CA3 Instructions to Run the Code

Aviral Agarwal

180167

The code is interactive with following limitations: -

- If you want to run for a different test case then you will have to paste the input in: -

  Input_file_method_no.txt

  Where "no" has to replaced by 1-4 depending on your method number input because there are 4 methods
- It is **NECESSARY that you have to enter the folder path where you want to save the output file for example: -**
  - **"C:\Aviral Data\Sem7\ESO208"**

  So, in a similar manner you have to enter the path of the folder

  Once you execute the code input will be taken from file as mentioned above and similarly output will be in the folder you mentioned with the file name: -

  output_file_method_no.txt

  Where "no" is the method number you give as input.

INPUT/OUTPUT STARTS FROM NEXT PAGE:-

Input output for the given Test case: -

Method 1: -

Input

3

8.0 -1.0 -1.0

-1.0 4.0 -2.0

-1.0 -2.0 10.0

100

0.001

Output

Direct Power Method

Eigenvalue

10.778672

Eigenvector

-0.250743

-0.239782

0.937887

Iterations

30

Method 2: -

Input

3

8.0 -1.0 -1.0

-1.0 4.0 -2.0

-1.0 -2.0 10.0

100

0.001

Output

Inverse Power Method

Eigenvalue

3.074933

Eigenvector

0.248178

0.920536

0.301696

Iterations

12

Method 3: -

Input

3

8.0 -1.0 -1.0

-1.0 4.0 -2.0

-1.0 -2.0 10.0

100

0.001

8.0

Output

Shifted Power Method

Eigenvalue

8.146131

Eigenvector

0.935570

-0.308527

0.171812

Iterations

6

Method 4: -

Input

3

8.0 -1.0 -1.0

-1.0 4.0 -2.0

-1.0 -2.0 10.0

100

0.001

Output

QR Method

Eigenvalues

10.778835

8.146223

3.074941

Iterations

23