**Practical : 12**

**Code :**

#include<stdio.h>

#include<stdlib.h>

#include<math.h>

#define MAX 10

void GE(int n,float mat[MAX][MAX+1],float sol[MAX])

{

int i,j,k;

float f;

for(k=0;k<n;k++)

{

for(i=k+1;i<n;i++)

{

f=mat[i][k]/mat[k][k];

for(j=k;j<=n;j++)

{

mat[i][j]=mat[i][j]-(f\*mat[k][j]);

}

}

}

for(i=n-1;i>=0;i--)

{

sol[i]=mat[i][n];

for(j=i+1;j<n;j++)

{

sol[i]=sol[i]-(mat[i][j]\*sol[j]);

}

sol[i]=sol[i]/mat[i][i];

}

}

main()

{

int i,j,n;

float a[MAX][MAX+1],sol[MAX];

printf("Enter the number of equations to be solved : ");

scanf("%d",&n);

printf("\nEnter the elements of the augmented matrix : ");

for(i=0;i<n;i++) {

printf("\nEquation %d: ", i + 1);

for(j=0;j<=n;j++) {

scanf("%f", &a[i][j]);

}

}

printf("\nThe Matrix A is : \n");

for(i=0;i<n;i++)

{

for(j=0;j<n+1;j++)

{

printf("%f\t",a[i][j]);

}

printf("\n");

}

GE(n,a,sol);

printf("\nTherefore the solution is : \n");

for(i=0;i<n;i++)

{

printf("%f\t",sol[i]);

}

}

**Output :**

