

$$A = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{pmatrix} \quad B = \begin{pmatrix} 1 & 2 \\ 3 & 4 \\ 5 & 6 \end{pmatrix}$$

$$C = AB = \begin{pmatrix} 22 & 28 \\ 49 & 64 \end{pmatrix} \quad D = BA = \begin{pmatrix} 9 & 12 & 15 \\ 19 & 26 & 33 \\ 29 & 40 & 51 \end{pmatrix}$$

$$E = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} \quad F = \begin{pmatrix} 5 & 7 \\ 6 & 8 \end{pmatrix}$$

$$E + F = \begin{pmatrix} 6 & 9 \\ 9 & 12 \end{pmatrix} \quad E - F = \begin{pmatrix} -4 & -5 \\ -3 & -4 \end{pmatrix}$$

$$E^T = \begin{pmatrix} 1 & 3 \\ 2 & 4 \end{pmatrix}$$