$$\begin{matrix} 0 & 1 \\ 1 & 0 \end{matrix} \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix} \begin{Bmatrix} 0 & 1 \\ 1 & 0 \end{Bmatrix} \begin{vmatrix} 0 & 1 \\ 1 & 0 \end{vmatrix} \begin{Vmatrix} 0 & 1 \\ 1 & 0 \end{Vmatrix}$$

$$A = \begin{pmatrix} a_{11}^2 & a_{12}^2 & a_{13}^2 \\ 0 & a_{22} & a_{23} \end{pmatrix}$$

$$A = \begin{bmatrix} a_{11}^2 & \cdots & a_{13}^2 \\ \ddots & \vdots & \iddots \end{bmatrix}_{n \times n}$$

$$\begin{pmatrix} 1 & 0 & & \\ 0 & 1 & 0 & \\ & 1 & 0 & \\ 0 & 0 & -1 & \end{pmatrix}$$

$$\begin{pmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ & a_{22} & \cdots & a_{2n} \\ & 0 & \ddots & \vdots \\ & & & a_{nn} \end{pmatrix}$$

$$\begin{pmatrix} 1 & \frac{1}{2} & \cdots & \frac{1}{n} \\ \cdots & \cdots & \cdots & \cdots \\ m & \frac{m}{2} & \cdots & \frac{m}{n} \end{pmatrix}$$

$\left(\begin{smallmatrix} x & -y \\ y & x \end{smallmatrix}\right)$

$$\begin{array}{c|c} \frac{1}{2} & 0 \\ \hline 0 & -\frac{a}{b}c \end{array}$$

$$\left.\begin{array}{ccc|ccc} a & \cdots & a & b & \cdots & b \\ & \ddots & \vdots & \vdots & \iddots & \\ & & a & b & & \end{array}\right\} p$$

$$\left.\begin{array}{ccc|ccc} & & & c & \cdots & c \\ & 0 & & \vdots & & \vdots \\ & & & c & \cdots & c \end{array}\right\} q$$

$$\underbrace{\qquad}_{m} \quad \underbrace{\qquad}_{m}$$