```
1  clc
2  clear all
3  n=3
4  a=[1 1 -1;2 -1 1;-1 2 2]
5  b=[-2;5;1]
6  for i=1:n
7      fact=1/a(i,i);
8      a(i,i)=1;
9      for j=i+1:n
10          a(i,j)=a(i,j)*fact;
11      end
12      b(i)=b(i)*fact
13
14      for k=i+1:n
15          fact=a(k,i);
16          a(k,i)=0;
17          for j=i+1:n
18              a(k,j)=a(k,j)-a(i,j)*fact;
19          end
20          b(k)=b(k)-fact*b(i);
21      end
22  end
23  x(n)=b(n);
24  for i=n-1:-1:1
25      sum=0;
26      for j=i+1:n
27          sum=sum+a(i,j)*x(j);
28      end
29      x(i)=b(i)-sum;
30  end
31
```