Darshan UNIVERSITY

योगः कर्मसु कौशलम्

Python Programming - 2301CS404

Lab - 12

Dhol Namra

Enroll:23010101407

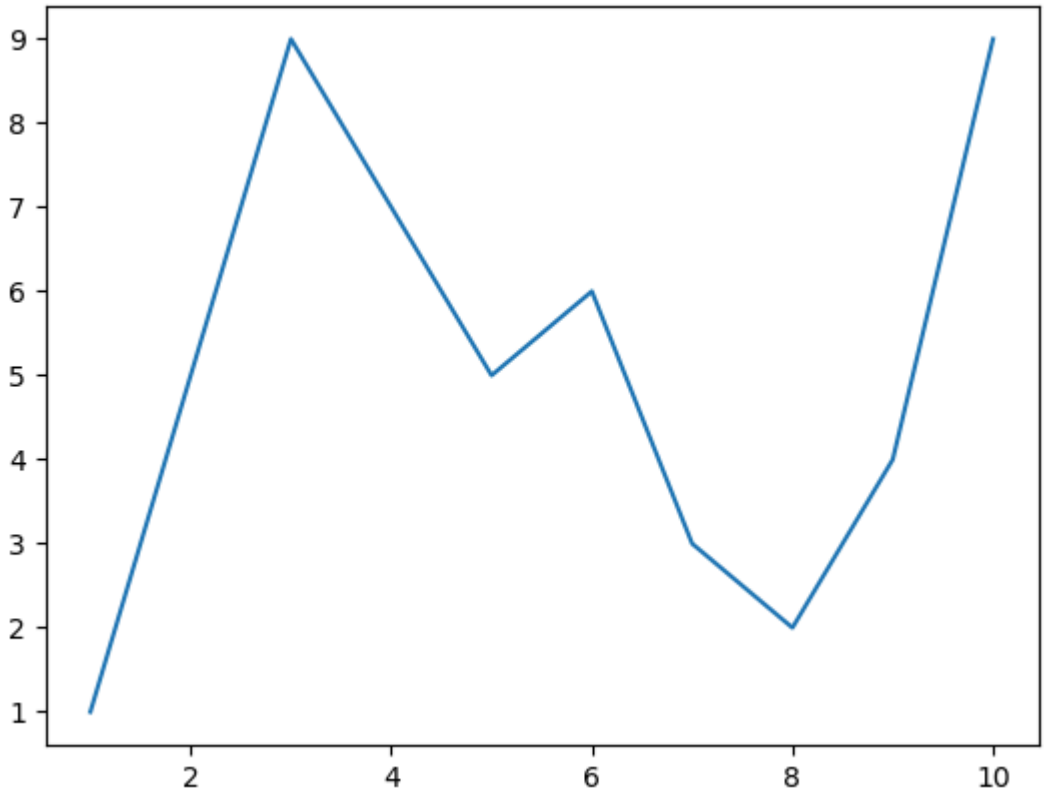
17-02-2025

In [14]:
```
#import matplotlib below
import matplotlib.pyplot as plt
```

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

# write a code to display the line chart of above x & y
```

In [6]:
```
plt.plot(x,y)
```

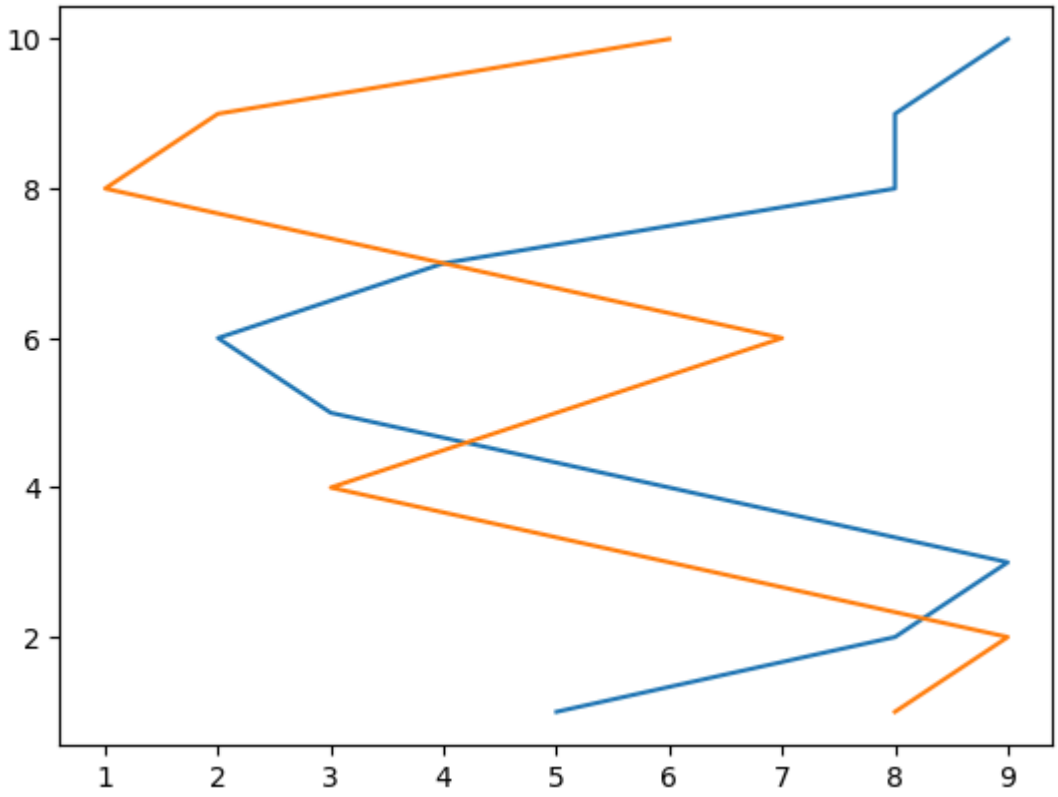
Out[6]:
```
[<matplotlib.lines.Line2D at 0x20bdc66d1f0>]
```



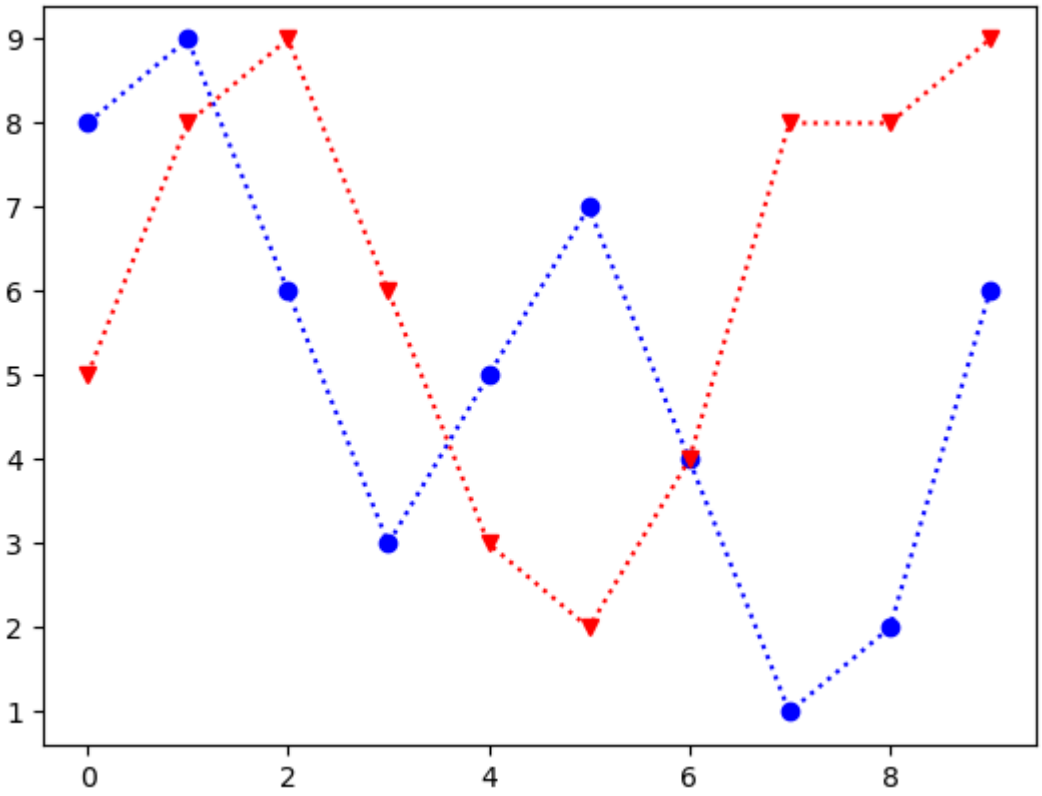
In [8]:
```
x = [1,2,3,4,5,6,7,8,9,10]
cxMarks = [5,8,9,6,3,2,4,8,8,9]
cyMarks = [8,9,6,3,5,7,4,1,2,6]

# write a code to display two lines in a line chart (data given above)
```

In [12]:
```
plt.plot(cxMarks,x)
plt.plot(cyMarks,x)
```

Out[12]:
```
[<matplotlib.lines.Line2D at 0x20bdc8db260>]
```

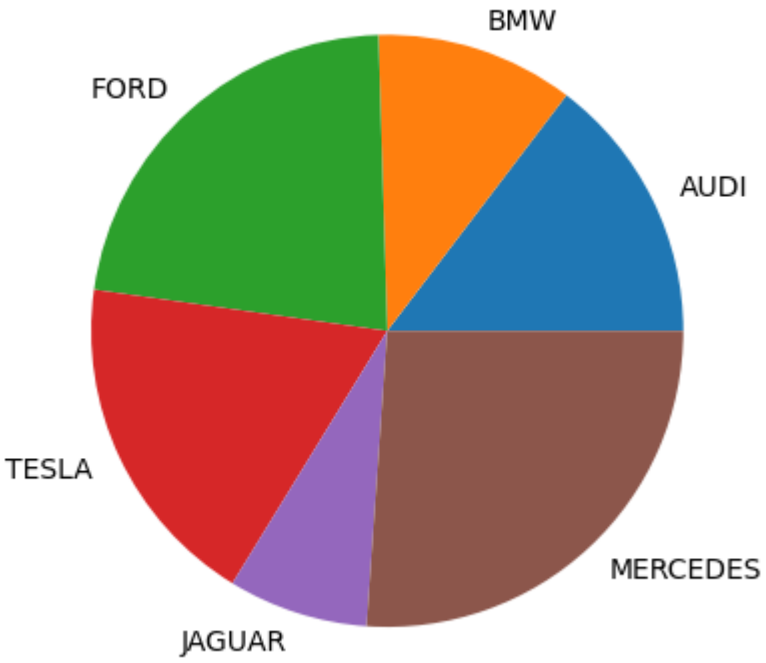


In [18]:
```
x = range(1,11,1)
cxMarks= [8,9,6,3,5,7,4,1,2,6]
cyMarks= [5,8,9,6,3,2,4,8,8,9]

plt.plot(cxMarks,'o:b')
plt.plot(cyMarks,'v:r')

plt.show()
# write a code to generate below graph
```



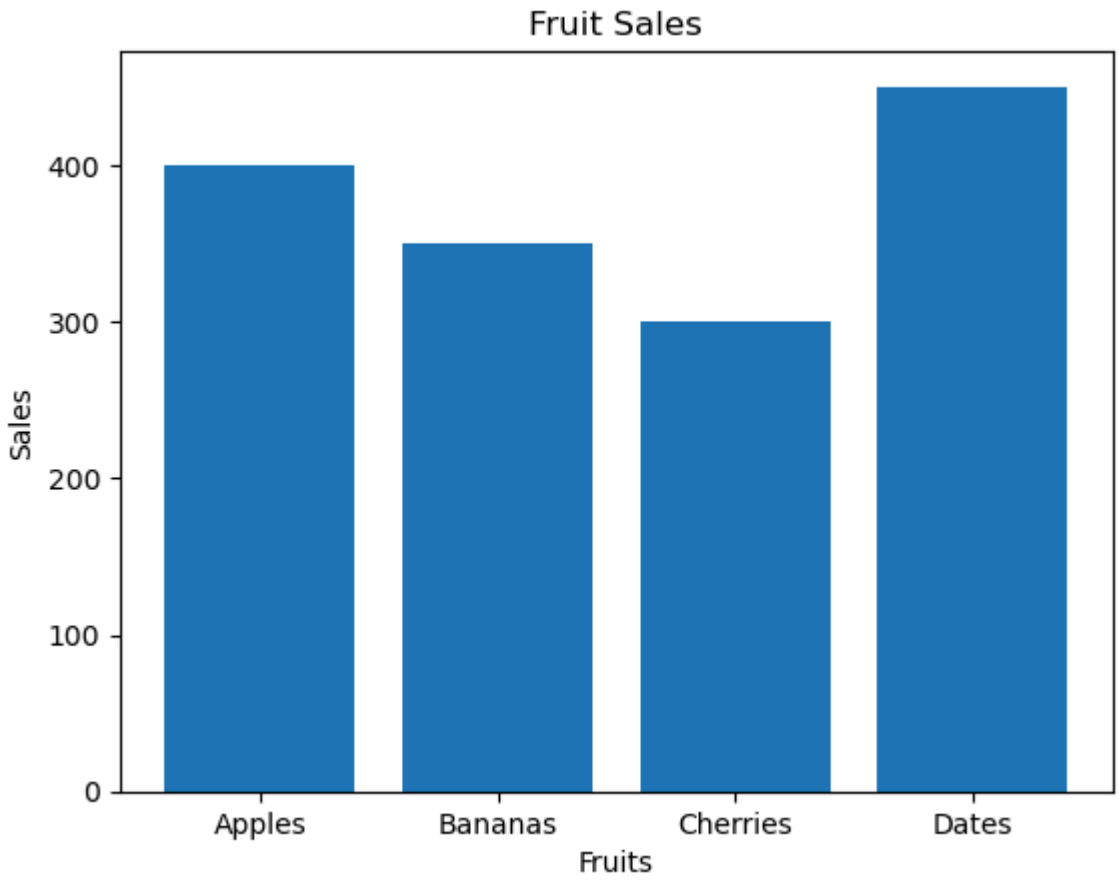
04) WAP to demonstrate the use of Pie chart.

In [25]:
```
cars = ['AUDI', 'BMW', 'FORD',
        'TESLA', 'JAGUAR', 'MERCEDES']

data = [23, 17, 35, 29, 12, 41]

plt.pie(data, labels=cars)


plt.show()
```



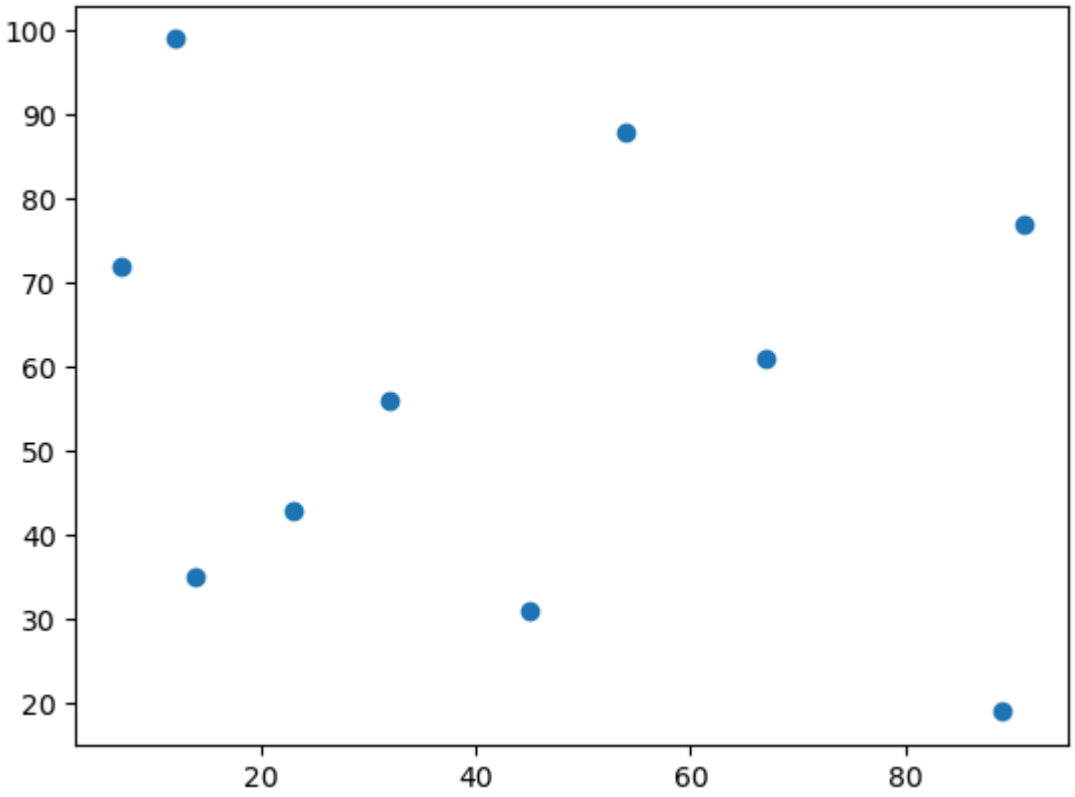
05) WAP to demonstrate the use of Bar chart.

In [27]:
```
fruits = ['Apples', 'Bananas', 'Cherries', 'Dates']
sales = [400, 350, 300, 450]

plt.bar(fruits, sales)
plt.title('Fruit Sales')
plt.xlabel('Fruits')
plt.ylabel('Sales')
plt.show()
```



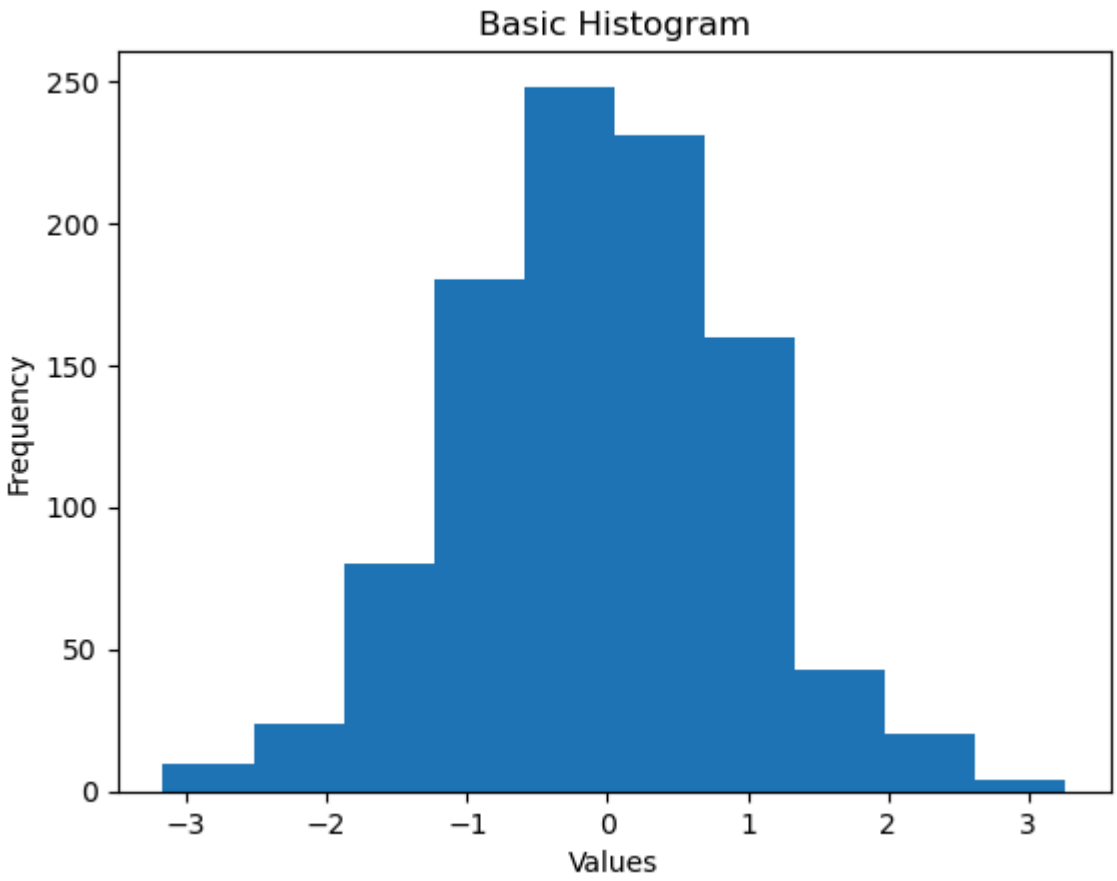
06) WAP to demonstrate the use of Scatter Plot.

In [31]:
```
x = np.array([12, 45, 7, 32, 89, 54, 23, 67, 14, 91])
y = np.array([99, 31, 72, 56, 19, 88, 43, 61, 35, 77])

plt.scatter(x, y)
plt.show()
```



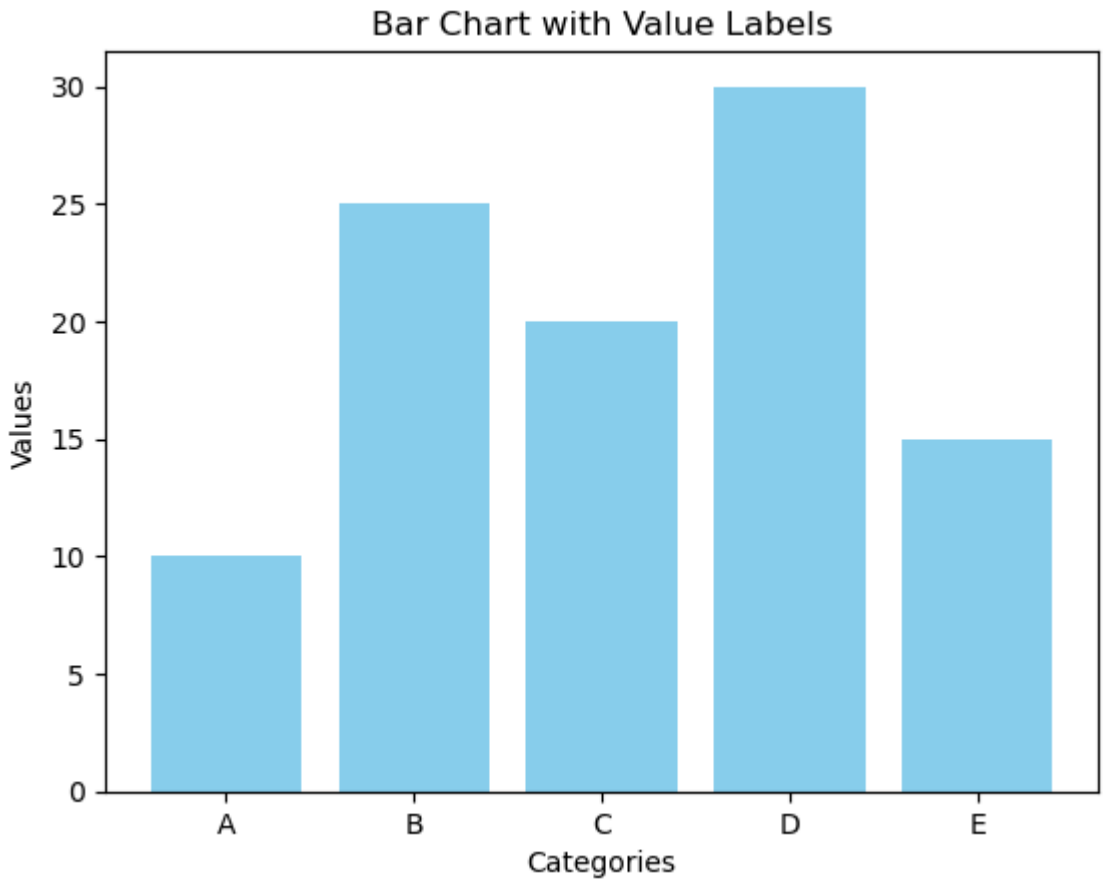
07) WAP to demonstrate the use of Histogram.

In [40]:
```
plt.hist(data)


plt.xlabel('Values')
plt.ylabel('Frequency')
plt.title('Basic Histogram')


plt.show()
```



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

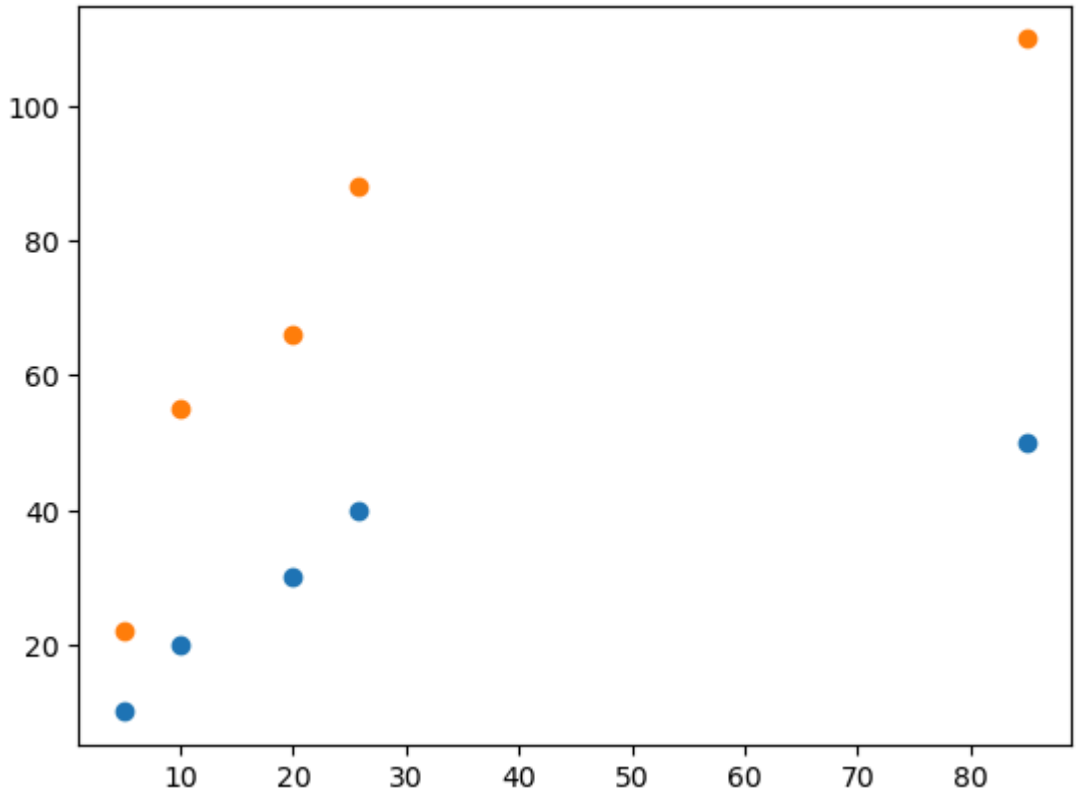
In [54]:
```
categories = ['A', 'B', 'C', 'D', 'E']
values = [10, 25, 20, 30, 15]


plt.bar(categories, values, color='skyblue')


plt.xlabel("Categories")
plt.ylabel("Values")
plt.title("Bar Chart with Value Labels")


plt.show()
```



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

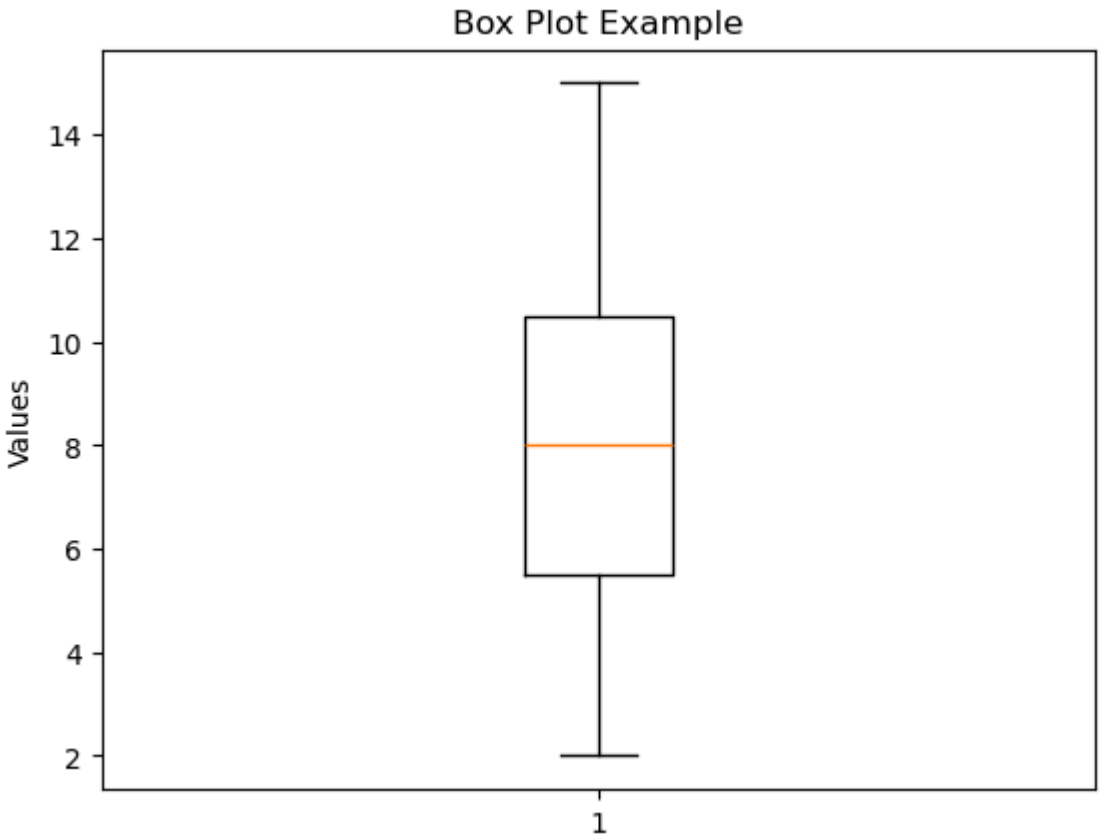
In [48]:
```
demo = [5,10,20,25.75,85]
x = [22,55,66,88,110]
y = [10,20,30,40,50]
plt.scatter(demo,y)
plt.scatter(demo,x)
```

Out[48]:
```
<matplotlib.collections.PathCollection at 0x14d14c994c0>
```



10) WAP to create a Box Plot.

In [46]:
```
data = [7, 8, 5, 6, 9, 15, 3, 4, 12, 10, 8, 6, 11, 13, 2]
plt.boxplot(data)
plt.title("Box Plot Example")
plt.ylabel("Values")
plt.show()
```



In [ ]: