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1  /*Implementation of solution of system of linear equations by Gauss Elimination method.
2   Coded by Ashwini Kumar Singh on 10-Feb-2021*/
3
4  #include<stdio.h>
5  #include<math.h>
6
7  int main(void) {
8      int i,j,k,n;
9
10     printf("\n*****
\n");
11     printf("\nImplementation of solution of system of linear equations by Gauss Elimination
method\n");
12     printf("\nCoded by Ashwini Kumar Singh on 10-Feb-2021\n");
13
14     printf("\n*****
\n");
15     printf("\nEnter the value of n \n");
16     scanf("%d",&n);
17
18     float x[n],a[n][n],c[n];
19
20     printf("\nEnter the right hand side constants\n");
21     for(i=0;i<n;i++) {
22         scanf("%f",&c[i]);
23     }
24
25     printf("\nEnter the coefficients row wise\n");
26     for(i=0;i<n;i++) {
27         for(j=0;j<n;j++) {
28             scanf("%f",&a[i][j]);
29         }
30     }
31
32     for(k=0;k<n-1;k++) {
33         for(i=k+1;i<n;i++) {
34             for(j=k+1;j<n;j++) {

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33         a[i][j]=a[i][j]-(a[i][k]/a[k][k])*a[k][j];
34     }
35     c[i]=c[i]-(a[i][k]/a[k][k])*c[k];
36 }
37 }
38 x[n-1]=c[n-1]/a[n-1][n-1];
39
40 printf("\nThe Solution is : \n");
41 printf("x[%d]=%f\n",n-1,x[n-1]);
42 for(k=0;k<n-1;k++) {
43     i=n-k-2;
44     for(j=i+1;j<n;j++) {
45         c[i]=c[i]-(a[i][j]*x[j]);
46     }
47     x[i]=c[i]/a[i][i];
48     printf("x[%d]=%f\n",i,x[i]);
49 }
50 return 0;
51 }
52
```