Experiment No. 2

Q1.

CODE :

```
import numpy as np

from numpy.fft import fft

from matplotlib import pyplot as pt

x=[1,2,3,4]

N=4

XK=fft(x,N)

mag=np.abs(XK)

ang=np.angle(XK)

n=np.arange(N)

k=np.arange(N)


pt.subplot(3,1,1)

pt.stem(n,x)

pt.xlabel('n')

pt.ylabel('x(n)')

pt.title('Time domain sequence')


pt.subplot(3,1,2)

pt.stem(k,mag)

pt.xlabel('k')
```

```
pt.ylabel('|X(K)|')

pt.title('Magnitude Spectrum')


pt.subplot(3,1,3)

pt.stem(k,mag)

pt.xlabel('k')

pt.ylabel('<x(k)')

pt.title('Angle Spectrum')
```

OUTPUT :