

$$P = \begin{pmatrix} 3 & 1 \\ 2 & 0 \end{pmatrix}, \quad D = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$$

Ta co' :  $A = P \cdot D \cdot P^{-1}$

$$\Rightarrow A^{101} = \cancel{P^{101}} P D^{101} P^{-1}$$

$$D^{101} = \begin{pmatrix} -1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$\Rightarrow D^{101} = D$$

$$\Rightarrow P \cdot D^{101} \cdot P^{-1} = P \cdot D \cdot P^{-1}$$

$$\Rightarrow A^{101} = A$$

$$\Rightarrow A^{101} = \begin{pmatrix} -1 & 3 \\ 0 & 1 \end{pmatrix}$$