**PRACTICAL NO – 3(A)**

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Name :

Roll No :

Aim : Program for solving linear system of equations using Gauss elimination methods.

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function [**x**]=gauss(**A**, **B**)

[nA,mA]=size(**A**);

[nb,mb]=size(**B**);

d=det(**A**);

if d==0 then

printf('matrix is non singular solution does not exist');

abort;

end

a=[**A** **B**];

n=nA;

for k=1:n-1

for i=k+1:n

for j=k+1:n+1

a(i,j)=a(i,j)-a(k,j)\*a(i,k)/a(k,k);

end

end

end

**x**(n)=a(n,n+1)/a(n,n);

for i= n-1:-1:1

sumk =0;

for k=i+1:n

sumk=sumk+a(i,k)\***x**(k);

end

**x**(i)=(a(i,n+1)-sumk)/a(i,i);

end

printf('tx1=%g\tx2=%g\tx3=%g\tx4=%g\n',**x**(1),**x**(2),**x**(3),**x**(4));

endfunction

**OUTPUT :**

-->A=[5,1,1,1;1,7,1,1;1,1,6,1;1,1,1,4]

A =

5. 1. 1. 1.

1. 7. 1. 1.

1. 1. 6. 1.

1. 1. 1. 4.

-->B=[4;12;-5;-6]

B =

4.

12.

- 5.

- 6.

-->gauss(A,B)

tx1=1 x2=2 x3=-1 x4=-2

ans =

1.

2.

- 1.

- 2.