

行列式加法拆解問題。89台大資工

$$\det(A+B) = \det(A) + \det(B)$$

Ans.

$$\text{取 } A = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}, B = \begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}$$

$$\Rightarrow \det(A+B) = \det \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix} = 0$$

$$\det(A) + \det(B) = 1 + 1 = 2$$

$$\therefore \det(A+B) \neq \det(A) + \det(B) \quad \#$$