**Lab Final Project**

**Use Jacobi Method to Solve System of Linear Equations Given Below using MATLAB**

Code Solution is :

a =[10,-1,2,0;-1,11,-1,3;2,-1,10,-1;0,3,-1,8];

scal = [6;25;11;15];

n = length(scal);

x = zeros(n,1);

xnew = zeros(n,1);

x(:) = 0;

limit = 100;

tol = 0.0000001;

for iter = 1:limit

convergence = true;

for i = 1:n

sum=0;

for j=1:n

if j~=i

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

end

end

xnew(i) = -1/a(i,i)\*(sum - scal(i));

if abs(xnew(i)-x(i))>tol

convergence = false;

end

end

if convergence

break;

end

x = xnew;

end

disp(xnew)