```
%% Jacobi Method
%% Solution of x in Ax=b using Jacobi Method
% * _*Initailize 'A' 'b' & initial guess 'x'*_
%%

%% A=[ 5 -2 3 0; -3 9 1 -2; 2 -1 -7 1; 4 3 -5 7]
%% b=[-1 2 3 0.5]'
%% x=[0 0 0 0]'

%%A=[ 17 -2 -3;
%%    -5 21 -2;
%%    -5 -5 22]

%%b=[ 500;
%%    200;
%%    30]

%%x=[0;
%%   0;
%%   0]

A = input('A = ');
b = input('b = ');
x = input('x = ');

n=size(x,1);
normVal=Inf;
%%
% * _*Tolerence for method*_
tol=1e-5; itr=0;
%% Algorithm: Jacobi Method
%%
while normVal>tol
    xold=x;

    for i=1:n
        sigma=0;

        for j=1:n

            if j~=i
                sigma=sigma+A(i,j)*x(j);
            end

        end

        x(i)=(1/A(i,i))*(b(i)-sigma);
    end

    itr=itr+1;
```

```
    normVal=abs(xold-x);
end
%%
fprintf('Solution of the system is : \n%f\n%f\n%f\n%f in %d
iterations',x,itr);
```