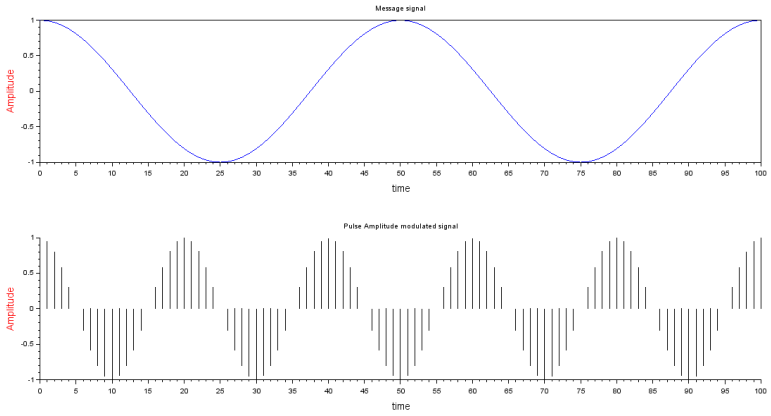
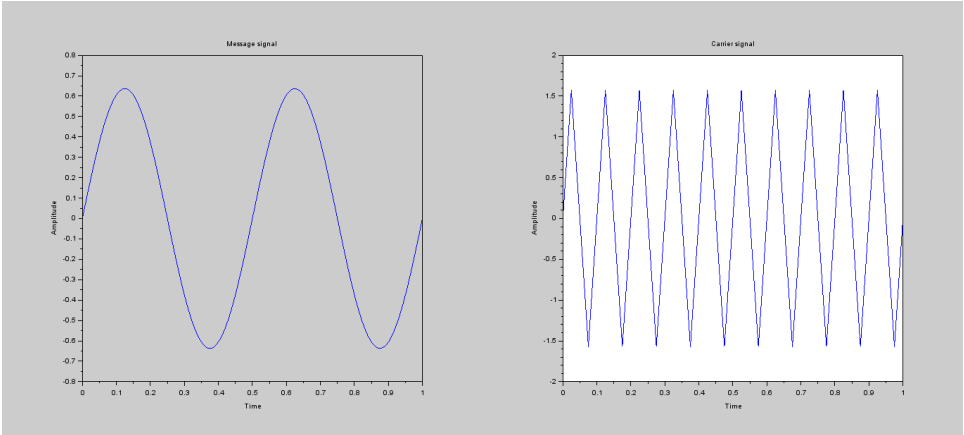
To Plot the waveform of a Pulse Amplitude Modulated (PAM) signal.



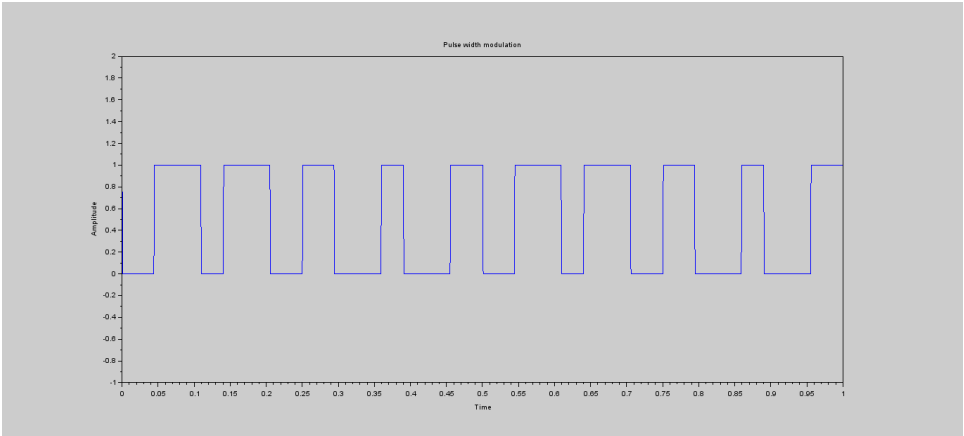
To Plot the waveform of a Pulse Amplitude Modulated signal 11 `t`

```
=0:1:100;//Defining the time      instants
12 fm=input('Enter the message frequency:=');
13 x=cos(2*%pi*fm*t);
14 subplot(2,1,1);
15 plot(t,x);
16 xlabel("time", "fontsize", 3);
17 ylabel("Amplitude", "fontsize", 3, "color", "red");
18 title('Message signal');
19 fs3=input('Enter the sampling frequency:=')
20 x3=cos(2*%pi*fm*t/fs3);
21 subplot(2,1,2);
22 plot2d3(t,x3)
23 xlabel("time", "fontsize", 3);
24 ylabel("Amplitude", "fontsize", 3, "color", "red");
25 title('Pulse Amplitude modulated signal');
26
27 //TEST CASE
28 //fm=  Enter the message frequency(in Hz):=.02
29 //fs3= Enter the sampling frequency (in Hz): = 0.4
```

To plot the waveform of a Pulse Width modulated (PWM) signal.



To plot the waveform of a PWM Signal

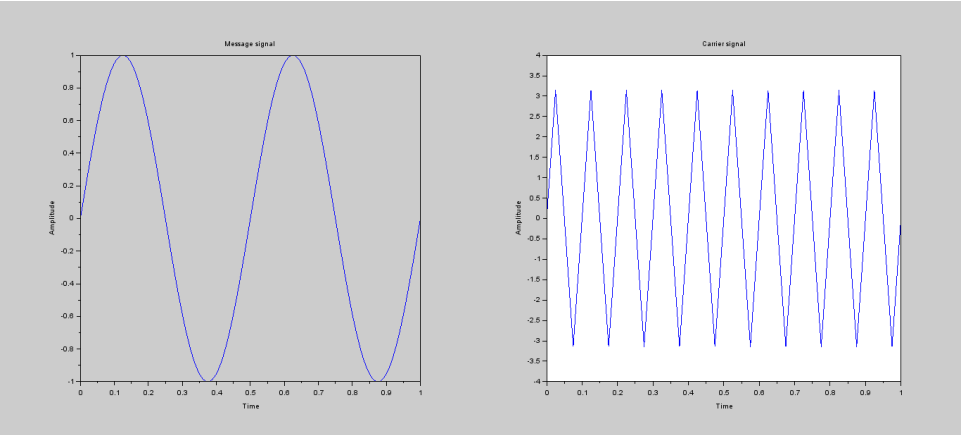


To plot the waveform of a PWM Signal

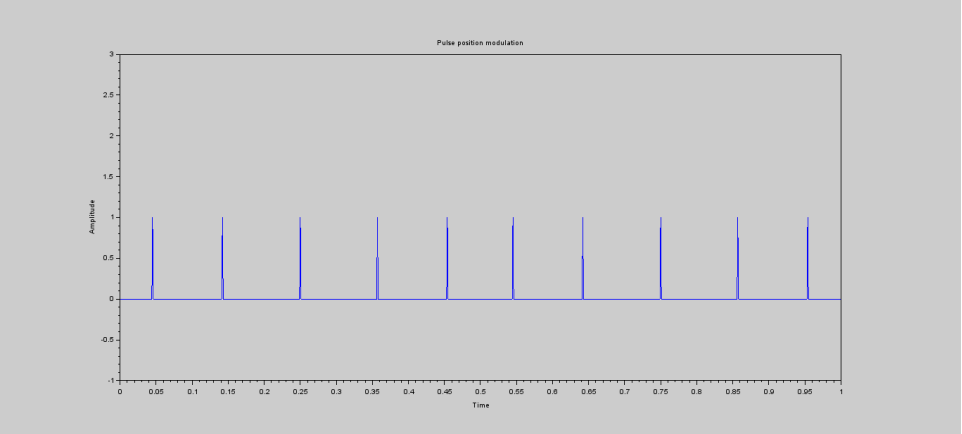
```
clear;
t=0:0.001:1;
f=input("Enter frequency of carrier");
c=asin(sin(2*%pi*f*t));
f1=input("Enter frequency of message");
m=(2/%pi)*sin(2*%pi*f1*t);
n=length(c);
for i=1:n
if m(i)>=c(i)
pwm(i)=1;
else m(i)<=c(i)
pwm(i)=0;
end
end
figure(1);
subplot(1,2,1);
plot(t,m);
xlabel("Time");
ylabel("Amplitude");
title("Message signal");
subplot(1,2,2);
plot(t,c);
xlabel("Time");
ylabel("Amplitude");
title("Carrier signal");
figure(2);
plot(t,pwm');
xlabel("Time");
ylabel("Amplitude");
replot([0 -1 1 2]);
xlabel("Time");
ylabel("Amplitude");
title("Pulse width modulation");

//Output:-
//Enter frequency of carrier 10
//Enter frequency of message 2
```

To plot the waveform of a Pulse Position modulated (PPM) signal.



To plot the waveform of a PPM Signal



To plot the waveform of a PPM Signal

```
clear;
t=0:0.001:1;
f=input("Enter frequency of carrier");
c=(2)*asin(sin(2*%pi*f*t));
f1=input("Enter frequency of message");
m=sin(2*%pi*f1*t);
n=length(c);
for i=1:n
if m(i)>=c(i)
ppm(i)=0;
else m(i)<=c(i)
ppm(i)=1;
end
end
figure(1);
subplot(1,2,1);
plot(t,m);
xlabel("Time");
ylabel("Amplitude");
title("Message signal");
subplot(1,2,2);
plot(t,c);
xlabel("Time");
ylabel("Amplitude");
title("Carrier signal");
for i=1:n
if (ppm(i)==1 && ppm(i+1)==0)
ppm(i)=1;
else
ppm(i)=0;
end
end
figure(2)
plot(t,ppm');
xlabel("Time");
ylabel("Amplitude");
replot([0 -1 1 3]);
xlabel("Time");
```

```
48 ylabel("Amplitude");
49 title("Pulse position modulation");
50 //Output:-
51 //Enter frequency of carrier 10
52 //Enter frequency of message 2
```