EIGENVALUES-AND-EIGENVECTORS

Aim:

To write a python program to find the Eigenvalues and Eigen Vectors

Equipment’s required:

1. Hardware – PCs
2. Anaconda – Python 3.7 Installation / Moodle-Code Runner

Algorithm:

Step1 :

Import numpy as np

Step 2:

Get array input from user

Step 3:

Using the np.linalg.eig(), we get two results (first is eigenvalue and second is eigenvector) of the given matrix.

Step 4:

Print the program

Program:#Program to find the eigen values and eigen vectors.

```
#Developed by: Thirukaalathessvarar S
#RegisterNumber: 22004529

import numpy as np
a=np.array([[2,2],[1,3]])
value,vector=np.linalg.eig(a)
print("Eigen values are {} and Eigen Vectors are
```

```
{}".format(value,vector))
```

Output:

	Expected	Got	
✔	Eigen values are [1. 4.] and Eigen Vectors are [[-0.89442719 -0.70710678] [0.4472136 -0.70710678]]	Eigen values are [1. 4.] and Eigen Vectors are [[-0.89442719 -0.70710678] [0.4472136 -0.70710678]]	✔

Result:

Thus the Eigenvalue and Eigenvector is successfully solved using python program