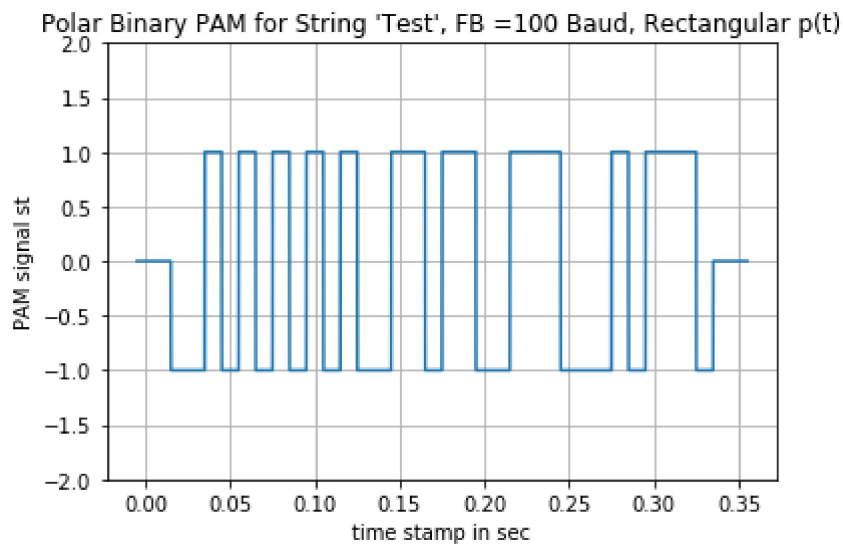


## Experiment Q2 (a)

We first convert the DT sequence  $a_n$  in `sig_an` to the CT signal  $a_s(t)$  and then passing the result through a shaping filter with  $h(t) = p(t)$

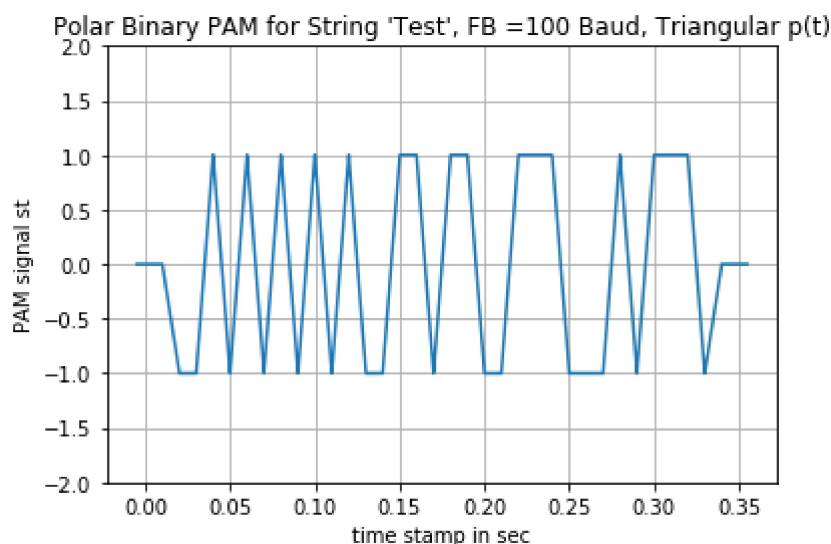
We first generate a discrete time sequence for "Test" and convert to a continuous time signal and pass the result through a rectangular  $p(t)$

In [13]: `run Q2A`



The following figure is after passing the same  $c(t)$  signal through a Triangular  $p(t)$

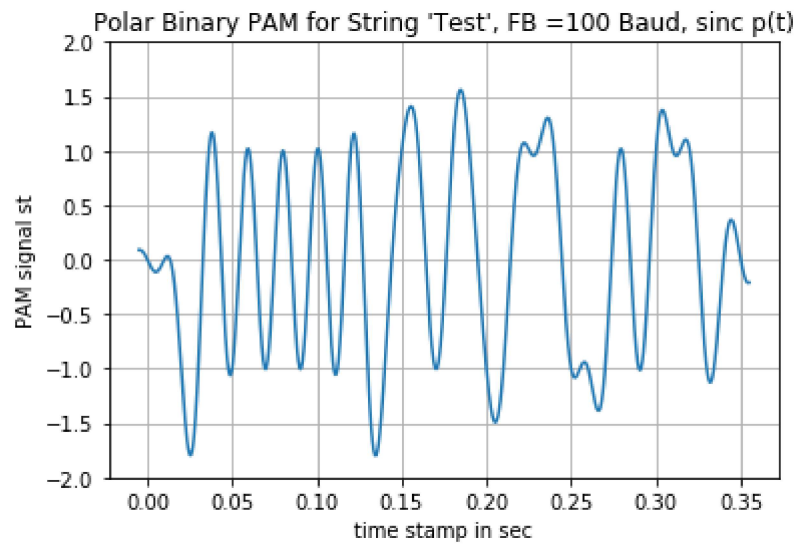
In [27]: `run Q2A`



The following figure is after passing the same  $c(t)$  signal through a windowed and Truncated sinc

$p(t)$ 

In [38]: run Q2A



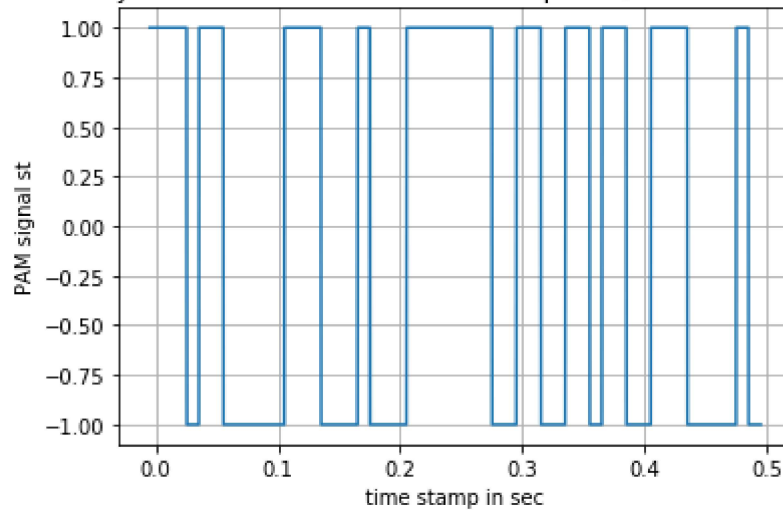
## Experiment Q2(b)

Generating a random polar binary message sequence of length approximately 0.5 sec using the Python commands.

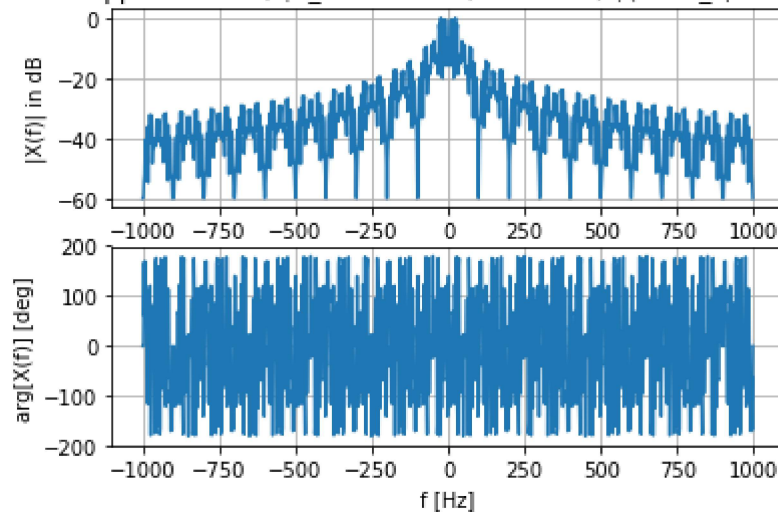
Then using the pam10 function to generate PAM signals  $s(t)$  from an with rectangular  $p(t)$

```
In [2]: run Q2B
```

Polar Binary PAM for random discrete time sequence, FB =100 Baud, rect p(t)

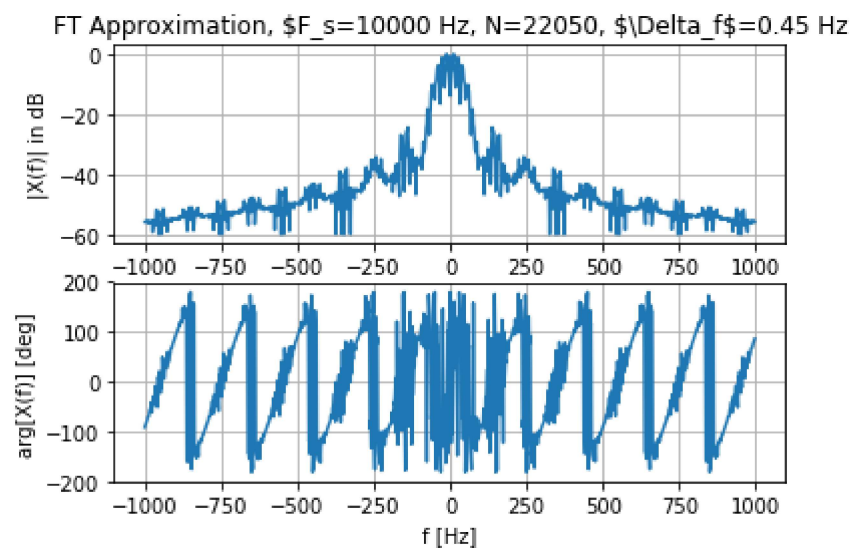
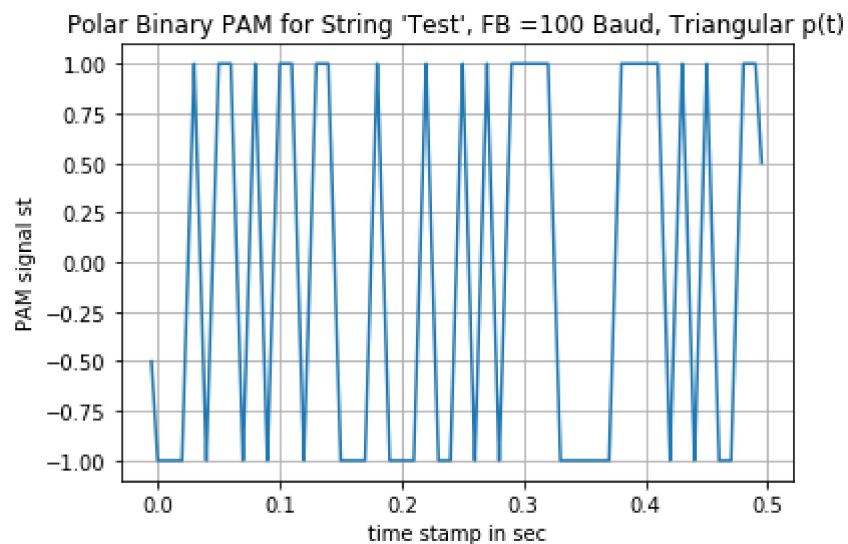


FT Approximation,  $F_s=10000$  Hz,  $N=22050$ ,  $\Delta f=0.45$  Hz



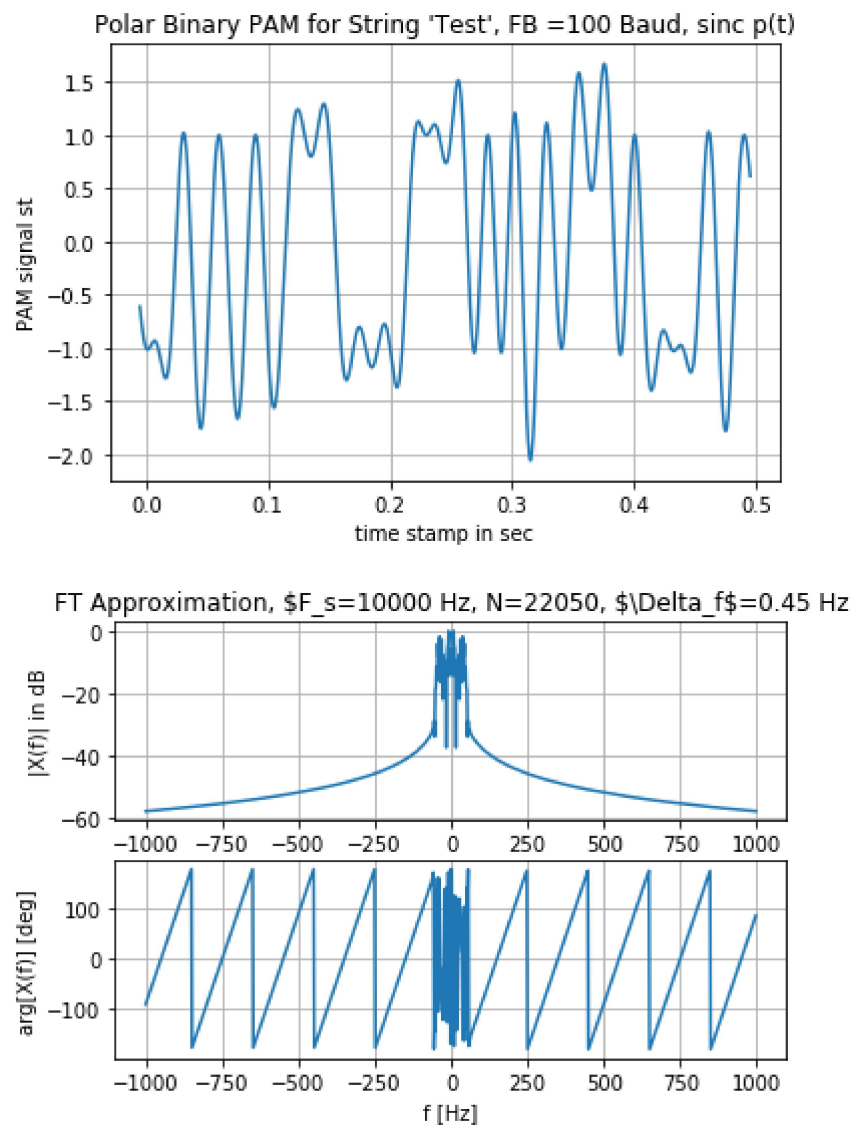
In the next case we use a triangular p(t)

```
In [61]: run Q2B
```



For the following case we use a sinc p(t)

```
In [65]: run Q2B
```



```
In [ ]:
```