Practical No:3

In [3]:
```
import pandas as pd
df=pd.read_csv('/home/student/Downloads/archive/iris.csv')
print(df.shape)
```

```
(150, 5)
```

In [ ]:

In [5]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column        Non-Null Count  Dtype  
---  ------        --------------  -----  
 0   sepal_length  150 non-null    float64
 1   sepal_width   150 non-null    float64
 2   petal_length  150 non-null    float64
 3   petal_width   150 non-null    float64
 4   species       150 non-null    object 
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

In [6]:
```
df.mean()
```

Out[6]:
```
sepal_length    5.843333
sepal_width     3.054000
petal_length    3.758667
petal_width     1.198667
dtype: float64
```

In [7]:
```
df.mode()
```

Out[7]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.0	3.0	1.5	0.2	setosa
1	NaN	NaN	NaN	NaN	versicolor
2	NaN	NaN	NaN	NaN	virginica

In [8]:
```
df.median()
```

Out[8]:
```
sepal_length    5.80
sepal_width     3.00
petal_length    4.35
petal_width     1.30
dtype: float64
```

In [9]:
```
print(df.loc[:,'sepal_length'].mean())
```

```
5.843333333333335
```

In [10]:
```
df.std()
```

Out[10]:
```
sepal_length    0.828066
sepal_width     0.433594
petal_length    1.764420
petal_width     0.763161
dtype: float64
```

In [11]:
```
df.var()
```

Out[11]:
```
sepal_length    0.685694
sepal_width     0.188004
petal_length    3.113179
petal_width     0.582414
dtype: float64
```

In [18]:
```
df.std(axis=1)[0:5]
```

Out[18]:
```
0    2.179449
1    2.036950
2    1.997498
3    1.912241
4    2.156386
dtype: float64
```

In [13]:
```
from scipy.stats import iqr
iqr(df['sepal_length'])
```

Out[13]:
```
1.3000000000000007
```

In [14]:
```
df.skew()
```

Out[14]:
```
sepal_length    0.314911
sepal_width     0.334053
petal_length   -0.274464
petal_width    -0.104997
dtype: float64
```

In [15]:
```
df.describe()
```

Out[15]:

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.054000	3.758667	1.198667
std	0.828066	0.433594	1.764420	0.763161
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000
max	7.900000	4.400000	6.900000	2.500000

In [16]:
```
df.describe(include='all')
```

Out[16]:

	sepal_length	sepal_width	petal_length	petal_width	species
count	150.000000	150.000000	150.000000	150.000000	150
unique	NaN	NaN	NaN	NaN	3
top	NaN	NaN	NaN	NaN	virginica
freq	NaN	NaN	NaN	NaN	50
mean	5.843333	3.054000	3.758667	1.198667	NaN
std	0.828066	0.433594	1.764420	0.763161	NaN
min	4.300000	2.000000	1.000000	0.100000	NaN
25%	5.100000	2.800000	1.600000	0.300000	NaN
50%	5.800000	3.000000	4.350000	1.300000	NaN
75%	6.400000	3.300000	5.100000	1.800000	NaN
max	7.900000	4.400000	6.900000	2.500000	NaN

In [ ]:
```

```