**Shubhan Singh**

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**SE-Comps B/Batch C**

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**Scilab no.8 : Eigenvalues**

**Program No.1** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [2 -1 1; 1 2 -1; 1 -1 2];

a = A(1, 1) + A(2, 2) + A(3, 3);

b = ((A(2, 2)\* A(3, 3)) - (A(3, 2)\*A(2, 3)) + A(1, 1)\*A(3, 3) - (A(3, 1)\*A(1, 3))) + (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

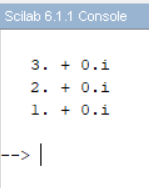
m = det(A);

p = [1 -a b -m];

m = roots(p);

disp(m);

**Output :-**

****

**Program No.2** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [8 -8 -2; 4 -3 -2; 3 -4 1];

a = A(1, 1) + A(2, 2) + A(3, 3);

b = ((A(2, 2)\* A(3, 3)) - (A(3, 2)\*A(2, 3)) + A(1, 1)\*A(3, 3) - (A(3, 1)\*A(1, 3))) + (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

m = det(A);

p = [1 -a b -m];

m = roots(p);

disp(m);

**Output :-**

**A screenshot of a math application

Description automatically generated**

**Program No.3** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [2 2 1; 1 3 1; 1 2 2];

a = A(1, 1) + A(2, 2) + A(3, 3);

b = ((A(2, 2)\* A(3, 3)) - (A(3, 2)\*A(2, 3)) + A(1, 1)\*A(3, 3) - (A(3, 1)\*A(1, 3))) + (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

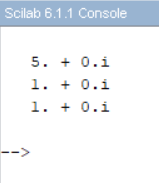
m = det(A);

p = [1 -a b -m];

m = roots(p);

disp(m);

**Output :-**

****

**Program No.4** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [4 -2; 1 1];

a = A(1, 1) + A(2, 2);

b = (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

m = det(A);

p = [1 -a b];

m = roots(p);

disp(m);

**Output :-**

**A screenshot of a computer

Description automatically generated**

**Program No.5** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [2 1 1; 2 3 2; 3 3 4];

a = A(1, 1) + A(2, 2) + A(3, 3);

b = ((A(2, 2)\* A(3, 3)) - (A(3, 2)\*A(2, 3)) + A(1, 1)\*A(3, 3) - (A(3, 1)\*A(1, 3))) + (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

m = det(A);

p = [1 -a b -m];

m = roots(p);

disp(m);

**Output :-**

**A screenshot of a computer

Description automatically generated**

**Program No.6** :- Write a scilab code to find Eigen value of matrix A

A=

**Code :-**

clc

A = [8 -6 2; -6 7 -4; 2 -4 3];

a = A(1, 1) + A(2, 2) + A(3, 3);

b = ((A(2, 2)\* A(3, 3)) - (A(3, 2)\*A(2, 3)) + A(1, 1)\*A(3, 3) - (A(3, 1)\*A(1, 3))) + (A(1, 1)\*A(2, 2) - (A(2, 1)\*A(1, 2)));

m = det(A);

p = [1 -a b -m];

m = roots(p);

disp(m);

**Output :-**

**A screenshot of a computer

Description automatically generated**