

```

#include<stdio.h>
#include<math.h>
int main()
{
float a[11][11], b[11], x[11], y[11] , error=1.e-5;
int n,i, j, flag ;
printf("Enter the number of unknown \n");
scanf("%d", &n);
printf("Enter the coefficient matrix \n");
for (i=1;i<=n;i++)
{
for(j=1;j<=n;j++)
scanf( "%f", &a[i][j]);
}
printf("\n Enter the constant matrix\n") ;
for (i=1;i<=n;i++)
scanf("%f", &b[i]);
for(i=1;i<=n;i++)
x[i]=0;
do
{
flag=0;
for (i=1;i<=n; i++)
{
y[i]=b[i];
for(j=1;j<=n;j++)
{
if(j!=i)
y[i]=y [i] - a[i] [j]*x[j];
}
y[i]=y[i]/a[i] [i];
}
for (i=1;i<=n;i++)
{
if(fabs (x[i]-y[i]) >error)
flag=1;
x[i]=y[i];
}
}
while (flag==1) ;
printf ("\nThe solution is\n");
for (i=1;i<=n; i++)
printf("x [%d] =%8.5f\n", i, x[i]);
printf(" (correct up to five decimal places) \n");
return 0;
}

```

/*Output*/

Enter the number of unknown

4

Enter the coefficient matrix

5.79 1.41 1.28 1.35

1.19 -6.01 -3.14 2.23

1.88 -2.74 8.85 1.85

1.85 2.23 1.65 7.71

Enter the constant matrix

4.41

5.14

-4.27

3.76

The solution is

x [1] = 0.84772

x [2] = -0.09475

x [3] = -0.79251

x [4] = 0.48128

(correct up to five decimal places)