Darshan UNIVERSITY

योग: कर्मसु कौशलम्

Python Programming - 2301CS404

Lab - 12

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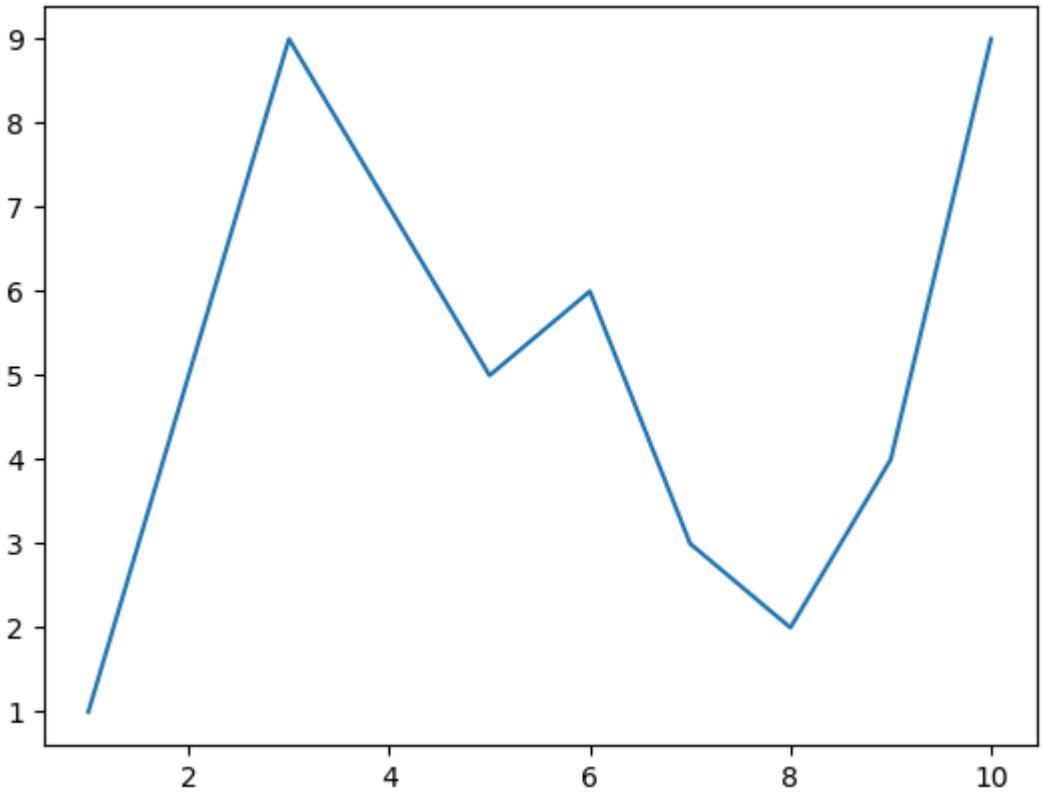
In [3]:
```
#import matplotlib below
import matplotlib.pyplot as plt
```

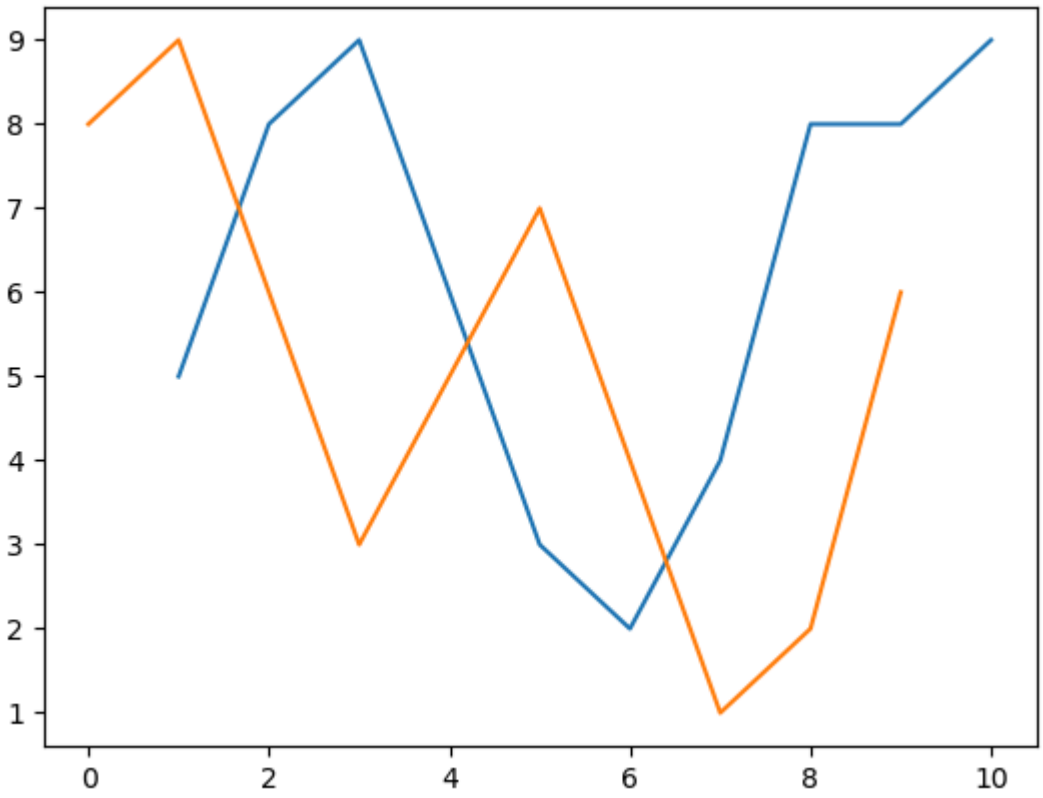
In [5]:
```
x = range(1,11)
y = [1,5,9,7,5,6,3,2,4,9]

# write a code to display the line chart of above x & y
plt.plot(x,y)
plt.show()
```



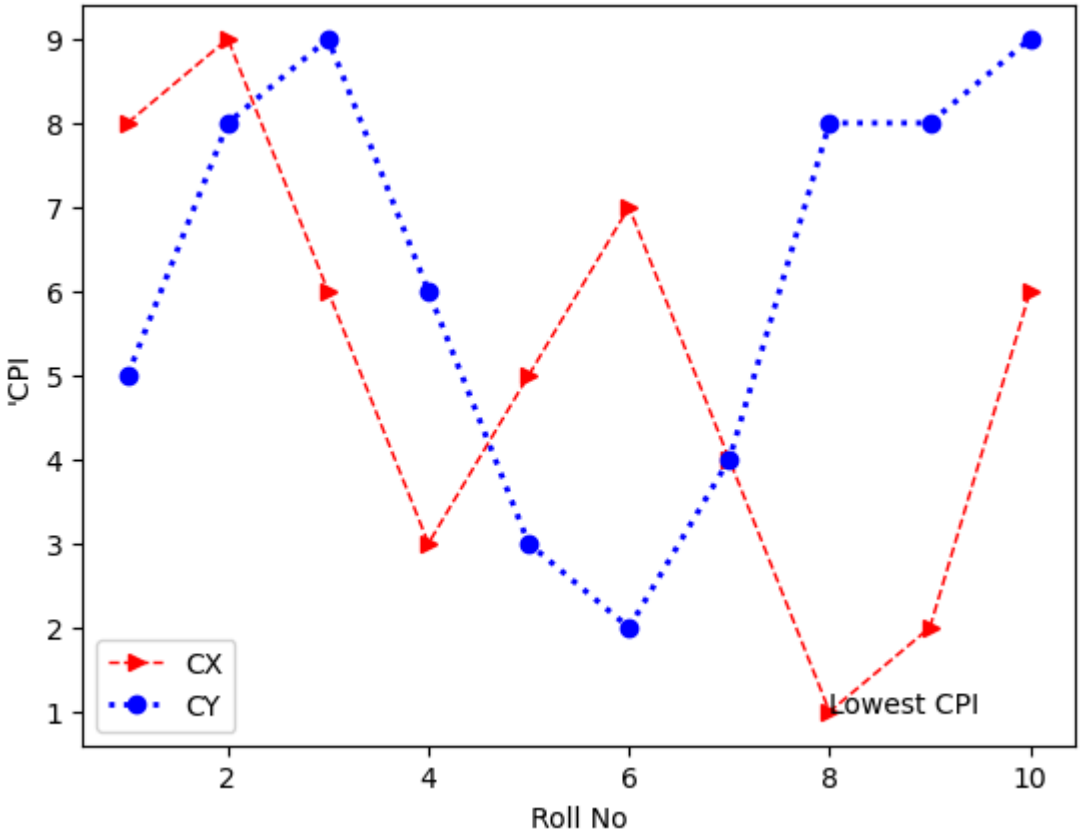
In [7]:
```
x = [1,2,3,4,5,6,7,8,9,10]
cxMarks = [5,8,9,6,3,2,4,8,8,9]
cyMarks = [8,9,6,3,5,7,4,1,2,6]

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



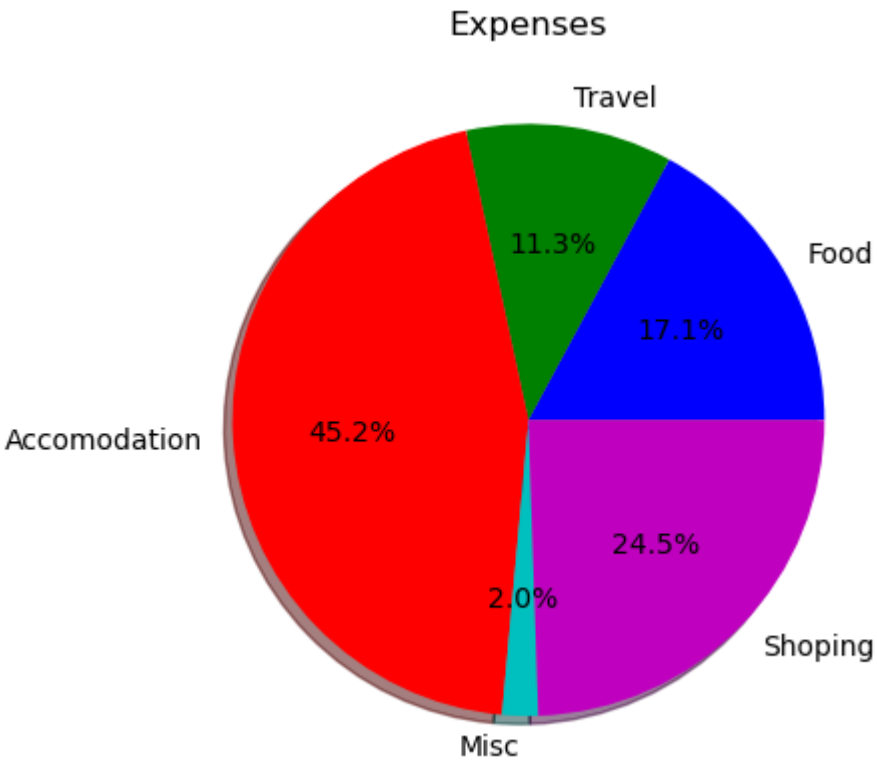
In [13]:
```
x = range(1,11,1)
cxMarks= [8,9,6,3,5,7,4,1,2,6]
cyMarks= [5,8,9,6,3,2,4,8,8,9]


# write a code to generate below graph
```



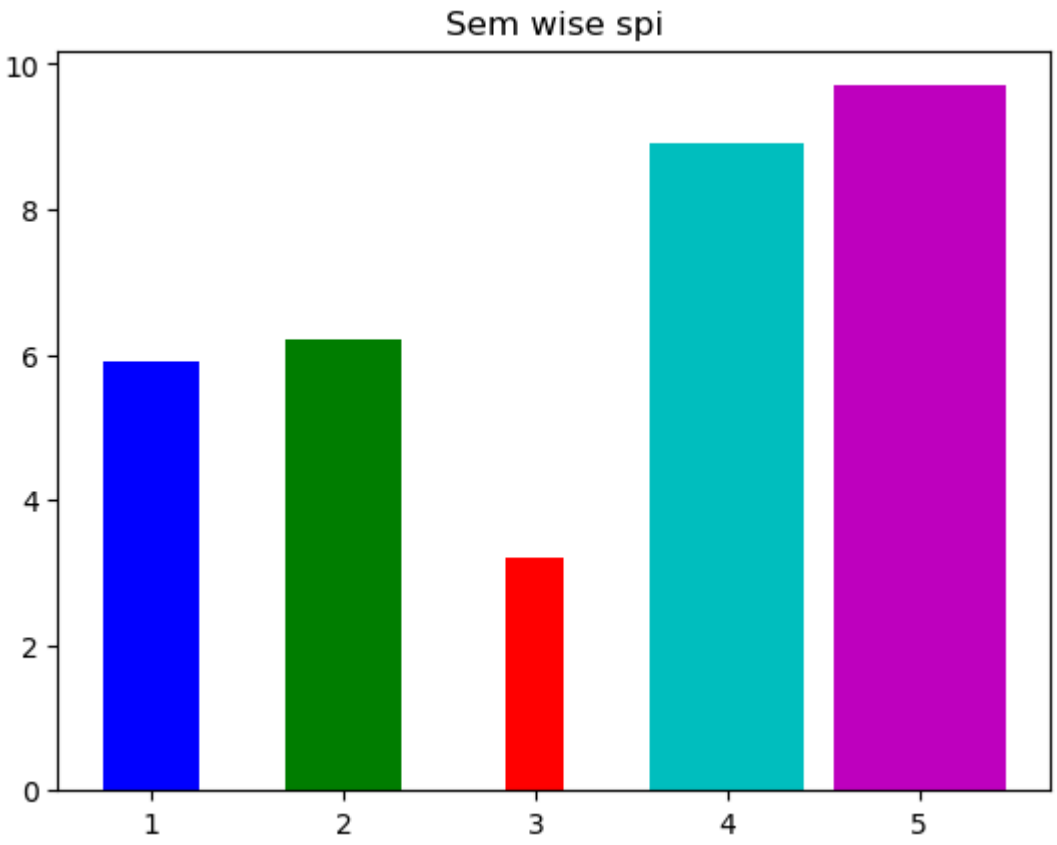
04) WAP to demonstrate the use of Pie chart.

In [9]:
```
values = [305,201,805,35,436]
l = ["Food", "Travel", "Accomodation", "Misc", "Shoping"]
c = ["b", "g", "r", "c", "m"]
plt.pie(values,colors=c,labels=l,shadow=True,autopct="%1.1f%%")
plt.title("Expenses")
plt.show()
```



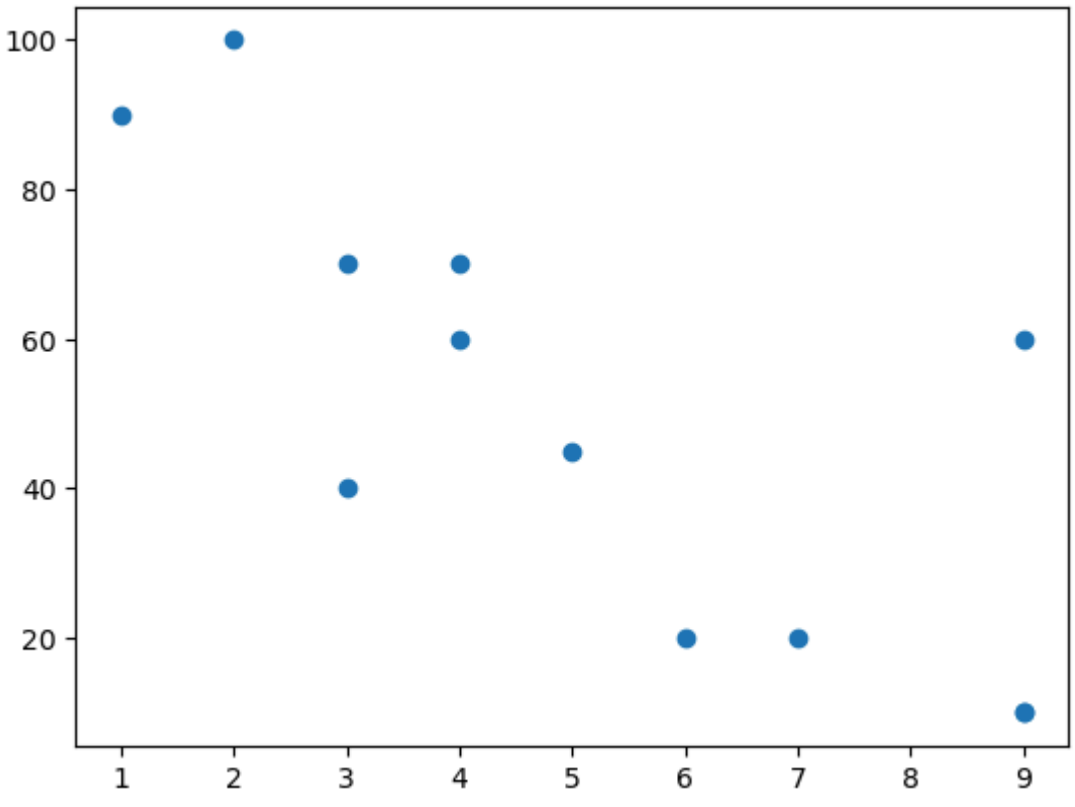
05) WAP to demonstrate the use of Bar chart.

In [11]:
```
x = [1,2,3,4,5]
y = [5.9,6.2,3.2,8.9,9.7]
l = ["1st", "2nd", "3rd", "4th", "5th"]
c = ["b", "g", "r", "c", "m"]
w = [0.5, 0.6, 0.3, 0.8, 0.9]
plt.title("Sem wise spi")
plt.bar(x,y,color=c,label=l,width=w)
plt.show()
```



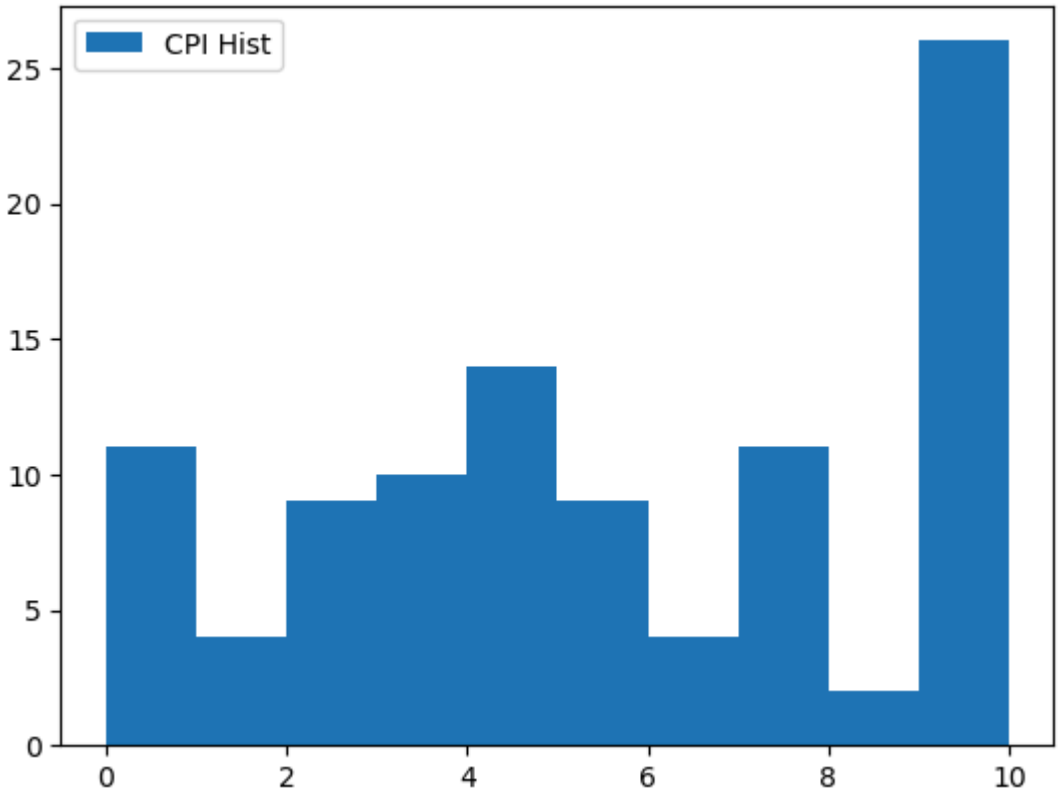
06) WAP to demonstrate the use of Scatter Plot.

In [13]:
```
carAge = [2,5,7,9,4,3,1,9,4,3,6,9]
carspeed = [100,45,20,10,60,70,90,60,70,40,20,10]
plt.scatter(carAge, carspeed)
plt.show()
```



07) WAP to demonstrate the use of Histogram.

In [17]:
```
import random
cpis = [random.randint(0, 10) for _ in range(100)]
%matplotlib inline
plt.hist(cpis, bins=10, histtype="stepfilled", align="mid", label="CPI Hist")
plt.legend()
plt.show()
```



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

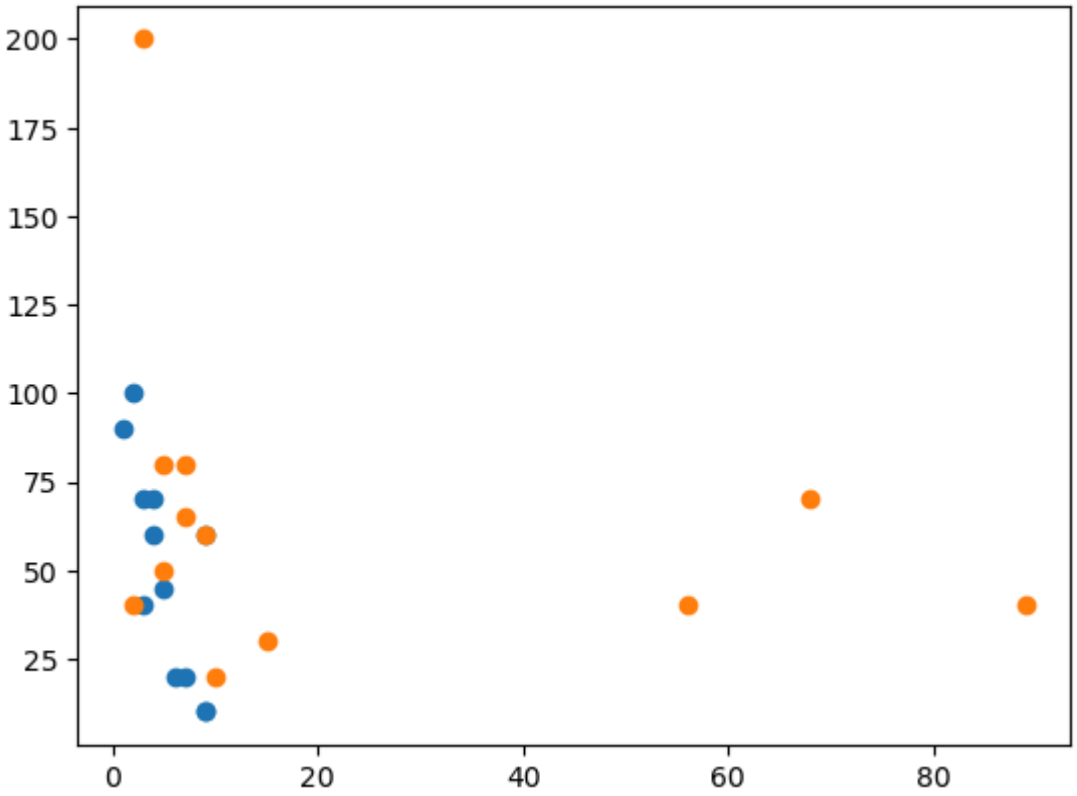
In [22]:
```
Import matplotlib.pyplot as plt
products = ['Product A', 'Product B', 'Product C', 'Product D', 'Product E']
sales = [100, 150, 120, 90, 200]
plt.bar(products, sales, color='b')
for i in range(len(products)):
    plt.text(i, sales[i]+1,str(sales[i]))
plt.title('Sales of Products')
plt.xlabel('Products')
plt.ylabel('Sales')
plt.show()
```

```
  Cell In[22], line 1
    Import matplotlib.pyplot as plt
           ^
SyntaxError: invalid syntax
```

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

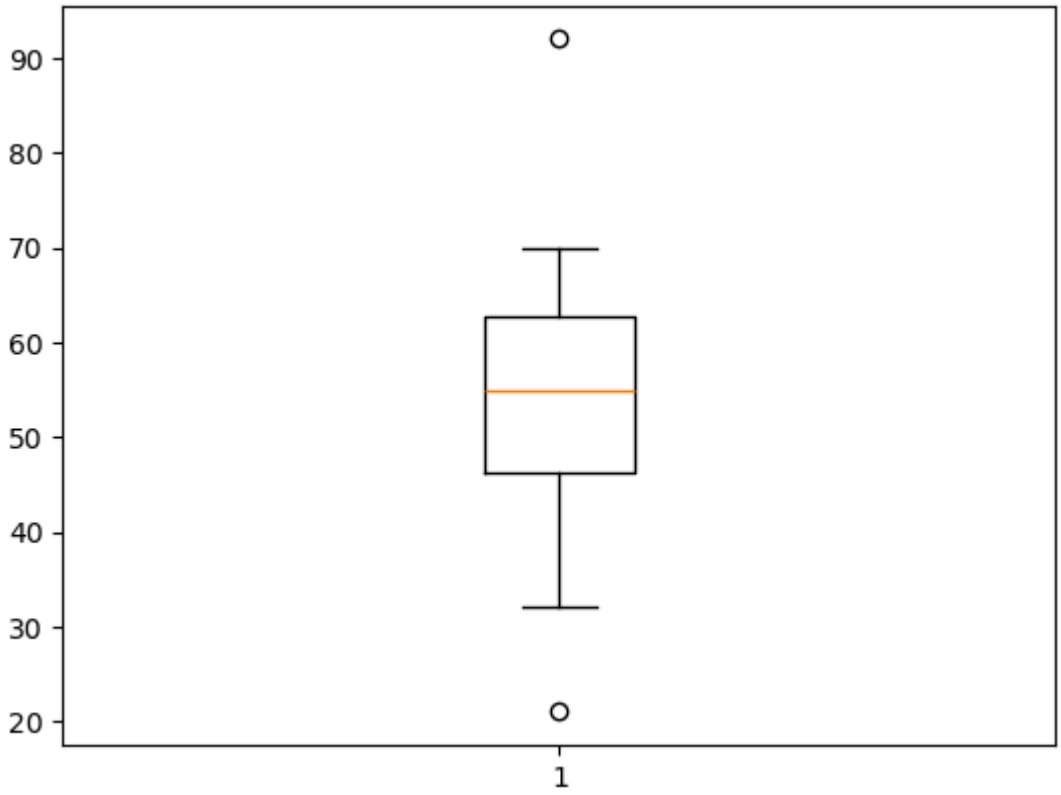
In [19]:
```
carage = [2,5,7,9,4,3,1,9,4,3,6,9]
carspeed = [100,45,20,10,60,70,90,60,70,40,20,10]
carage1 = [3,7,7,10,15,56,5,68,89,9,5,2]
carspeed1 = [200,65,80,20,30,40,50,70,40,60,80,40]
plt.scatter(carage,carspeed)
plt.scatter(carage1,carspeed1)

plt.show()
```



10) WAP to create a Box Plot.

In [21]:
```
plt.boxplot([50,45,52,63,70,21,56,68,54,57,35,62,92,32])
plt.show()
```


90
80
70
60
50
40
30
20
1