```
% Supreeth Rao 1MS19EE057
% Gauss Seidal Method
clc;
clear all;
n=3;
V=[1.05 1 1] % Bus voltages in PU system
Y=[20-j*50 -10+j*20 -10+j*30; -10+j*20 26-j*52 -16+j*32; -10+j*30
 -16+j*32 26-j*62] % Y-Bus
P=[inf -2.566 -1.386]
Q=[inf -1.102 -0.452]

disp('================= OUTPUT =================');
iter=1;
Vprev=V;
for iter=1:1
    abs(V);
    abs(Vprev);
    Vprev=V;
    sumyv=[0 0 0 0];
    for i=2:n
        for k=1:n,
            if(i~=k)
                sumyv(i)=sumyv(i)+(Y(i,k)*V(k));
            end
        end
    V(i)=(1/Y(i,i))*((P(i)-j*Q(i))/conj(V(i))-sumyv(i))
    iter;
    end
end
```

```
V =

    1.0500    1.0000    1.0000


Y =

  20.0000 -50.0000i -10.0000 +20.0000i -10.0000 +30.0000i
 -10.0000 +20.0000i  26.0000 -52.0000i -16.0000 +32.0000i
 -10.0000 +30.0000i -16.0000 +32.0000i  26.0000 -62.0000i


P =

       Inf   -2.5660   -1.3860


Q =

       Inf   -1.1020   -0.4520
```

```
================= OUTPUT =================
V =

   1.0500 + 0.0000i   0.9825 - 0.0310i   1.0000 + 0.0000i

V =

   1.0500 + 0.0000i   0.9825 - 0.0310i   1.0011 - 0.0353i
```

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