In [1]:
```
import numpy as np
import math
```

In [2]:
```
speed = [99,86,87,88,111,34,104,123,88,67,103]

x=np.mean(speed)

print("Mean : ",x)
```

```
Mean :  90.0
```

In [3]:
```
speed = [99,86,87,88,111,34,104,123,88,67,103]

m=np.median(speed)

print("Median : ",m)
```

```
Median :  88.0
```

In [4]:
```
speed = [99,86,87,88,111,34,104,123,88,34,67,103]

maxi=np.max(speed)

print("Maximum Speed : ",maxi)
```

```
Maximum Speed :  123
```

In [5]:
```
speed = [99,86,87,88,111,34,104,123,88,34,67,103]

mini=np.min(speed)

print("Maximum Speed : ",mini)
```

```
Maximum Speed :  34
```

In [6]:
```
speed = [17.8,19.2,16.3,12.5,12.8,11.4]

x = np.mean(speed)
addition =0

for i in speed:
    sq=(abs(i-x))*2
    addition+=sq

var=addition/len(speed)
SD=math.sqrt(var)
print(" SD : ",SD)
```

```
 SD :  2.3523038352503134
```

In [7]:
```
# 2
import pandas as pd
```

In [8]:
```
df=pd.read_csv("exp6.csv")
```

In [9]:
```
df.head(10)
```

Out[9]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa
5	6	5.4	3.9	1.7	0.4	Iris-setosa
6	7	4.6	3.4	1.4	0.3	Iris-setosa
7	8	5.0	3.4	1.5	0.2	Iris-setosa
8	9	4.4	2.9	1.4	0.2	Iris-setosa
9	10	4.9	3.1	1.5	0.1	Iris-setosa

In [12]:
```
print('Iris_versicolor  : ')
Iris_versicolor  = (df['Species'] == 'Iris-versicolor')
print(df[Iris_versicolor ].describe())
```

```
Iris_versicolor  :
              Id  SepalLengthCm  SepalWidthCm  PetalLengthCm  PetalWidthCm
count   50.00000      50.000000     50.000000      50.000000     50.000000
mean    75.50000       5.936000      2.770000       4.260000      1.326000
std     14.57738       0.516171      0.313798       0.469911      0.197753
min     51.00000       4.900000      2.000000       3.000000      1.000000
25%     63.25000       5.600000      2.525000       4.000000      1.200000
50%     75.50000       5.900000      2.800000       4.350000      1.300000
75%     87.75000       6.300000      3.000000       4.600000      1.500000
max    100.00000       7.000000      3.400000       5.100000      1.800000
```

In [13]:
```
print('Iris_virginica  : ')
Iris_virginica  = (df['Species'] == 'Iris-virginica')
print(df[Iris_virginica ].describe())
```

```
Iris_virginica  :
              Id  SepalLengthCm  SepalWidthCm  PetalLengthCm  PetalWidthCm
count   50.00000       50.00000     50.000000      50.000000      50.00000
mean   125.50000        6.58800      2.974000       5.552000       2.02600
std     14.57738        0.63588      0.322497       0.551895       0.27465
min    101.00000        4.90000      2.200000       4.500000       1.40000
25%    113.25000        6.22500      2.800000       5.100000       1.80000
50%    125.50000        6.50000      3.000000       5.550000       2.00000
75%    137.75000        6.90000      3.175000       5.875000       2.30000
max    150.00000        7.90000      3.800000       6.900000       2.50000
```