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//Program for Gauss Elimination
#include<iostream>
#include<iomanip>
#include<math.h>
#include<stdlib.h>
using namespace std;
#define n 3
int main()
{
    int i,j,k;
    cout.precision(4);
    cout.setf(ios::fixed);
    cout<<"\nEnter the no. of equations\n";
    float a[n][n+1],x[n];
    cout<<"\nEnter the elements of the augmented-matrix row-wise:\n";
    for (i=0;i<n;i++)
        for (j=0;j<=n;j++)
            cin>>a[i][j];
    for (i=0;i<n;i++)
        for (k=i+1;k<n;k++)
            if (abs(a[i][i])<abs(a[k][i]))
                for (j=0;j<=n;j++)
                {
                    double temp=a[i][j];
                    a[i][j]=a[k][j];
                    a[k][j]=temp;
                }
    for (i=0;i<n-1;i++)
        for (k=i+1;k<n;k++)
         {
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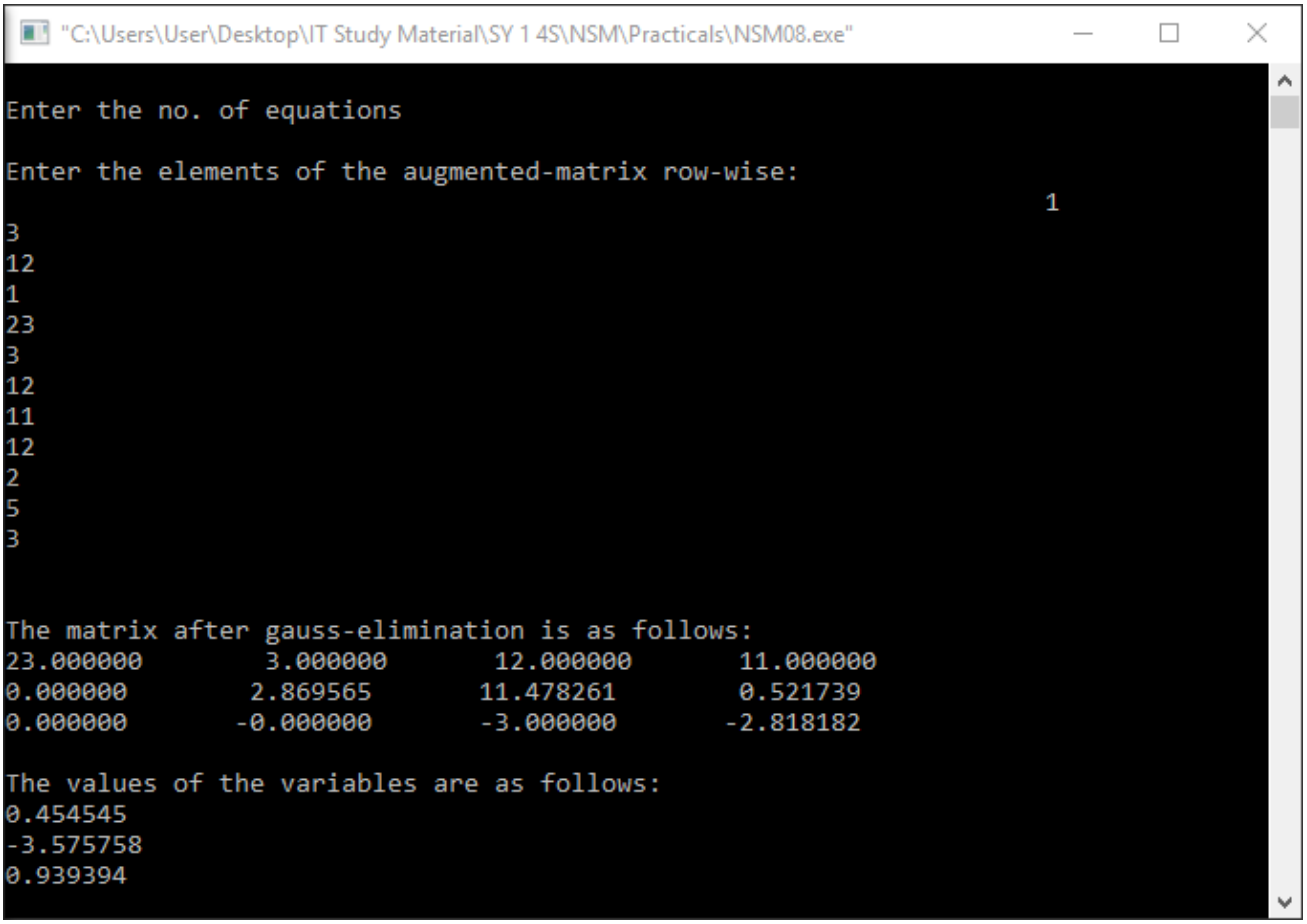
            double t=a[k][i]/a[i][i];
            for (j=0;j<=n;j++)
                a[k][j]=a[k][j]-t*a[i][j];
         }
    cout<<"\n\nThe matrix after gauss-elimination is as follows:\n";
    for (i=0;i<n;i++)
    {
        for (j=0;j<=n;j++)
            cout<<a[i][j]<<setw(16);
        cout<<"\n";
    }
    for (i=n-1;i>=0;i--)
    {
        x[i]=a[i][n];
        for (j=i+1;j<n;j++)
            if (j!=i)
                x[i]=x[i]-a[i][j]*x[j];
        x[i]=x[i]/a[i][i];
    }
    cout<<"\nThe values of the variables are as follows:\n";
    for (i=0;i<n;i++)
        cout<<x[i]<<endl;
    return 0;
}
```


"C:\Users\User\Desktop\IT Study Material\SY 1 4S\NSM\Practicals\NSM08.exe"
Enter the no. of equations
Enter the elements of the augmented-matrix row-wise:
1
3
12
1
23
3
12
11
12
2
5
3
The matrix after gauss-elimination is as follows:
23.000000 3.000000 12.000000 11.000000
0.000000 2.869565 11.478261 0.521739
0.000000 -0.000000 -3.000000 -2.818182
The values of the variables are as follows:
0.454545
-3.575758
0.939394