

```

% Supreeth Rao 1MS19EE057 21/09/2022
% Y-Bus formation without mutual coupling
clc;
clear all;
close all;
%      p      q      z      hlc(ADM)
z = [ 1  2  0.02+0.06i  0.06i
      1  3  0.08+0.24i  0.05i
      2  3  0.06+0.18i  0.04i
      3  5  0.06+0.18i  0.04i
      2  5  0.04+0.12i  0.03i
      3  4  0.01+0.03i  0.02i
      4  5  0.08+0.24i  0.05i];

fb = z(:,1);
tb = z(:,2);
Z = z(:,3);
hlc = z(:,4);
y = 1./Z;

nbus = max(max(fb),max(tb));
Y = zeros(nbus);
nline = length(tb);
for k = 1:nline
    p = fb(k);
    q = tb(k);
    Y(p,p) = Y(p,p)+y(k)+hlc(k);
    Y(q,q) = Y(q,q)+y(k)+hlc(k);
    Y(p,q) = Y(p,q)-y(k);
    Y(q,p) = Y(p,q);
end
Ybus = Y

```

Ybus =

Columns 1 through 4

```

6.2500 -18.6400i -5.0000 +15.0000i -1.2500 + 3.7500i 0.0000 + 0.0000i
-5.0000 +15.0000i 9.1667 -27.3700i -1.6667 + 5.0000i 0.0000 + 0.0000i
-1.2500 + 3.7500i -1.6667 + 5.0000i 14.5833 -43.6000i -10.0000 +30.0000i
0.0000 + 0.0000i 0.0000 + 0.0000i -10.0000 +30.0000i 11.2500 -33.6800i
0.0000 + 0.0000i -2.5000 + 7.5000i -1.6667 + 5.0000i -1.2500 + 3.7500i

```

Column 5

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0.0000 + 0.0000i
-2.5000 + 7.5000i
-1.6667 + 5.0000i
-1.2500 + 3.7500i
5.4167 -16.1300i

```

