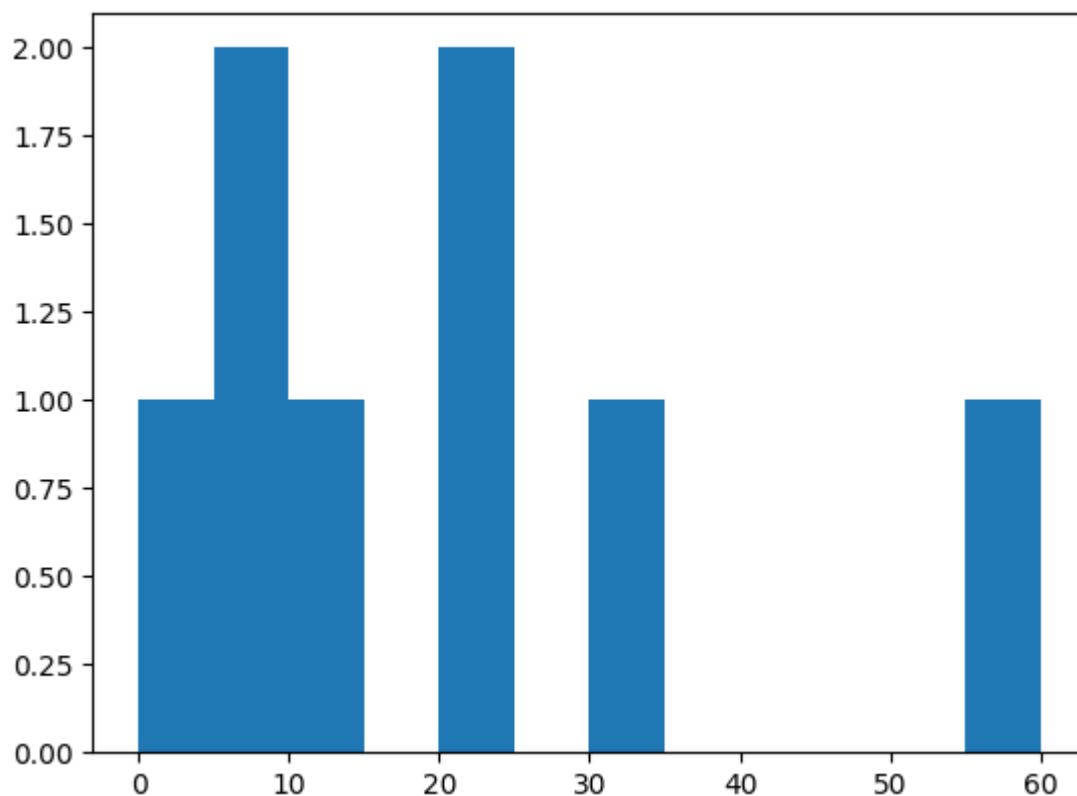# Aaditya

Roll no.: 221030039

Batch: CS32

Compute the histogram of a set of data using NumPy in Python using Matplotlib.

```python
import matplotlib.pyplot as plt
import numpy as np
bin=[0,5,10,15,20,25,30,35,40,45,50,55,60]
xpoints=np.array([0,10,30,60,20,5,20,5])

plt.hist(xpoints,bins=bin)
```

```
(array([1., 2., 1., 0., 2., 0., 1., 0., 0., 0., 0., 1.]),
 array([ 0.,  5., 10., 15., 20., 25., 30., 35., 40., 45., 50., 55., 60.]),
 <BarContainer object of 12 artists>)
```
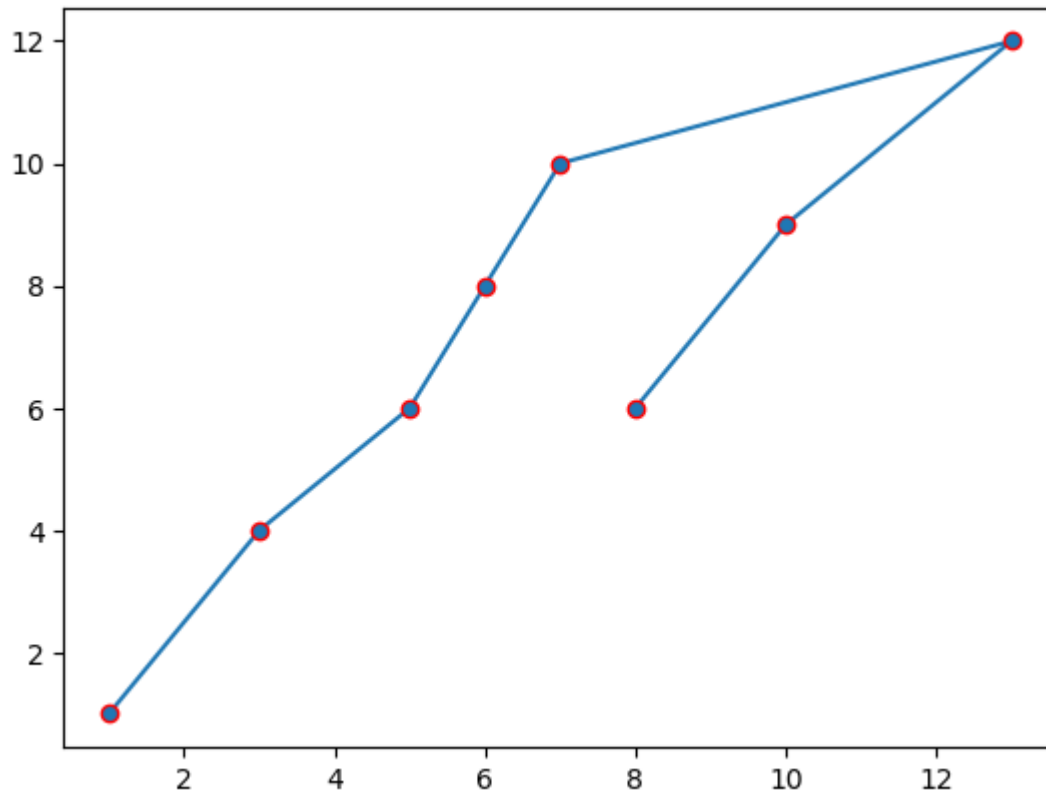

Create the following plots using Matplotlib: (a) Line Chart (b) Bar Chart (c) Pie Chart

```python
import matplotlib.pyplot as plt
import numpy as np

xpoints=np.array([1,3,5,6,7,13,10,8])
ypoints=np.array([1,4,6,8,10,12,9,6])

plt.plot(xpoints,ypoints,marker='o',mec='r')
```

```
[<matplotlib.lines.Line2D at 0x78d3f890d360>]
```
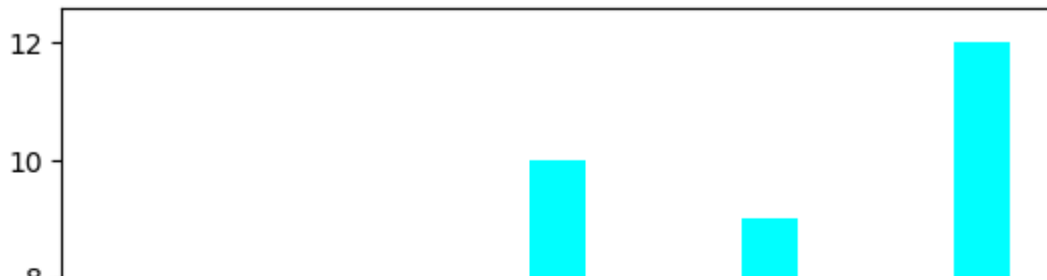


```python
import matplotlib.pyplot as plt
import numpy as np

xpoints=np.array([1,3,5,6,7,13,10,8])
ypoints=np.array([1,4,6,8,10,12,9,6])

plt.bar(xpoints,ypoints,color='cyan')
```

```
<BarContainer object of 8 artists>
```



```python
import matplotlib.pyplot as plt
import numpy as np

xpoints=np.array([1,3,5,13,10])
label=['cold drink','juice','drinks','Tea','Coffee']


plt.pie(xpoints,labels=label,autopct='%1.1f%%')
```

```
([<matplotlib.patches.Wedge at 0x78d3f81891b0>,
  <matplotlib.patches.Wedge at 0x78d3f81890c0>,
  <matplotlib.patches.Wedge at 0x78d3f8189ea0>,
  <matplotlib.patches.Wedge at 0x78d3f818a530>,
  <matplotlib.patches.Wedge at 0x78d3f818abc0>],
 [Text(1.0947031993394167, 0.10781885436251668, 'cold drink'),
  Text(0.9701133907831906, 0.5185364105085974, 'juice'),
  Text(0.3193131449799086, 1.0526343693054299, 'drinks'),
  Text(-1.0947031993394165, 0.10781885436251691, 'Tea'),
  Text(0.6111272563215621, -0.9146165735328001, 'Coffee')],
 [Text(0.5971108360033182, 0.05881028419773636, '3.1%'),
  Text(0.529152758609013, 0.2828380420955986, '9.4%'),
  Text(0.1741708063526774, 0.5741642014393253, '15.6%'),
  Text(-0.597110836003318, 0.05881028419773649, '40.6%'),
  Text(0.3333421398117611, -0.49888176738152723, '31.2%')])
```