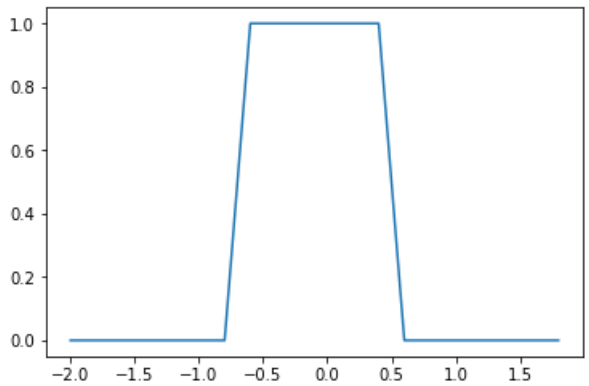
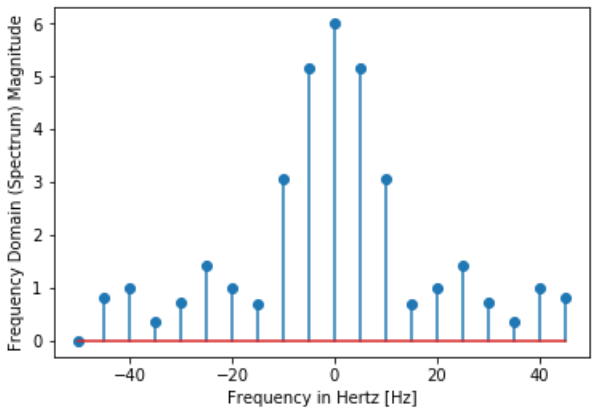
In [ ]:

In [9]:
```
from scipy import fftpack
from scipy import signal
import numpy as np
import matplotlib.pyplot as plt


f=2 #if the frequency is 2, then the signal repeats every 1/2 seconds = 0.5 seconds (PERIOD
S)
f_s=10 #number of samples

t=np.linspace(-2,2,2*f_s, endpoint=False)

m=[0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0]
x=m

plt.plot(t,x) #SIGNAL GRAPH


X=fftpack.fft(x)

freqs=fftpack.fftfreq(len(x))*100

fig, ax=plt.subplots()

#ax.stem(freqs,np.abs(X))
ax.stem(freqs,np.abs(X))
ax.set_xlabel("Frequency in Hertz [Hz]")
ax.set_ylabel("Frequency Domain (Spectrum) Magnitude")
```

Out[9]: Text(0, 0.5, 'Frequency Domain (Spectrum) Magnitude')





In [ ]: