

```

clear all;
clc;
N = 1e5;
ebno = 0:15;
nv = 10.^(-0.1*ebno);
L = 4;
%h = randn(1, L)/sqrt(L);
h = [1;.7;.5;.3];
Leq = 10;
One = zeros(Leq+L-1, 1);
location_one = 8;
One(location_one) = 1;
H = convmtx(h,Leq);
for n = 1:length(ebno)
    s = sign(randn(1,N));
    noise = sqrt(nv(n))*(randn(1, N+length(h)-1)+j*randn(1, N+length(h)-1))/sqrt(2);
    y = conv (h,s)+ noise;
    equalizer = inv(H'*H+nv(n)*eye(Leq))*H'*One;
    eq_op = conv(equalizer,y);
    ber(n)= sum(sign(real(eq_op([location_one:N+location_one-1]))))~=s);
end
fber = ber/N;
%hold on
figure
semilogy(ebno,fber,'rp-','linewidth',2);
xlabel('Eb/No')
ylabel('BER')
grid on

```