

Assignment1.m

```
1 %Gauss Elimination to find the solution to System of Linear Equations
2
3 clc
4
5 close all
6
7 clear all
8
9 A= input("\nEnter the coefficient Matrix : ")
10 B= (input("Enter the solution in the Matrix form : "))'
11
12 Aug = [A B]
13 [D,N]=size(B);
14 for i=1:N-1
15     for j=i+1:N
16         K = Aug(j,i)/Aug(i,i);
17         Aug(j,:) = Aug(j,:)-K*Aug(i,:);
18     end
19 end
20 UpperTriangularMatrix = Aug
21
22 [M,n]=size(Aug);
23 b = Aug(:,n);
24 X=zeros([M,1]);
25
26 for i=M:-1:1
27     K = 0;
28     for j=M:-1:i+1
29         K=K+X(j)*Aug(i,j);
30     end
31     X(i,1)=(b(i,1)-K)/Aug(i,i);
32 end
33
34 Values_of_X_after_Back_Substitution=X
35
```

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