

Eigenvalues and eigenvectors[← Back](#)

Graded Assignment • 25 min



English ▾

Due Mar 9, 11:59 PM WIB**Your grade: 90%**Your latest: **90%** • Your highest: **90%**

To pass you need at least 80%. We keep your highest score.

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1. This assessment will test your ability to apply your knowledge of eigenvalues and eigenvectors to some special cases.

Use the following code blocks to assist you in this quiz. They calculate eigenvectors and eigenvalues respectively:

```

1  # Eigenvalues
2  M = np.array([[1, 0, 0],
3               [0, 2, 0],
4               [0, 0, 3]])
5  vals, vecs = np.linalg.eig(M)
6  vals

```

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```

1  # Eigenvectors - Note, the eigenvectors are the columns of the output.
2  M = np.array([[1, 0, 0],
3               [0, 2, 0],
4               [0, 0, 3]])
5  vals, vecs = np.linalg.eig(M)
6  vecs
7

```

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To practice, select all eigenvectors of the matrix, $A = \begin{bmatrix} 4 & -5 & 6 \\ 7 & -8 & 6 \\ 3/2 & -1/2 & -2 \end{bmatrix}$.

☐ None of the other options.

☒ $\begin{bmatrix} 1/2 \\ -1/2 \\ -1 \end{bmatrix}$