
Exercise 1 Find eigenvalues of $A = \begin{bmatrix} 2 & 4 \\ 5 & 3 \end{bmatrix}$.

Eigenvalues (in increasing order): $\lambda_1 = \dots$, $\lambda_2 = \dots$

Compute a basis for the eigenspace associated with each of these eigenvalues.

A basis for S_{λ_1} : $\left\{ \begin{bmatrix} 1 \\ \dots \end{bmatrix} \right\}$

A basis for S_{λ_2} : $\left\{ \begin{bmatrix} 4 \\ \dots \end{bmatrix} \right\}$