

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}, \text{ 求 } A^{-1}, \det(A) \neq 0$$

解: $\det(A) = \begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc$

$$\text{adj}(A) = \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$

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

$$= \frac{1}{ad-bc} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$

$$= \begin{bmatrix} \frac{d}{ad-bc} & \frac{-b}{ad-bc} \\ \frac{-c}{ad-bc} & \frac{a}{ad-bc} \end{bmatrix}$$