 = 0.648$$

$$(0.54)(2)(0.4) = 8.64 \cdot 0.1 = 0.864$$

$$1.080$$

$$1.096$$

$$1.0511$$

$$.1 + .1(1.4324) = \boxed{.1482} \quad .5080$$

$$.2 + .1(1.648) = \boxed{.2648} \quad .16296$$

$$.3 + .1(1.864) = \boxed{.3864} \quad .07512$$

$$.4 + .1(1.080) =$$

$$.5 + .1(1.296) =$$

$$.6 + .1(1.512) =$$