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Python Programming - 2101CS405

Lab - 11

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Graphs

A

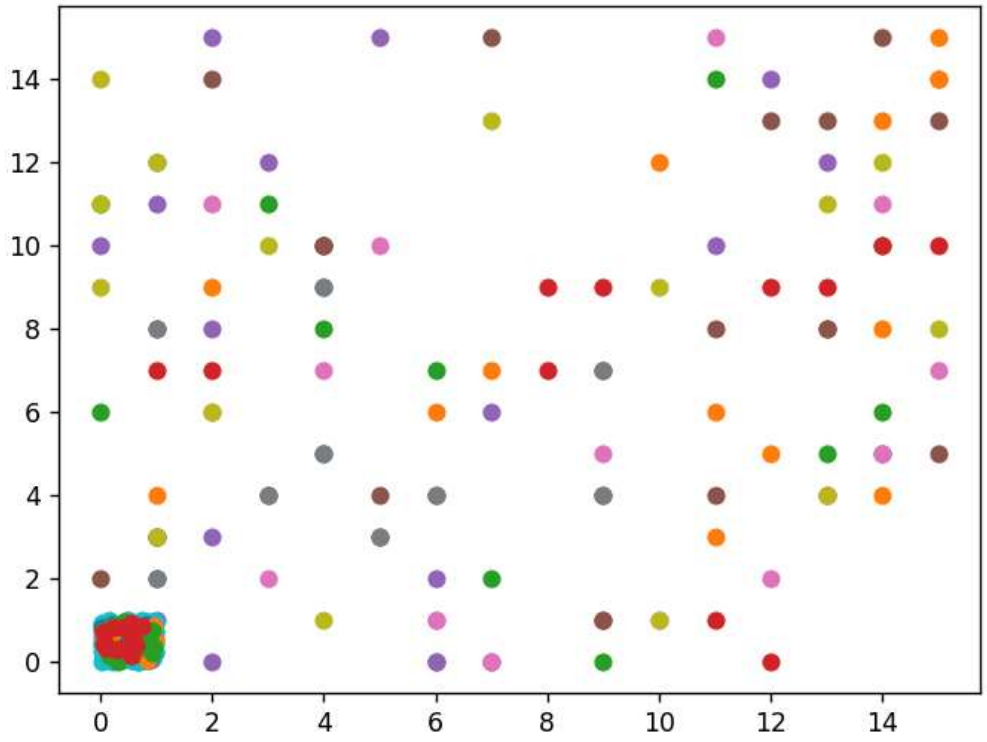
01) WAP to demonstrate the use of Pie chart.

In [35]:
```
import matplotlib.pyplot as plt
%matplotlib notebook

values = [250,212,170,300,100]
temp = ['Food','Taravel','Accommodation','Mics','Shopping']
c = ['b','g','r','c','m']
plt.pie(values,colors=c,labels=temp)
```

Out[35]:
```
([<matplotlib.patches.Wedge at 0x204a5d738d0>,
  <matplotlib.patches.Wedge at 0x204a5dbf150>,
  <matplotlib.patches.Wedge at 0x204a5ed0510>,
  <matplotlib.patches.Wedge at 0x204a58e0510>,
  <matplotlib.patches.Wedge at 0x204a5ed20d0>],
 [Text(0.7965274735581269, 0.7586461519490543, 'Food'),
  Text(-0.618070093258687, 0.9099392066611913, 'Taravel'),
  Text(-1.0804657570123866, -0.20638252814531205, 'Accommodation'),
  Text(0.05355629010160268, -1.0986954645353522, 'Mics'),
  Text(1.0494237207276442, -0.32971177469745827, 'Shopping')])
```

02) WAP to to Plot List random of X, Y Coordinates in Matplotlib.

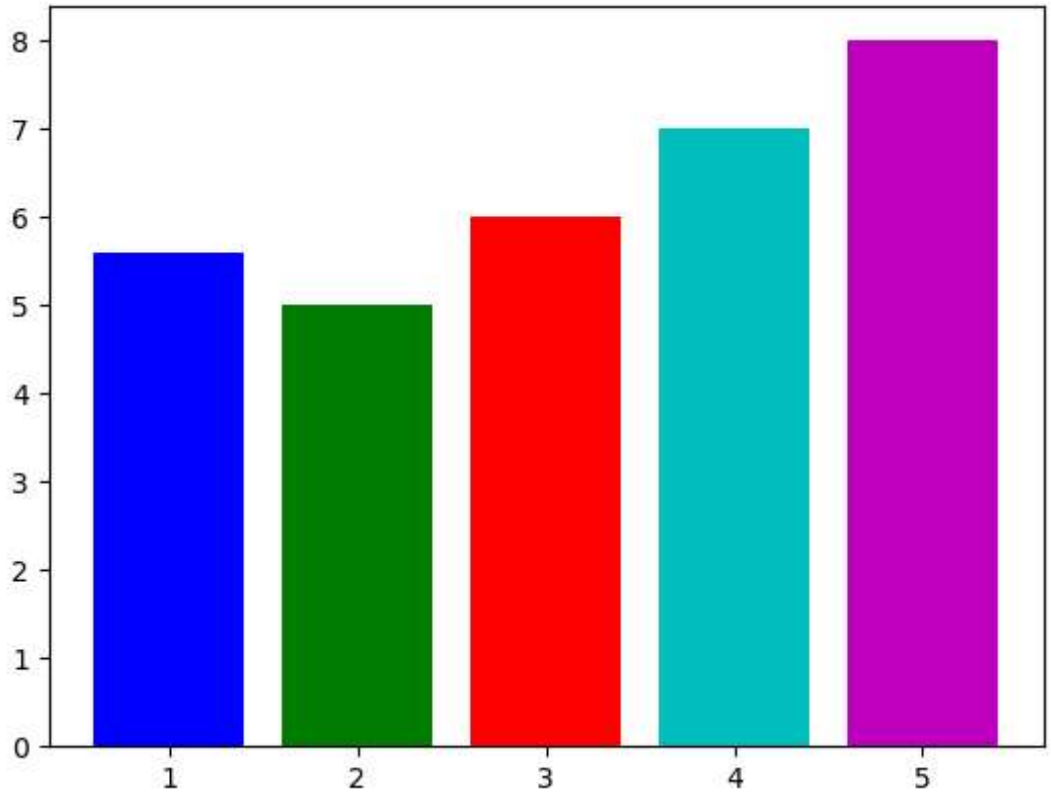
In [41]:
```
import matplotlib.pyplot as plt
%matplotlib notebook

list=[(1,2),(3,4),(1,3),(9,7),(4,5),(1,8),(6,4),(5,3),(9,4),(4,9)]
x,y=zip(*list)
plt.scatter(x,y)
```



Out[41]: <matplotlib.collections.PathCollection at 0x204a601d5d0>

03) WAP to demonstrate the use of Bar chart.

In [29]:
```
import matplotlib.pyplot as plt
%matplotlib inline

x = [1, 2, 3, 4, 5]
y = [5.6,5,6,7,8]
c = ['b','g','r','c','m']
l = ['1st','2nd','3rd','4th','5th']
plt.bar(x,y,color=c,label=l)
plt.show()
```

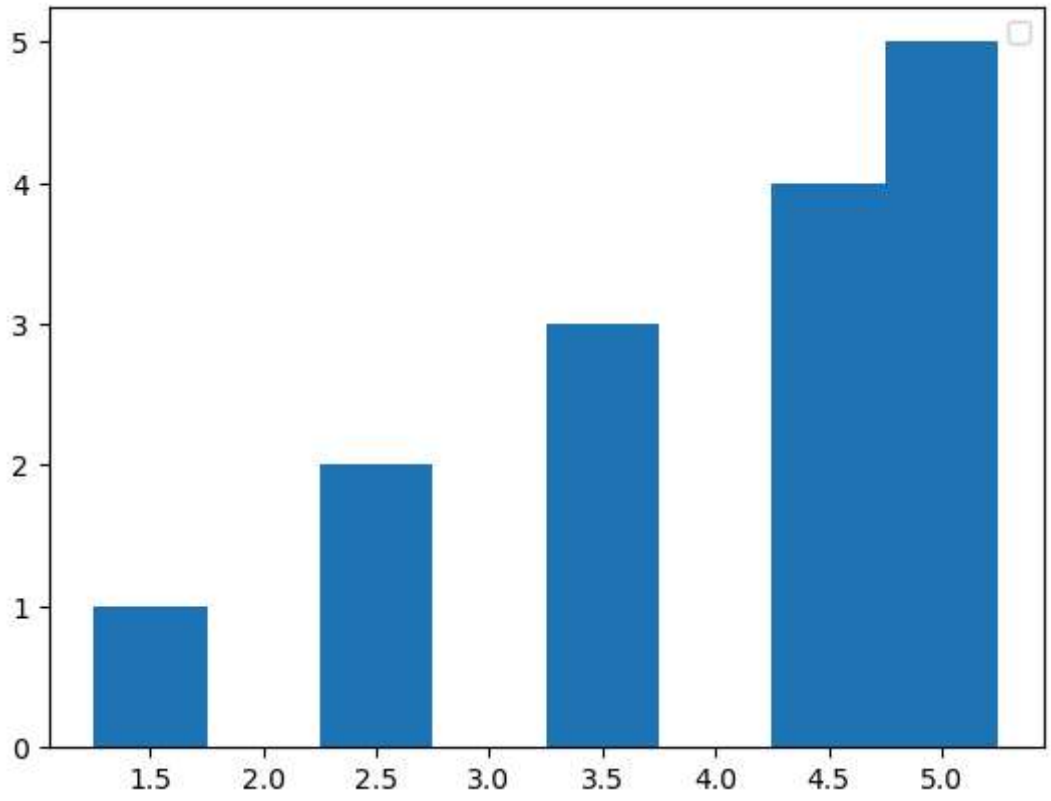


04) WAP to demonstrate the use of Histogram.

In [32]:
```
data = [1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 5, 5]
plt.hist(data,bins=8,histtype='stepfilled',align='right')
plt.legend()
```

```
No artists with labels found to put in legend.  Note that artists whose label
start with an underscore are ignored when legend() is called with no argumen
t.
```

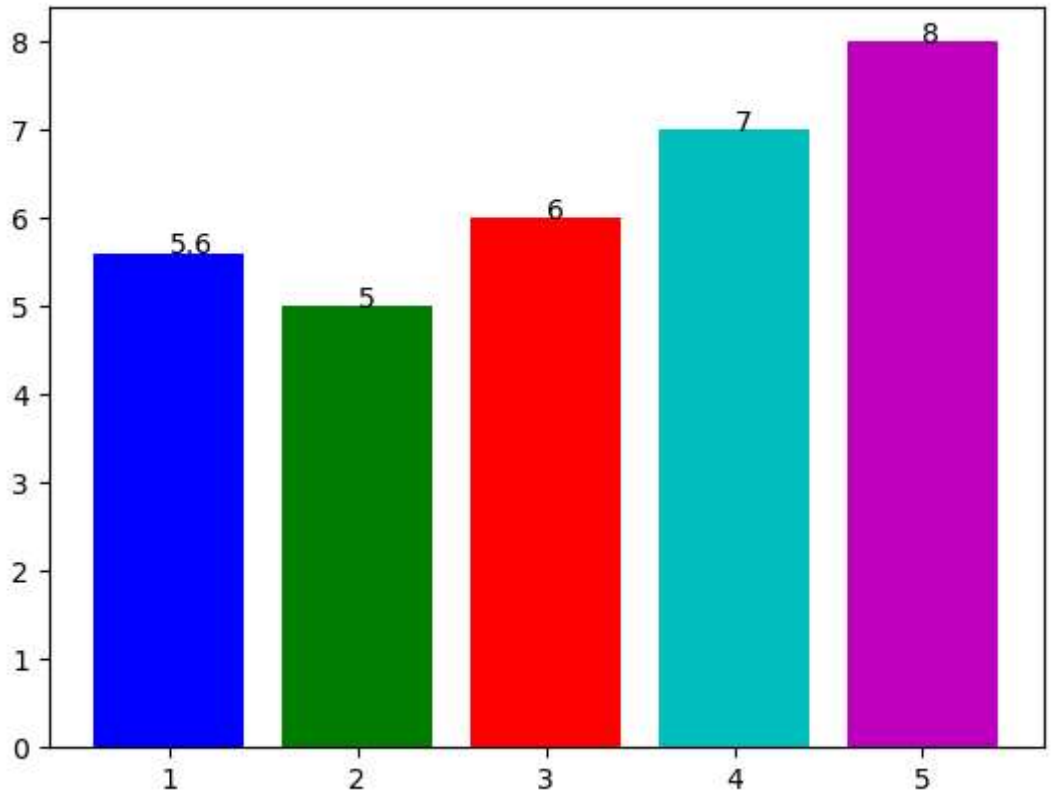
Out[32]:
```
<matplotlib.legend.Legend at 0x204a593ce10>
```



B

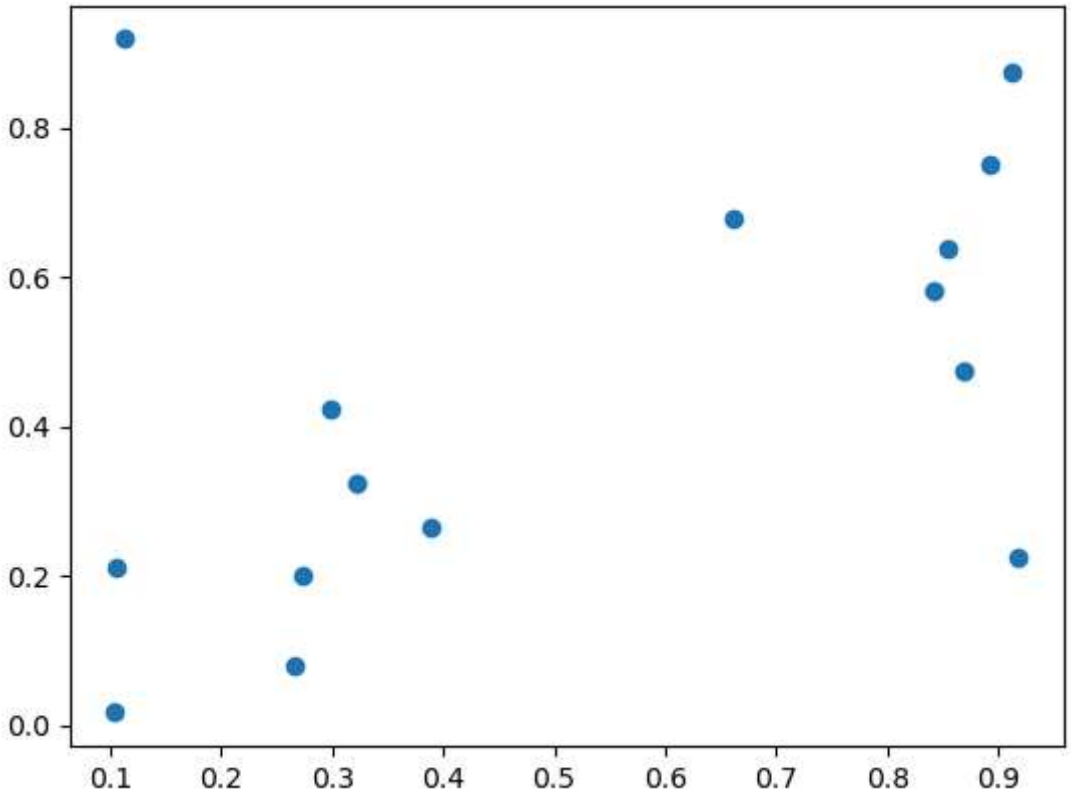
01) WAP to display the value of each bar in a bar chart using Matplotlib.

In [40]:
```
import matplotlib.pyplot as plt
%matplotlib inline

x = [1, 2, 3, 4, 5]
y = [5.6, 5, 6, 7, 8]
c = ['b', 'g', 'r', 'c', 'm']
l = ['1st', '2nd', '3rd', '4th', '5th']

plt.bar(x, y, color=c, label=l)
for i in range(len(x)):
    plt.text(x[i], y[i], str(y[i]))
plt.show()
```



02) WAP create a Scatter Plot with several colors in Matplotlib?

In [60]:
```
import numpy as np
import matplotlib.pyplot as plt


value1 = np.random.rand(15)
value2 = np.random.rand(15)
plt.scatter(value1, value2)
plt.show()
```



03) WAP to Display an Image in Grayscale in Matplotlib.

In [56]:
```
```

Out[56]:
```
<matplotlib.collections.PathCollection at 0x204a5fcd8d0>
```

In [ ]:
```
```