Code:

```
clc
clear all
disp('Y Bus Construction');
x=input('Enter the number of nodes: ');
a=complex(0);
g=0;
for i=1:1:x
    for j=1:1:x
        if (i==j)
            g = input(strcat('Enter the value of Impedance (x+yi)
for', int2str(i), int2str(j), ':'));
                if q==0
                 a(i,j) = complex(0);
                  a(i,j) = 1/g;
                end
        else
            g = input(strcat('Enter the value of Impedance (x+yi)
for',int2str(i),int2str(j),':'));
                 if q==0
                     a(i,j) = complex(0);
                 else
                  a(i,j) = 1/g;
                 end
        end
    end
end
b=a; y=0;
for i=1:1:x
    for j=1:1:x
        if i==j
             for k=1:1:x
                 y=y+b(i,k);
             end
            a(i,j) = y;
            y=0;
        else
            a(i,j) = -b(i,j);
        end
    end
end
b
Y BUS=a
a= Y_BUS;
disp('Y Bus Reduction');
n=4;
for i=1:1:n
    for j=1:1:n-1
        c(i,j) = (a(i,j)-(a(i,n)*a(n,j))/a(n,n));
    end
end
С
```

```
Editor - I:\Install Data\MatLab\bin\Y_bus_formation.m
              PUBLISH
Y_bus_formation.m × ybus_reduction_test.m × +
8 - | for i=1:1:x
9 - | for j=1:1:x
10 -
              if(i==j)
11 -
                   g = input(strcat('Enter the value of Impedance (x+yi) for',int2str(i),int2str(j),':'));
12 -
                      if g==0
13 -
                       a(i,j)=complex(0);
14 -
                      else
15 -
                       a(i,j) = 1/g;
16 -
                      end
17 -
               else
18 -
                   g = input(strcat('Enter the value of Impedance (x+yi) for',int2str(i),int2str(j),':'));
19 -
                       if g==0
20 -
                          a(i,j)=complex(0);
21 -
                       else
22 -
                       a(i,j)= 1/g;
23 -
                       end
24 -
              end
25 -
26 - end
         end
27 -
      b=a;y=0;
28 - - for i=1:1:x
29 - for j=1:1:x
30 -
              if i==j
31 -
                  for k=1:1:x
32 -
                      y=y+b(i,k);
33 -
                  end
34 -
                   a(i,j)=y;
35 -
                   y=0;
36 -
              else
37 -
                   a(i,j) = -b(i,j);
38 -
              end
     end
39 -
          end
40 -
41
42 -
      Y_BUS=a
a= Y_BUS;
43 -
44 -
45
46 -
      disp('Y Bus Reduction');
47 -
       n=4;
48 - for i=1:1:n
49 - for j=1:1:n-1
50 -
              c(i,j) = (a(i,j)-(a(i,n)*a(n,j))/a(n,n));
51 -
Click and drag to move Y_bus_formation.m or its tab...
```

```
A
                                                        Command Window
 Y Bus Construction
  Enter the number of nodes: 4
  Enter the value of Impedance (x+yi) for11:1i
 Enter the value of Impedance (x+yi) for12:0.04i
 Enter the value of Impedance (x+yi) for13:0.02i
 Enter the value of Impedance (x+yi) for14:0
 Enter the value of Impedance (x+yi) for21:0.04i
 Enter the value of Impedance (x+yi) for22:0.8i
 Enter the value of Impedance (x+yi) for23:0.02i
 Enter the value of Impedance (x+yi) for24:0
 Enter the value of Impedance (x+yi) for31:0.02i
  Enter the value of Impedance (x+yi) for32:0.02i
  Enter the value of Impedance (x+yi) for33:0
  Enter the value of Impedance (x+yi) for34:0.08i
  Enter the value of Impedance (x+yi) for41:0
  Enter the value of Impedance (x+yi) for42:0
  Enter the value of Impedance (x+yi) for43:0.08i
  Enter the value of Impedance (x+yi) for44:0
  b =
     0.0000 - 1.0000i 0.0000 -25.0000i 0.0000 -50.0000i 0.0000 + 0.0000i
     0.0000 -25.0000i 0.0000 - 1.2500i 0.0000 -50.0000i 0.0000 + 0.0000i
     0.0000 -50.0000i 0.0000 -50.0000i 0.0000 + 0.0000i 0.0000 -12.5000i
     0.0000 + 0.0000i 0.0000 + 0.0000i 0.0000 -12.5000i 0.0000 + 0.0000i
  Y_BUS =
     1.0e+02 *
     0.0000 - 0.7600i 0.0000 + 0.2500i 0.0000 + 0.5000i 0.0000 + 0.0000i
      0.0000 \, + \, 0.2500 i \quad 0.0000 \, - \, 0.7625 i \quad 0.0000 \, + \, 0.5000 i \quad 0.0000 \, + \, 0.0000 i \\
                                                           0.0000 + 0.1250i
                      0.0000 + 0.5000i
                                        0.0000 - 1.1250i
     0.0000 + 0.5000i
     0.0000 + 0.0000i 0.0000 + 0.0000i
                                        Y Bus Reduction
  c =
     1.0e+02 *
                                        0.0000 + 0.5000i
     0.0000 - 0.7600i 0.0000 + 0.2500i
                      0.0000 - 0.7625i
                                        0.0000 + 0.5000i
     0.0000 + 0.2500i
                      0.0000 + 0.5000i
                                        0.0000 - 1.0000i
     0.0000 + 0.5000i
                                        0.0000 + 0.0000i
                      0.0000 + 0.0000i
     0.0000 + 0.0000i
fx
```