Darshan UNIVERSITY
योग: कर्मसु कौशलम्

Python Programming - 2301CS404

Lab - 12

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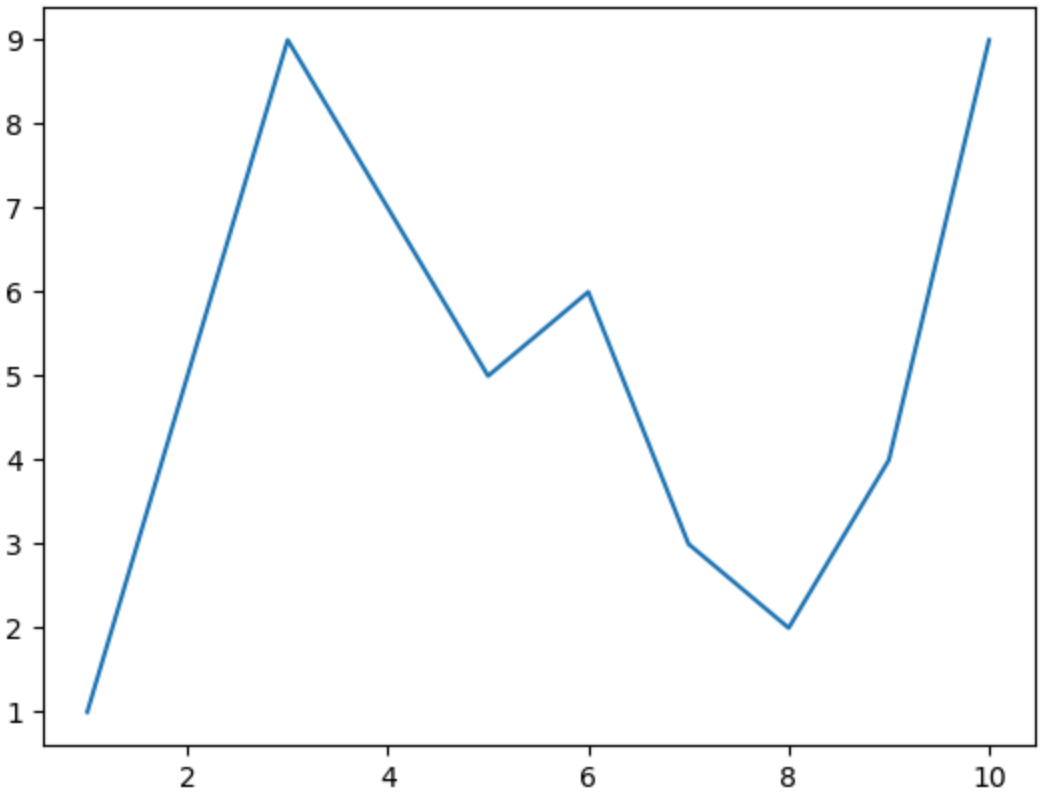
In [3]:
```
#import matplotlib below
import matplotlib.pyplot as plt
```

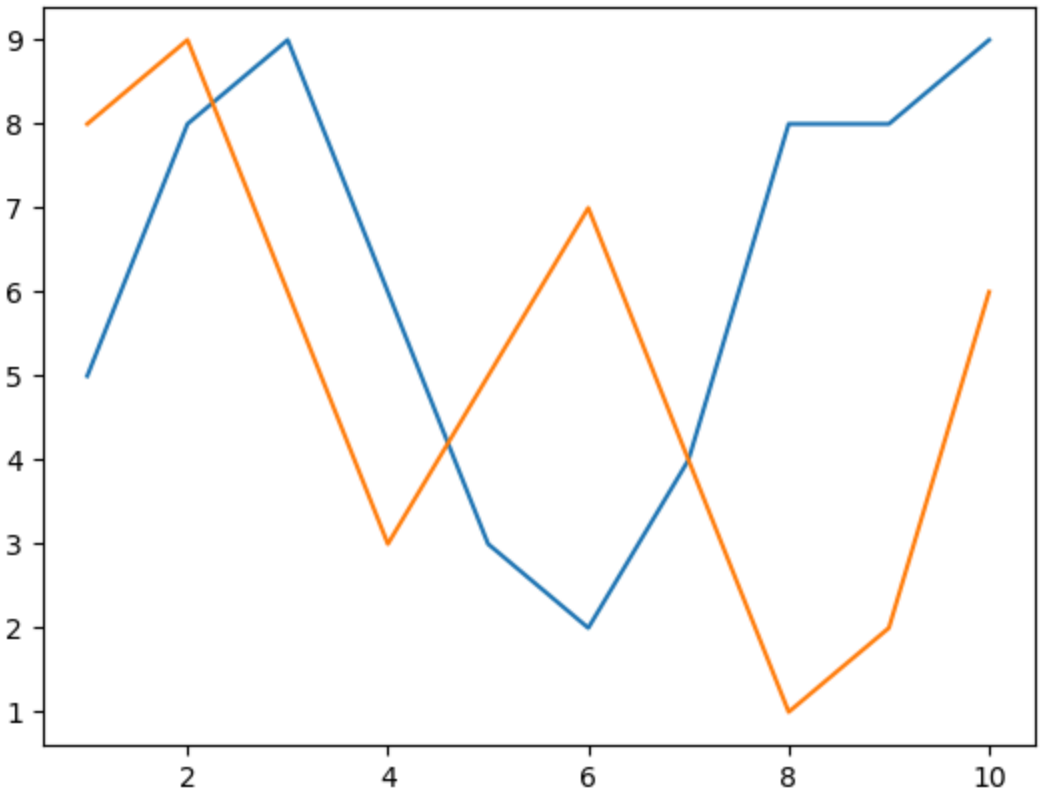
In [9]:
```
# write a code to display the line chart of above x & y
x = range(1,11)
y = [1,5,9,7,5,6,3,2,4,9]
plt.plot(x,y)
```

Out[9]:
```
[<matplotlib.lines.Line2D at 0x227677cef30>]
```

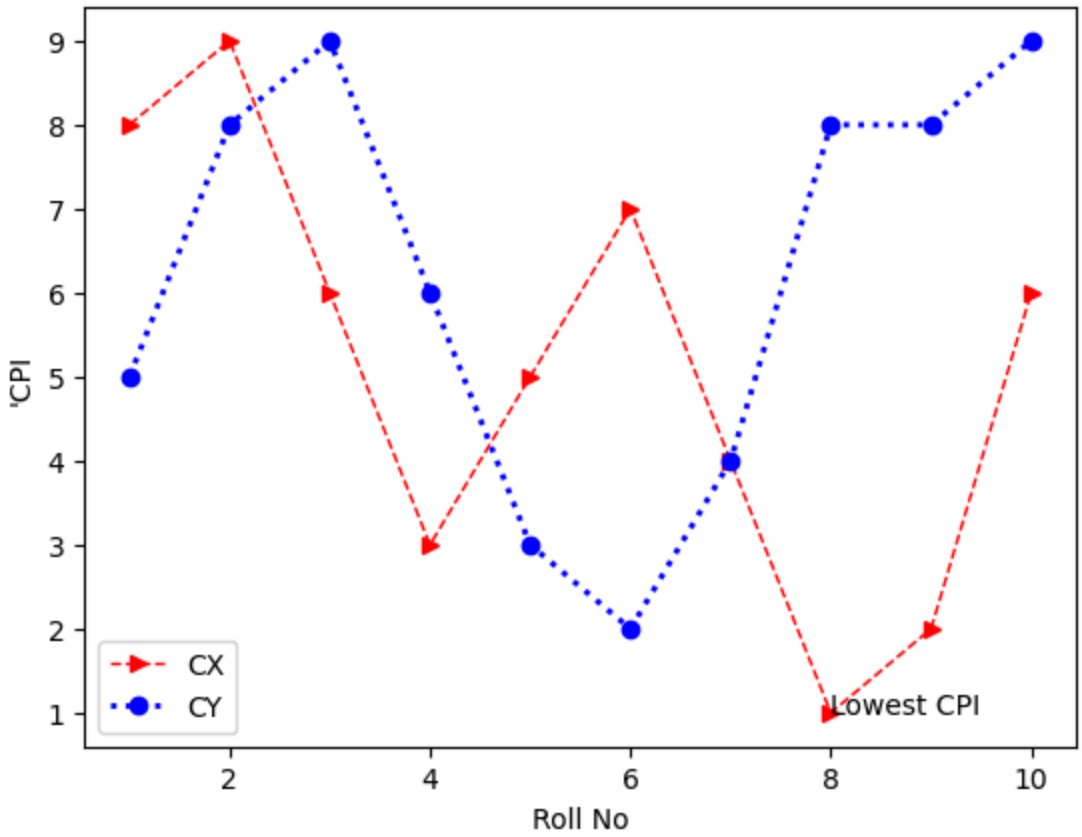


In [11]:
```
x = [1,2,3,4,5,6,7,8,9,10]
cxMarks = [5,8,9,6,3,2,4,8,8,9]
cyMarks = [8,9,6,3,5,7,4,1,2,6]

plt.plot(x,cxMarks)
plt.plot(x,cyMarks)
# write a code to display two lines in a line chart (data given above)
```

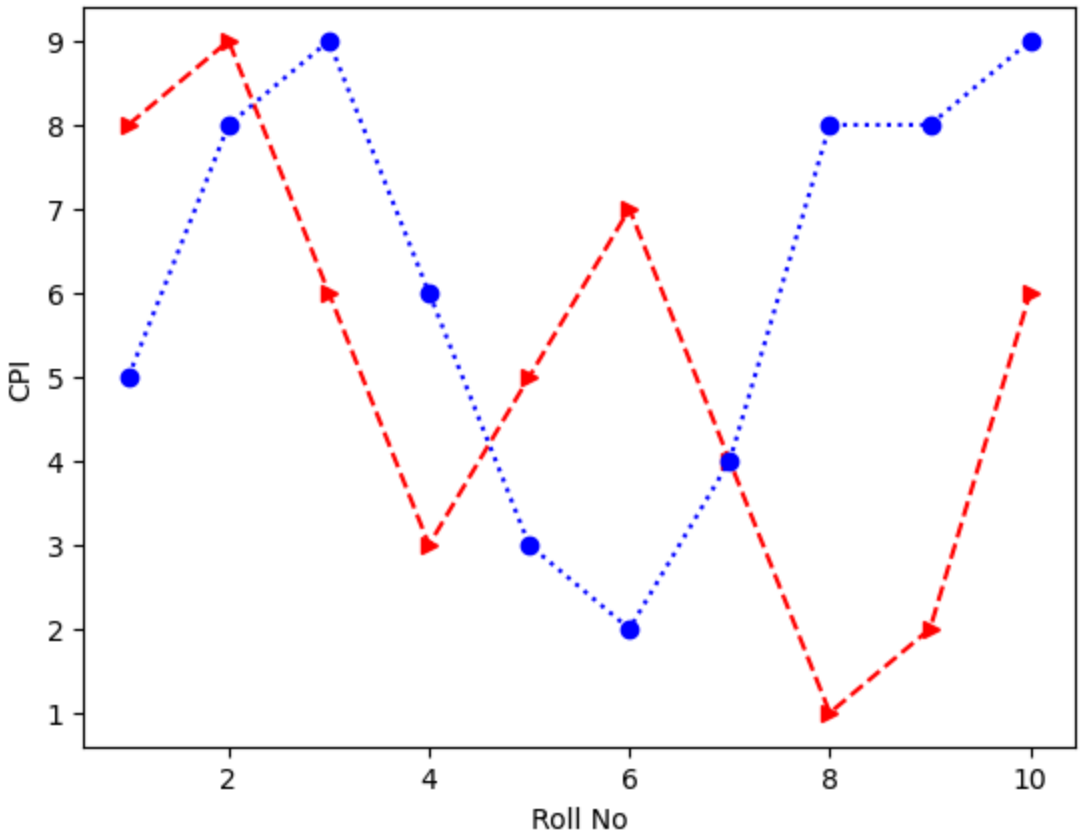
Out[11]:
```
[<matplotlib.lines.Line2D at 0x22767841460>]
```



In [13]:
```
x = range(1,11,1)
cxMarks= [8,9,6,3,5,7,4,1,2,6]
cyMarks= [5,8,9,6,3,2,4,8,8,9]


# write a code to generate below graph
```



In [13]:
```
x = range(1,11,1)
cxMarks= [8,9,6,3,5,7,4,1,2,6]
cyMarks= [5,8,9,6,3,2,4,8,8,9]

plt.plot(x,cxMarks,'>--r')
plt.plot(x,cyMarks,'o:b')
plt.xlabel("Roll No")
plt.ylabel("CPI")

plt.show()
```

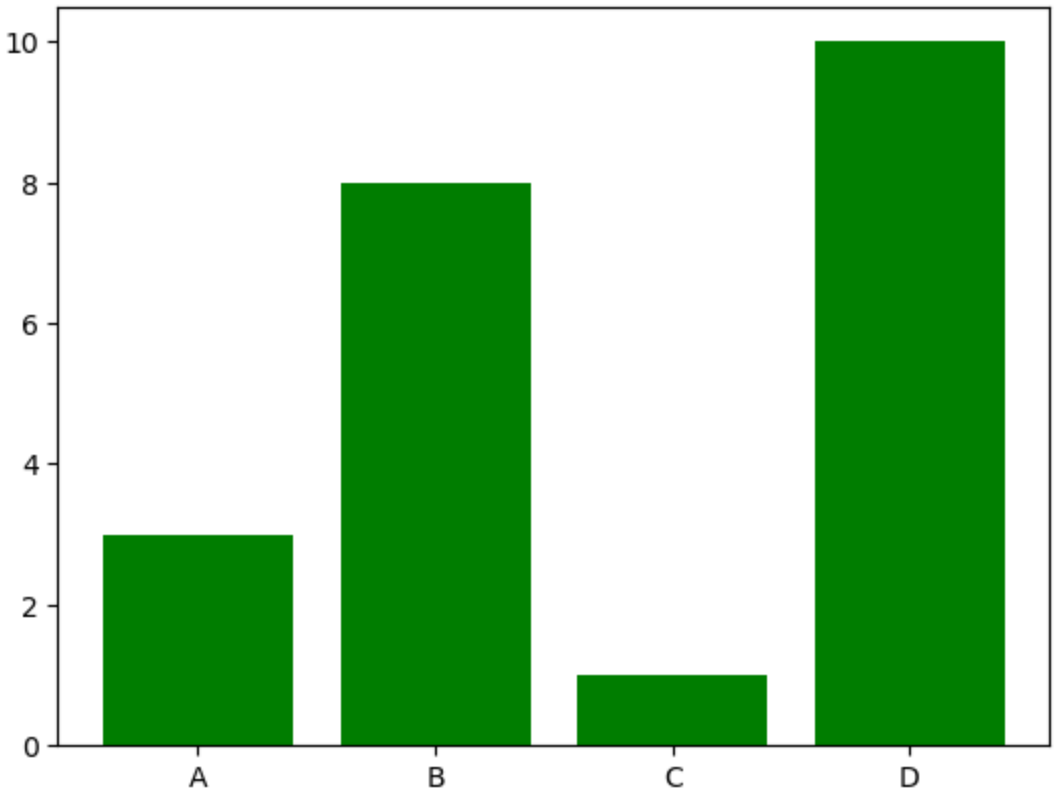


04) WAP to demonstrate the use of Pie chart.

In [15]:
```
y = [35, 25, 25, 15]

plt.pie(y)
plt.show()
```

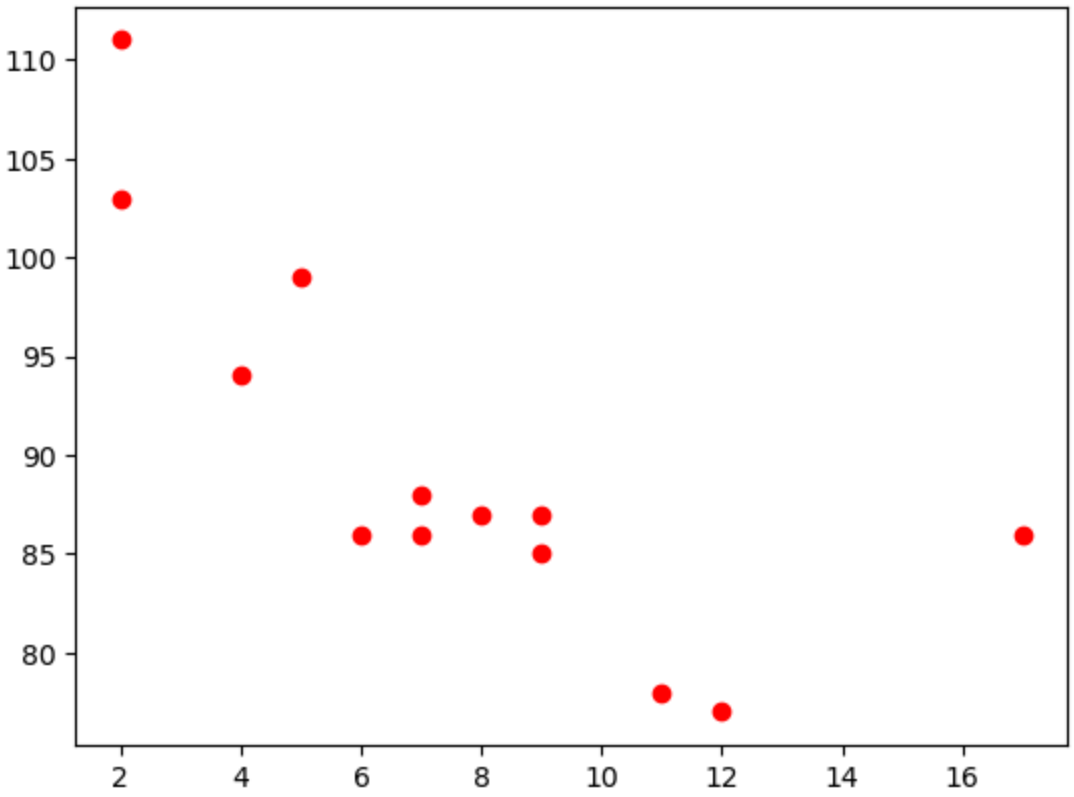
05) WAP to demonstrate the use of Bar chart.

In [17]:
```
x =["A", "B", "C", "D"]
y =[3, 8, 1, 10]

plt.bar(x,y,color='g')
plt.show()
```



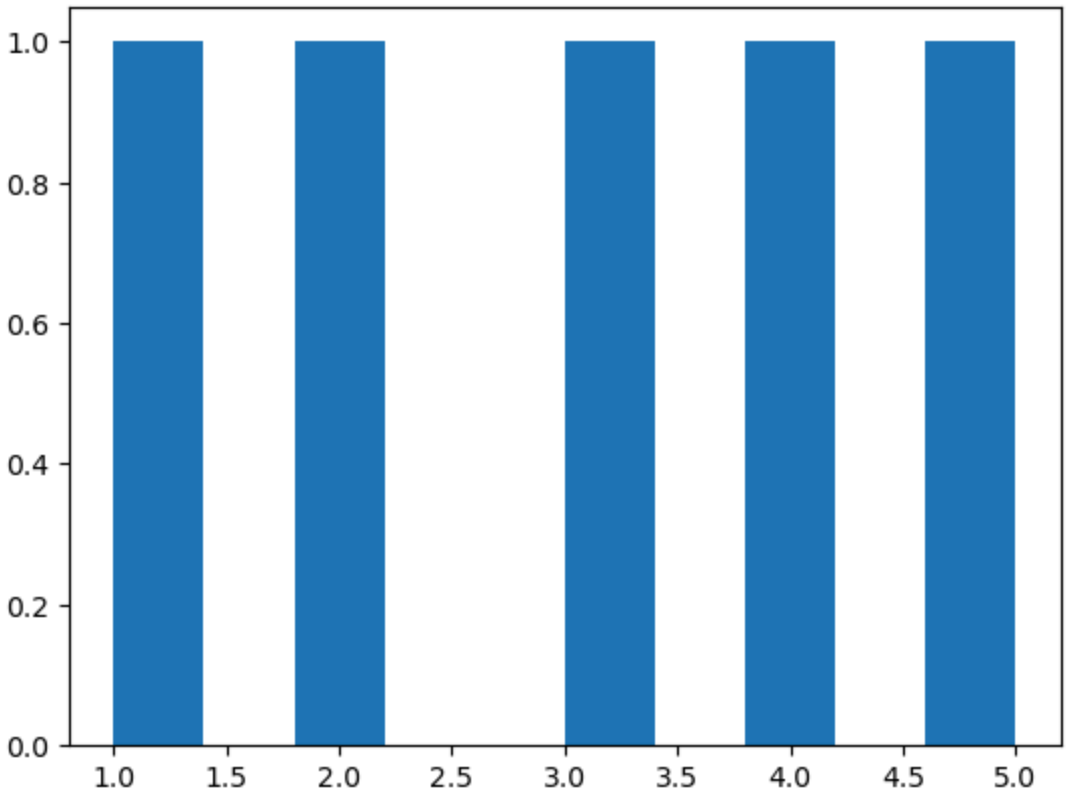
06) WAP to demonstrate the use of Scatter Plot.

In [19]:
```
x = [5,7,8,7,2,17,2,9,4,11,12,9,6]
y = [99,86,87,88,111,86,103,87,94,78,77,85,86]

plt.scatter(x, y,c='r')
plt.show()
```



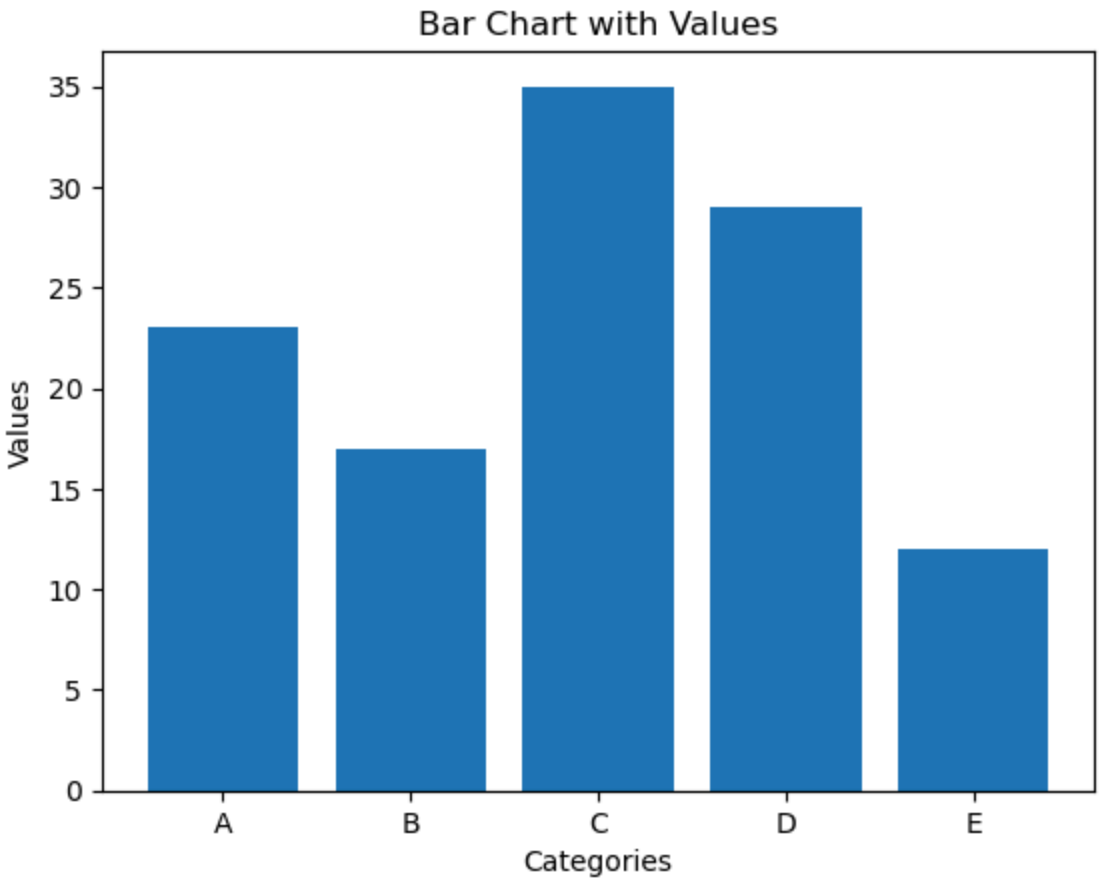
07) WAP to demonstrate the use of Histogram.

In [21]:
```
x = (1,2,3,4,5)
plt.hist(x)
plt.show()
```



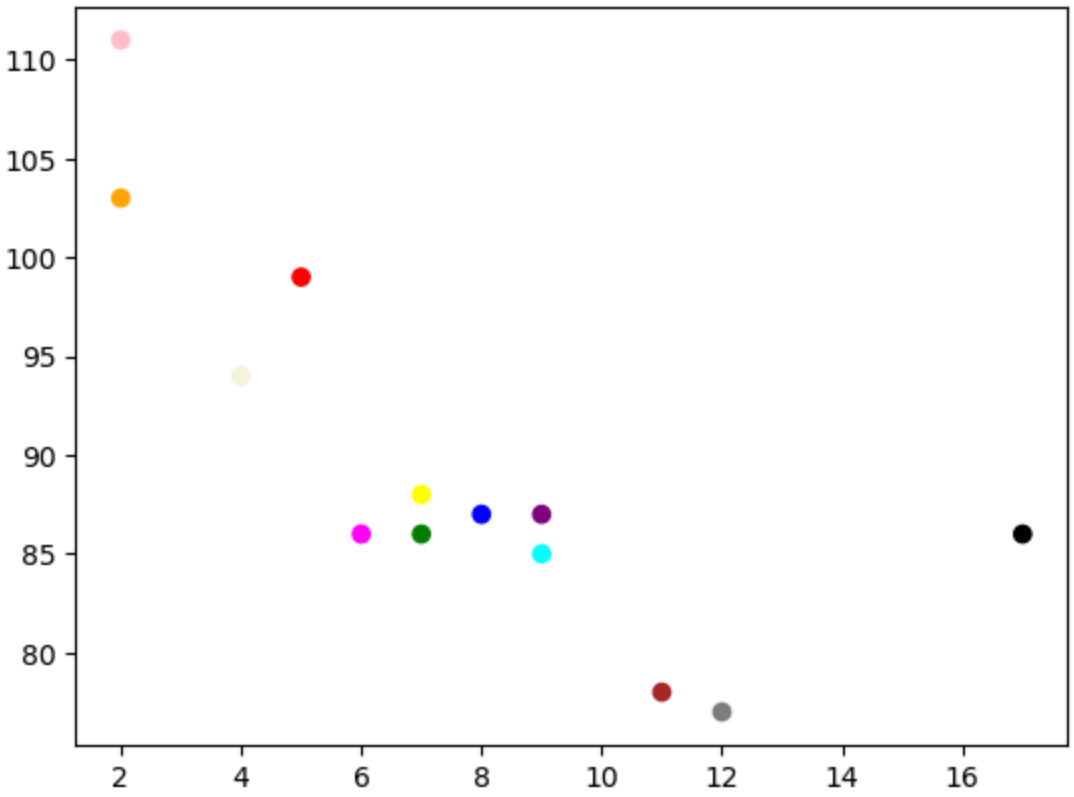
08) WAP to display the value of each bar in a bar chart using Matplotlib.

In [23]:
```
categories = ['A', 'B', 'C', 'D', 'E']
values = [23, 17, 35, 29, 12]
plt.bar(categories, values)
plt.xlabel('Categories')
plt.ylabel('Values')
plt.title('Bar Chart with Values')
plt.show()
```



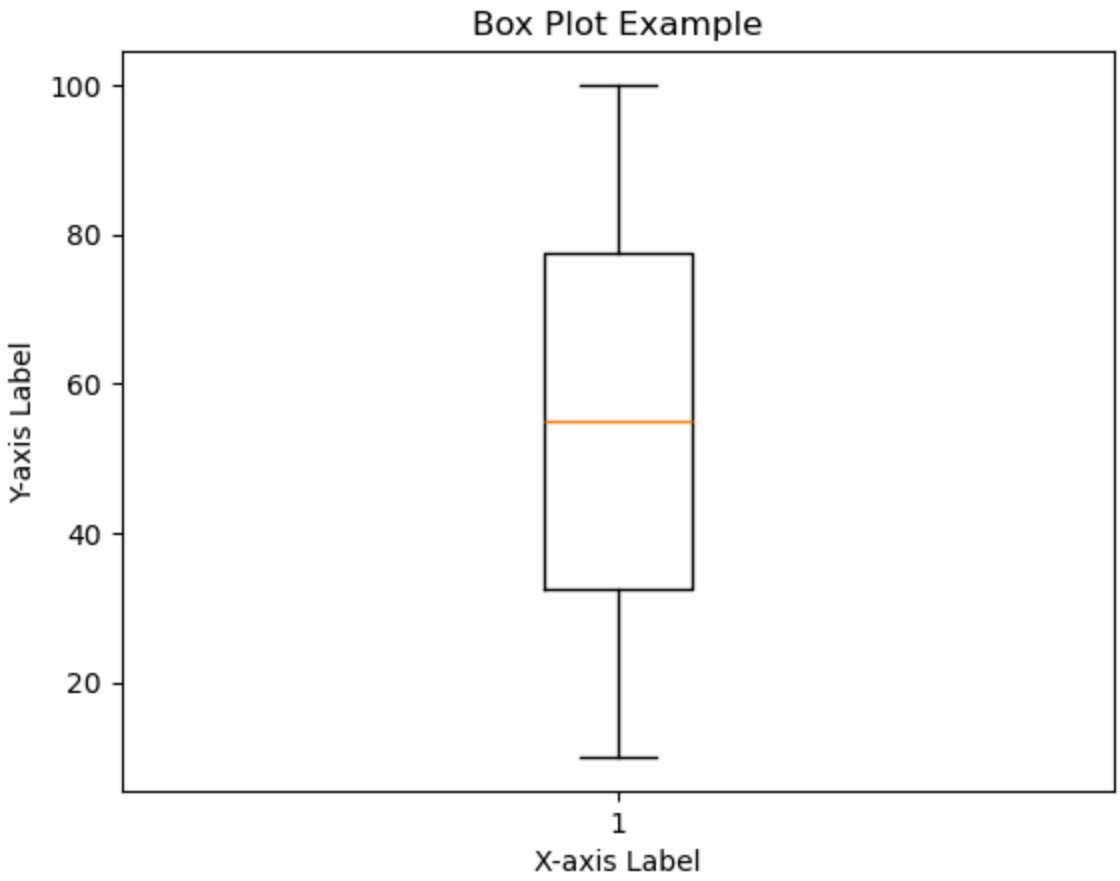
09) WAP create a Scatter Plot with several colors in Matplotlib?

In [25]:
```
x = [5,7,8,7,2,17,2,9,4,11,12,9,6]
y = [99,86,87,88,111,86,103,87,94,78,77,85,86]
colors = ["red","green","blue","yellow","pink","black","orange","purple","beige","b

plt.scatter(x, y, c=colors)

plt.show()
```



10) WAP to create a Box Plot.

In [27]:
```
data = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]

plt.boxplot(data)

plt.title('Box Plot Example')
plt.xlabel('X-axis Label')
plt.ylabel('Y-axis Label')

plt.show()
```


Box Plot Example
100
80
60
40
20
Y-axis Label
1
X-axis Label