$$f_1(x) = 4 - 8y_2 + 4y_3 - 2y_2^3 = 0$$

$$f_2(x) = 1 - 4y_2 + 3y_3 + y_3^2$$

$$X_{n+1} = X_n - \frac{f(x_n)}{f'(x_n)} = x_n - J^{-1} F_{(x)}$$

$$F_0 = \begin{bmatrix} 0,5 \\ 0,5 \end{bmatrix} \qquad F_{(x)} = \begin{bmatrix} f_1(x) \\ f_2(x) \end{bmatrix}$$

$$J = \begin{bmatrix} \frac{\partial}{\partial y_2} f_{1(x)} & \frac{\partial}{\partial y_3} f_{1(x)} \\ \frac{\partial}{\partial y_2} f_{2(x)} & \frac{\partial}{\partial y_3} f_{2(x)} \end{bmatrix}$$

$$J = \begin{bmatrix} -8 - 6y_2^2 & 4 \\ -4 & 3 + 2y_3 \end{bmatrix}$$

$$F_{n+1} = F_n - J^{-1} F(x)$$

$$= \begin{bmatrix} 0,5 \\ 0,5 \end{bmatrix} - J^{-1}$$