**EXPERIMENT – 4(c)**

**Aim:** Exercise to solve equations by Gauss Siedel Method in Scilab.

**Theory:**

**Gauss Seidel Method:**

1. Define a system of linear equations with a 3x3 coefficient matrix and a 3x1 constant matrix.
2. Implement a Scilab script for the Gauss-Seidel iterative method.
3. Execute the script, providing an initial guess for the solution vector, and observe the convergence of the method to the solution

**Program:**

function[x]=gaussSeidal(a,b)

[r,c]=size(a)

x=zeros(r,1)

disp(x')

for i=1:r

sum=0

for j=1:r

if(i<>j) then

sum=sum+a(i,j)\*x(j)

end

end

x(i)=(b(i)-sum)/a(i,i)

end

disp(x')

disp(a\*x)

end

a=[4 -1 -1; -2 6 1; -1 1 7]

b=[3; 9; -6]

solution=gaussSeidal(a,b)

disp(solution)

**Output:**

