In [16]:

```
import pandas as pd
import numpy as np
```

In [1]:

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

In [4]:

```
df=pd.read_csv("/content/drive/MyDrive/Colab Notebooks/dataset/Iris.csv")
```

In [5]:

```
df
```

Out[5]:

	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
...	...	...	...	...	...	...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

In [13]:

```
print(df.groupby('Species').mean())
```

```
                  Id  SepalLengthCm  SepalWidthCm  PetalLen
```

```
gthCm  \
Species
Iris-setosa       25.5          5.006         3.418
1.464
Iris-versicolor   75.5          5.936         2.770
4.260
Iris-virginica   125.5          6.588         2.974
5.552

                 PetalWidthCm
Species
Iris-setosa             0.244
Iris-versicolor         1.326
Iris-virginica          2.026
```

In [15]:

```
print(df.groupby('Species').min())
```

```
                  Id  SepalLengthCm  SepalWidthCm  PetalLengt
hCm  PetalWidthCm
Species
Iris-setosa        1            4.3           2.3
1.0           0.1
Iris-versicolor   51            4.9           2.0
3.0           1.0
Iris-virginica   101            4.9           2.2
4.5           1.4
```

In [22]:

```
print(df.groupby('Species').max())
```

```
                  Id  SepalLengthCm  SepalWidthCm  PetalLengt
hCm  PetalWidthCm
Species
Iris-setosa       50            5.8           4.4
1.9           0.6
Iris-versicolor  100            7.0           3.4
5.1           1.8
Iris-virginica   150            7.9           3.8
6.9           2.5
```

In [23]:

```
print(df.groupby('Species').median())
```

```
                    Id  SepalLengthCm  SepalWidthCm  PetalLen
gthCm  \
Species
Iris-setosa       25.5            5.0           3.4
1.50
Iris-versicolor   75.5            5.9           2.8
4.35
Iris-virginica   125.5            6.5           3.0
5.55

                 PetalWidthCm
Species
Iris-setosa               0.2
Iris-versicolor           1.3
```

```
Iris-virginica             2.0
```

In [24]:

```
print(df.groupby('Species').std())
```

```
                      Id  SepalLengthCm  SepalWidthCm  Petal
LengthCm  \
Species
Iris-setosa      14.57738       0.352490      0.381024
0.173511
Iris-versicolor  14.57738       0.516171      0.313798
0.469911
Iris-virginica   14.57738       0.635880      0.322497
0.551895

                 PetalWidthCm
Species
Iris-setosa          0.107210
Iris-versicolor      0.197753
Iris-virginica       0.274650
```

In [19]:

```
val=pd.get_dummies(df.Species)
val
```

Out[19]:

	Iris-setosa	Iris-versicolor	Iris-virginica
0	1	0	0
1	1	0	0
2	1	0	0
3	1	0	0
4	1	0	0
...	...	...	...
145	0	0	1
146	0	0	1
147	0	0	1
148	0	0	1
149	0	0	1

150 rows × 3 columns

In [21]:

```
val.mean()
```

Out[21]:

```
Iris-setosa        0.333333
Iris-versicolor    0.333333
Iris-virginica     0.333333
dtype: float64
```

In [25]:

```
val.min()
```

Out[25]:

```
Iris-setosa        0
Iris-versicolor    0
Iris-virginica     0
dtype: uint8
```

In [26]:

```
val.max()
```

Out[26]:

```
Iris-setosa        1
Iris-versicolor    1
Iris-virginica     1
dtype: uint8
```

In [27]:

```
val.median()
```

Out[27]:

```
Iris-setosa        0.0
Iris-versicolor    0.0
Iris-virginica     0.0
dtype: float64
```

In [31]:

```
val.quantile(0.25)
```

Out[31]:

```
Iris-setosa        0.0
Iris-versicolor    0.0
Iris-virginica     0.0
Name: 0.25, dtype: float64
```

In [32]:

```
val.quantile(0.50)
```

Out[32]:

```
Iris-setosa        0.0
Iris-versicolor    0.0
Iris-virginica     0.0
Name: 0.5, dtype: float64
```

In [33]:

```
val.quantile(0.75)
```

Out[33]:

```
Iris-setosa        1.0
Iris-versicolor    1.0
Iris-virginica     1.0
Name: 0.75, dtype: float64
```

In [34]:

```
val.quantile(1)
```

Out[34]:

```
Iris-setosa        1.0
Iris-versicolor    1.0
Iris-virginica     1.0
Name: 1.0, dtype: float64
```