```
In [2]: import numpy as np
        import pandas as pd
        import matplotlib as matp
        import seaborn as sns
        %matplotlib inline
```

```
In [3]: iris = pd.read_csv("IRIS.csv")
```

```
In [5]: iris.shape
```

Out[5]: (150, 5)

```
In [6]: iris.head()
```

Out[6]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	Iris-setosa
1	4.9	3.0	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5.0	3.6	1.4	0.2	Iris-setosa

```
In [7]: iris.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 [8]: iris.describe()
```

Out[8]:

	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 [9]: iris.groupby('species').sepal_length.agg(['min', 'max', 'mean', 'median', 'std'])
```

Out[9]:

species	min	max	mean	median	std
Iris-setosa	4.3	5.8	5.006	5.0	0.352490
Iris-versicolor	4.9	7.0	5.936	5.9	0.516171
Iris-virginica	4.9	7.9	6.588	6.5	0.635880

```
In [10]: iris.groupby('species').sepal_width.agg(['min', 'max', 'mean', 'median', 'std'])
```

Out[10]:

species	min	max	mean	median	std
Iris-setosa	2.3	4.4	3.418	3.4	0.381024
Iris-versicolor	2.0	3.4	2.770	2.8	0.313798
Iris-virginica	2.2	3.8	2.974	3.0	0.322497

```
In [11]: iris.groupby('species').petal_length.agg(['min', 'max', 'mean', 'median', 'std'])
```

Out[11]:

species	min	max	mean	median	std
Iris-setosa	1.0	1.9	1.464	1.50	0.173511
Iris-versicolor	3.0	5.1	4.260	4.35	0.469911
Iris-virginica	4.5	6.9	5.552	5.55	0.551895

```
In [12]: iris.groupby('species').petal_width.agg(['min', 'max', 'mean', 'median', 'std'])
```

Out[12]:

species	min	max	mean	median	std
Iris-setosa	0.1	0.6	0.244	0.2	0.107210
Iris-versicolor	1.0	1.8	1.326	1.3	0.197753
Iris-virginica	1.4	2.5	2.026	2.0	0.274650

```
In [13]: iris.groupby('species').sepal_length.agg(['min', 'max', 'mean', 'median', 'std', 'var'])
```

Out[13]:

	min	max	mean	median	std	var
species						
Iris-setosa	4.3	5.8	5.006	5.0	0.352490	0.124249
Iris-versicolor	4.9	7.0	5.936	5.9	0.516171	0.266433
Iris-virginica	4.9	7.9	6.588	6.5	0.635880	0.404343

```
In [14]: iris.groupby('species').sepal_length.min()
```

```
Out[14]: species
         Iris-setosa        4.3
         Iris-versicolor    4.9
         Iris-virginica     4.9
         Name: sepal_length, dtype: float64
```

```
In [15]: iris.groupby('species').sepal_length.max()
```

```
Out[15]: species
         Iris-setosa        5.8
         Iris-versicolor    7.0
         Iris-virginica     7.9
         Name: sepal_length, dtype: float64
```

```
In [16]: iris.groupby('species').sepal_length.mean()
```

```
Out[16]: species
         Iris-setosa        5.006
         Iris-versicolor    5.936
         Iris-virginica     6.588
         Name: sepal_length, dtype: float64
```

```
In [17]: iris.groupby('species').sepal_length.median()
```

```
Out[17]: species
         Iris-setosa        5.0
         Iris-versicolor    5.9
         Iris-virginica     6.5
         Name: sepal_length, dtype: float64
```

```
In [19]: iris.groupby('species').sepal_length.std()
```

```
Out[19]: species
         Iris-setosa        0.352490
         Iris-versicolor    0.516171
         Iris-virginica     0.635880
         Name: sepal_length, dtype: float64
```

```
In [20]: iris.groupby('species').sepal_length.var()
```

```
Out[20]: species
         Iris-setosa        0.124249
         Iris-versicolor    0.266433
         Iris-virginica     0.404343
         Name: sepal_length, dtype: float64
```

In [ ]: