$CoF(A) = (-1)^{i+j}$

$C_{11} = 23 \quad C_{12} = 8 \quad C_{13} = -22 \quad C_{21} = -5 \quad C_{22} = -5$

$C_{23} = -5 \quad C_{31} = 22 \quad C_{32} = 22 \quad C_{33} = -23$

$$CoF(A) = \begin{bmatrix} 23 & 8 & -22 \\ -5 & -5 & -5 \\ 22 & 22 & -21 \end{bmatrix}$$

② $(A) = (CoF(A))$

$$;(A) = \begin{bmatrix} 21 & -5 & 7 \\ 8 & -5 & 22 \\ -22 & -5 & -21 \end{bmatrix}$$

③ A^{-1} by adj(A)

$$A^{-1} = \frac{1}{det(A)} * adj(A)$$

$$det(A) = \begin{vmatrix} -3 & 2 & 1 \\ 4 & 5 & 6 \\ 2 & -1 & 1 \end{vmatrix} \rightarrow -3 \begin{vmatrix} 5 & 6 \\ -1 & 1 \end{vmatrix} + 1 \begin{vmatrix} 4 & 5 \\ 2 & -3 \end{vmatrix}$$

$$det(A) = -75$$

$$A^{1} = \frac{-1}{75} \begin{bmatrix} 23 & -5 & 7 \\ 8 & -5 & 22 \\ -22 & -5 & -23 \end{bmatrix} = \begin{bmatrix} \frac{-22}{75} & \frac{1}{15} & \frac{-7}{75} \\ \frac{-8}{75} & \frac{1}{15} & \frac{-22}{75} \\ \frac{22}{75} & \frac{1}{15} & \frac{23}{75} \end{bmatrix}$$

① $A = \begin{bmatrix} -3 & 2 & 1 \\ 4 & 5 & 6 \\ 2 & -1 & 1 \end{bmatrix}$

$M_{11} = \begin{vmatrix} 5 & 6 \\ -3 & 1 \end{vmatrix} = 23$ $M_{12} \begin{vmatrix} 4 & 6 \\ 2 & 1 \end{vmatrix} = -8$

$M_{13} = \begin{vmatrix} 4 & 5 \\ 2 & -3 \end{vmatrix} = -22$ $M_{21} = \begin{vmatrix} 2 & 1 \\ -3 & 1 \end{vmatrix} = 5$

$M_{22} = \begin{vmatrix} -3 & 1 \\ 2 & 1 \end{vmatrix} = 5$ $M_{23} = \begin{vmatrix} -3 & 2 \\ 2 & 5 \end{vmatrix} = 5$

$M_{31} = \begin{vmatrix} 2 & 1 \\ 5 & 6 \end{vmatrix} = 7$ $M_{32} = \begin{vmatrix} -3 & 1 \\ 4 & 6 \end{vmatrix} = -22$

$M_{33} = \begin{vmatrix} -3 & 2 \\ 4 & 5 \end{vmatrix} = -23$

$\min(A) = \begin{bmatrix} 23 & -8 & -22 \\ 5 & -5 & 5 \\ 7 & -22 & -23 \end{bmatrix}$