

Jika nilai-eigen matrix $A : \lambda$, berlaku:

$$\det [\lambda I - A] = 0$$

dan $\det [\lambda I - \hat{A}] = 0$

$$[\lambda I - A] = \begin{bmatrix} \lambda & 0 \\ 0 & \lambda \end{bmatrix} - \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} = \begin{bmatrix} \lambda - 1 & -2 \\ -3 & \lambda - 4 \end{bmatrix}$$

$$\det [\lambda I - A] = 0 \rightarrow (\lambda - 1)(\lambda - 4) - 6 = 0$$

pers. karakter: $\lambda^2 - 5\lambda - 2 = 0$

$$\lambda_{1,2} = \frac{5 \pm \sqrt{25 + 8}}{2} = -$$

$$[\lambda I - \hat{A}] = \begin{bmatrix} \lambda & 0 \\ 0 & \lambda \end{bmatrix} - \begin{bmatrix} 2 & 2 \\ 4 & 3 \end{bmatrix} = \begin{bmatrix} \lambda - 2 & -2 \\ -4 & \lambda - 3 \end{bmatrix}$$

$$\det [\lambda I - \hat{A}] = 0 \rightarrow (\lambda - 2)(\lambda - 3) - 8 = 0$$

pers. karakter: $\lambda^2 - 5\lambda - 2 = 0 \rightarrow \lambda_{1,2}$