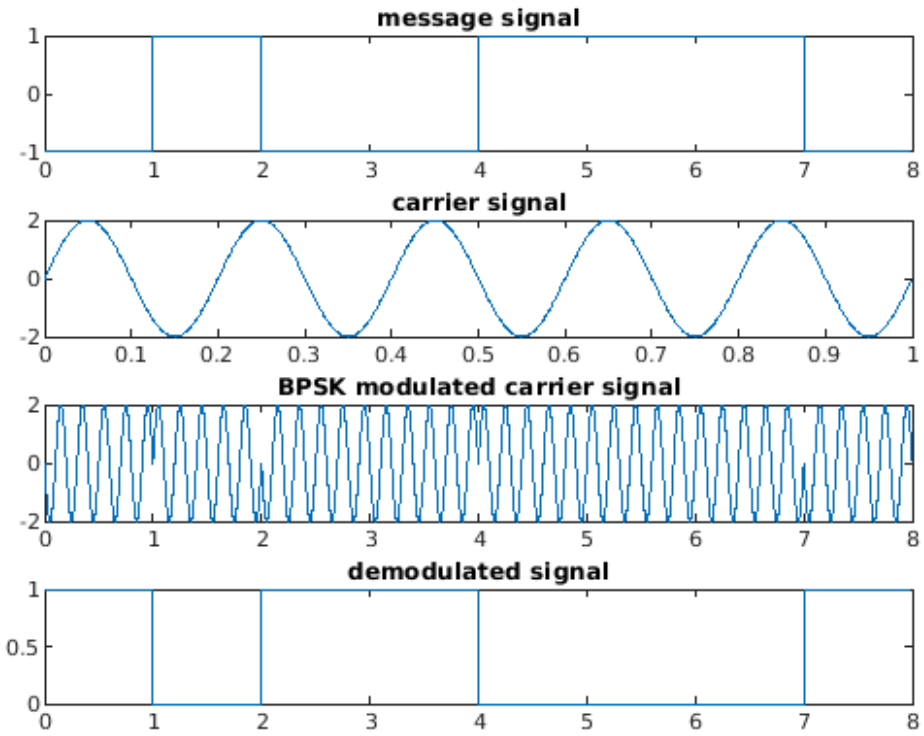
```
% Name:YOGESH
% Roll No:181EC155
% Binary Phase Shift Keying (BPSK)

N=8; %message length
t=0:1/1000:1-0.001;
T=0:1/1000:8-0.001;
m=[0 1 0 0 1 1 1 0]
% Carrier signal
fc=5;
c=2*sin(2*pi*fc*t);
message_signal=[];
bpsk_signal=[];
demod_signal=[];
t1=0;
t2=1;
% BPSK Modulation-------------------------------------
for i=1:N
    if m(i)>0.5
        m_s=ones(1,length(t));
    else
        m_s=-1*ones(1,length(t));
    end
    [message_signal]=[message_signal, m_s];
    %multiplying message with carrier
    [bpsk_signal]=[bpsk_signal, c.*m_s];
end

%plotting
subplot(4,1,1);
plot(T,message_signal);
title('message signal');

subplot(4,1,2);
plot(t,c);
title('carrier signal');

subplot(4,1,3);
plot(T, bpsk_signal);
title('BPSK modulated carrier signal');

% BPSK Demodulation-----------------------------------

for i=1:N

    t1=(i-1)*length(t)+1;
    t2=i*length(t);
    x=sum(bpsk_signal(:,t1:t2));

    if x>0
        [demod_signal]=[demod_signal, ones(1,length(t))];
    else
```

```
        [demod_signal]=[demod_signal, zeros(1,length(t))];
    end
end

%plotting demodulated signal
subplot(4,1,4);
plot(T,demod_signal);
title('demodulated signal');
```

```
m =

     0     1     0     0     1     1     1     0
```



Published with MATLAB® R2020b