```
clc;
clear;

% Input Data
lineData = [
    1 2 0.01 0.15;
    1 3 0.02 0.25;
    1 4 0.03 0.35;
    2 3 0.03 0.35;
    3 4 0.01 0.15;
    4 5 0.04 0.50
];

n = 5; % no. of busses
nline = size(lineData, 1);
Ybus = zeros(n, n); % initializing Y-Bus as zeros

for k = 1:nline
    from = lineData(k,1);
    to = lineData(k,2);
    R = lineData(k,3);
    X = lineData(k,4);

    Z = R + 1i*X;
    Y = 1 / Z;
    Ybus(from,to) = Ybus(from,to) - Y;
    Ybus(to, from) = Ybus(to, from) - Y;
end

disp(Ybus);
```

```
  Columns 1 through 4

   0.0000 + 0.0000i  -0.4425 + 6.6372i  -0.3180 + 3.9746i  -0.2431 + 2.8363i
  -0.4425 + 6.6372i   0.0000 + 0.0000i  -0.2431 + 2.8363i   0.0000 + 0.0000i
  -0.3180 + 3.9746i  -0.2431 + 2.8363i   0.0000 + 0.0000i  -0.4425 + 6.6372i
  -0.2431 + 2.8363i   0.0000 + 0.0000i  -0.4425 + 6.6372i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i  -0.1590 + 1.9873i

  Column 5

   0.0000 + 0.0000i
   0.0000 + 0.0000i
   0.0000 + 0.0000i
  -0.1590 + 1.9873i
   0.0000 + 0.0000i
```

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