In [11]: *#4. Write a Python program to display some basic statistical details like perc*
#species of 'Iris-setosa', 'Iris-versicolor' and 'Iris- versicolor' of iris.cs
#explain everything that you do in this step.

#Iris.csv

In [1]: ```python
import pandas as pd
import numpy as np
import seaborn as sb
import matplotlib.pyplot as plt
```

In [2]: ```python
df=pd.read_csv("Iris.csv")
df.head()
```

Out[2]:

	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

In [3]: ```python
df.describe()
```

Out[3]:

|       | Id | SepalLengthCm | SepalWidthCm | PetalLengthCm | PetalWidthCm |
|-------|------------|------------|------------|------------|------------|
| count | 150.000000 | 150.000000 | 150.000000 | 150.000000 | 150.000000 |
| mean  | 75.500000  | 5.843333   | 3.054000   | 3.758667   | 1.198667   |
| std   | 43.445368  | 0.828066   | 0.433594   | 1.764420   | 0.763161   |
| min   | 1.000000   | 4.300000   | 2.000000   | 1.000000   | 0.100000   |
| 25%   | 38.250000  | 5.100000   | 2.800000   | 1.600000   | 0.300000   |
| 50%   | 75.500000  | 5.800000   | 3.000000   | 4.350000   | 1.300000   |
| 75%   | 112.750000 | 6.400000   | 3.300000   | 5.100000   | 1.800000   |
| max   | 150.000000 | 7.900000   | 4.400000   | 6.900000   | 2.500000   |

In [4]: ```python
data=df
data["Species"].value_counts()
```

Out[4]:
```
Iris-setosa        50
Iris-versicolor    50
Iris-virginica     50
Name: Species, dtype: int64
```

```
In [5]: data.rename(columns={"SepalLengthCm":"slength",
                             "SepalWidthCm":"swidth",
                             "PetalLengthCm":"plength",
                             "PetalWidthCm":"pwidth",
                             "Species":"species"},inplace=True)
        data.head()
```

Out[5]:

	Id	slength	swidth	plength	pwidth	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

```
In [6]: sum_data = data["slength"].sum()
        mean_data = data["slength"].mean()
        median_data = data["slength"].median()
        print("sepal sum ", sum_data)
        print("sepal mean",mean_data)
        print("sepal median",median_data)
```

```
sepal sum  876.5
sepal mean 5.843333333333335
sepal median 5.8
```

```
In [7]: data.isnull()
        data_satosa=data["species"]=="Iris-setosa"
        print("for setosa")
        print(data[data_satosa].describe())
```

```
for setosa
              Id    slength      swidth    plength     pwidth
count  50.00000   50.00000   50.000000  50.000000   50.00000
mean   25.50000    5.00600    3.418000   1.464000    0.24400
std    14.57738    0.35249    0.381024   0.173511    0.10721
min     1.00000    4.30000    2.300000   1.000000    0.10000
25%    13.25000    4.80000    3.125000   1.400000    0.20000
50%    25.50000    5.00000    3.400000   1.500000    0.20000
75%    37.75000    5.20000    3.675000   1.575000    0.30000
max    50.00000    5.80000    4.400000   1.900000    0.60000
```

```
In [8]:  print(data[data_satosa].describe())
         data_satosa=data["species"]=="Iris-virginica"
```

```
               Id    slength     swidth    plength    pwidth
count    50.00000   50.00000  50.000000  50.000000  50.00000
mean     25.50000    5.00600   3.418000   1.464000   0.24400
std      14.57738    0.35249   0.381024   0.173511   0.10721
min       1.00000    4.30000   2.300000   1.000000   0.10000
25%      13.25000    4.80000   3.125000   1.400000   0.20000
50%      25.50000    5.00000   3.400000   1.500000   0.20000
75%      37.75000    5.20000   3.675000   1.575000   0.30000
max      50.00000    5.80000   4.400000   1.900000   0.60000
```

```
In [9]:  print("for virginica")
         print(data[data_satosa].describe())
```

```
for virginica
               Id    slength     swidth    plength    pwidth
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
```

```
In [10]:  print("for versicolor")
          data_satosa=data["species"]=="Iris-versicolor"
          print(data[data_satosa].describe())
```

```
for versicolor
               Id     slength     swidth    plength     pwidth
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 [ ]:
```