```
clc;
clear all;

% % open a input file

ip=fopen('yin.m','r++');

% % read data from input file

n=fscanf(ip,'%d',1);
nline=fscanf(ip,'%d',1);
data=fscanf(ip,'%f',[4,nline]);
data=data';
yshunt=complex(0,fscanf(ip,'%f',[1,n]));
lp=data(:,1);
lq=data(:,2);
r=data(:,3);
x=data(:,4);

% % calculate primitive impedance
for k=1:nline
    z(k)=complex(r(k),x(k));
    yline(k)=1/z(k);
end

% % initialize ybus matrix
for i=1:n
    for j=1:n
        Y(i,j)=0
    end
end

% % formation of ybus
for k=1:nline
    p=lp(k)
    q=lq(k)
    Y(p,q)=Y(p,q)-yline(k)
    Y(q,p)=Y(p,q)
    Y(p,p)=Y(p,p)+yline(k)
    Y(q,q)=Y(q,q)+yline(k)
end

% % add shunt element
for i=1:n
    Y(i,i)=Y(i,i)+yshunt(i)
end

```