

Quiz 7

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1. Give the characteristic equation for the matrix A and find its eigenvalues:

$$A = \begin{bmatrix} -4 & -1 \\ 6 & 1 \end{bmatrix}$$

2. What are the eigenvalues of the matrix B below?

$$B = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 2 & 4 & 0 & 0 \\ 3 & 4 & -5 & 0 \\ 2 & 2 & -1 & 3 \end{bmatrix}$$

3. The vector \vec{v} given below is an eigenvector for the matrix C . Find the eigenvalue corresponding to \vec{v} :

$$C = \begin{bmatrix} -4 & 3 & 3 \\ 2 & -3 & -2 \\ -1 & 0 & -2 \end{bmatrix} \quad \vec{v} = \begin{bmatrix} 3 \\ -2 \\ 1 \end{bmatrix}$$