GS.m

```
1  %clear all
2  A=[4, -1,-1;-2 6 1;-1 1 7];
3  b=[3 9 -6]';
4  x(1:3)=0;
5  sol=zeros(3,6);
6  %disp(x);
7  conv=0
8  counter=1;
9  while(conv==0)
10     for i=1:3
11         s1=0;s2=0;x1=x(i);
12         %disp(x1);
13         for j=i+1:3
14             s1=s1+A(i,j)*x(j);
15         end
16         for j=1:i-1
17             s2=s2+A(i,j)*x(j);
18         end
19         x(i)=(1/A(i,i))*(b(i)-s2-s1);
20         %disp(x(i));
21     end
22         if(abs(x1-x(i))<0.0001)
23             conv=1;
24         end
25         counter=counter+1;
26         sol(:,counter)=x;
27  end
28  %disp(x);
29  clc;
30  disp(sol)
31
```