$$\mathbf{w}_3^{(1)} = \mathbf{w}_2^{(1)} - \eta\vec{x}_n^{(0)}(\overrightarrow{\delta}^{(1)})^T = \mathbf{w}_2^{(1)} - \eta\begin{pmatrix}1\\ x_{n1}^{(0)}\\ x_{n2}^{(0)}\end{pmatrix}\left(\delta_1^{(1)}, \delta_2^{(1)}\right)$$

$$= \begin{pmatrix} w_{01}^{(1)} & w_{02}^{(1)} \\ w_{11}^{(1)} & w_{12}^{(1)} \\ w_{21}^{(1)} & w_{22}^{(1)} \end{pmatrix} - \eta\begin{pmatrix} \delta_1^{(1)} & \delta_2^{(1)} \\ x_{n1}^{(0)}\delta_1^{(1)} & x_{n1}^{(0)}\delta_2^{(1)} \\ x_{n2}^{(0)}\delta_1^{(1)} & x_{n2}^{(0)}\delta_2^{(1)} \end{pmatrix}$$

$$= \begin{pmatrix} -0.17 & -0.17 \\ -0.35 & -0.35 \\ -0.35 & -0.35 \end{pmatrix} - 0.01\begin{pmatrix} 0 & 0 \\ (-1)*0 & (-1)*0 \\ (+1)*0 & (+1)*0 \end{pmatrix}$$

$$= \begin{pmatrix} -0.17 & -0.17 \\ -0.35 & -0.35 \\ -0.35 & -0.35 \end{pmatrix}$$

$$\mathbf{w}_3^{(2)} = \mathbf{w}_2^{(2)} - \eta\vec{x}_n^{(1)}(\overrightarrow{\delta}^{(2)})^T = \mathbf{w}_2^{(2)} - \eta\begin{pmatrix}1\\ x_1^{(1)}\\ x_2^{(1)}\end{pmatrix}\left(\delta_1^{(2)}, \delta_2^{(2)}, \delta_3^{(2)}\right)$$

$$= \begin{pmatrix} w_{01}^{(2)} & w_{02}^{(2)} & w_{03}^{(2)} \\ w_{11}^{(2)} & w_{12}^{(2)} & w_{13}^{(2)} \\ w_{21}^{(2)} & w_{22}^{(2)} & w_{23}^{(2)} \end{pmatrix} - \eta\begin{pmatrix} \delta_1^{(2)} & \delta_2^{(2)} & \delta_3^{(2)} \\ x_1^{(1)}\delta_1^{(2)} & x_1^{(1)}\delta_2^{(2)} & x_1^{(1)}\delta_3^{(2)} \\ x_2^{(1)}\delta_1^{(2)} & x_2^{(1)}\delta_2^{(2)} & x_2^{(1)}\delta_3^{(2)} \end{pmatrix}$$

$$= \begin{pmatrix} 0.46 & 0.46 & 0.46 \\ -0.29 & -0.29 & -0.29 \\ -0.29 & -0.29 & -0.29 \end{pmatrix} - 0.01\begin{pmatrix} 3.82 & 3.82 & 3.82 \\ 0*3.82 & 0*3.82 & 0*3.82 \\ 0*3.82 & 0*3.82 & 0*3.82 \end{pmatrix}$$

$$= \begin{pmatrix} 0.42 & 0.42 & 0.42 \\ -0.29 & -0.29 & -0.29 \\ -0.29 & -0.29 & -0.29 \end{pmatrix}$$

$$\mathbf{w}_3^{(3)} = \mathbf{w}_2^{(3)} - \eta\vec{x}_n^{(2)}(\overrightarrow{\delta}^{(3)})^T = \mathbf{w}_2^{(3)} - \eta\begin{pmatrix}1\\ x_1^{(2)}\\ x_2^{(2)}\\ x_3^{(2)}\end{pmatrix}\delta_1^{(3)}$$

$$= \begin{pmatrix} 0.64 \\ -1.91 \\ -1.91 \\ -1.91 \end{pmatrix} - 0.01\begin{pmatrix} -2.00 \\ 0.46*(-2.00) \\ 0.46*(-2.00) \\ 0.46*(-2.00) \end{pmatrix} = \begin{pmatrix} 0.66 \\ -1.90 \\ -1.90 \\ -1.90 \end{pmatrix}$$

t=4，对于第四个样本$\vec{x}_2 = (1,-1)^T$，则第一层神经元的输入为：

$$\begin{pmatrix} s_1^{(1)} \\ s_2^{(1)} \end{pmatrix} = (\mathbf{w}^{(1)})^T\vec{x}_n^{(0)} = \begin{pmatrix} -0.17 & -0.35 & -0.35 \\ -0.17 & -0.35 & -0.35 \end{pmatrix}\begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix} = \begin{pmatrix} -0.17 \\ -0.17 \end{pmatrix}$$