

```
 #(PRIYA MORE (305C002))
```

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

```
 df=pd.read_csv("iris.csv")
```

```
 df
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

```
 df.isnull().sum()
```

```
 sepal_length    0
 sepal_width     0
 petal_length    0
 petal_width     0
 species         0
 dtype: int64
```

```
 df.shape
```

(150, 5)

```
 df.dtypes
```

```
 sepal_length    float64
 sepal_width     float64
 petal_length    float64
 petal_width     float64
 species         object
 dtype: object
```

```
 np.mean(df["sepal_length"])
```

5.843333333333334

```
 np.mean(df["sepal_width"])
```

3.0540000000000003

```
 df
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

```
df.describe()
```

	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

```
df
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

```
df.drop(columns='species',inplace=True)
```

```
np.std(df)
```

```
sepal_length    0.825301
sepal_width     0.432147
petal_length    1.758529
petal_width     0.760613
dtype: float64
```

```
np.mean(df)
```

```
3.4636666666666662
```

df

	sepal_length	sepal_width	petal_length	petal_width
0	5.1	3.5	1.4	0.2
1	4.9	3.0	1.4	0.2
2	4.7	3.2	1.3	0.2
3	4.6	3.1	1.5	0.2
4	5.0	3.6	1.4	0.2
...	...	...	...	...
145	6.7	3.0	5.2	2.3
146	6.3	2.5	5.0	1.9
147	6.5	3.0	5.2	2.0
148	6.2	3.4	5.4	2.3
149	5.9	3.0	5.1	1.8

150 rows × 4 columns

np.max(df)

7.9

np.min(df)

0.1

df.quantile(0.25)

sepal\_length 5.1  
sepal\_width 2.8  
petal\_length 1.6  
petal\_width 0.3  
Name: 0.25, dtype: float64

df.quantile(0.50)

sepal\_length 5.80  
sepal\_width 3.00  
petal\_length 4.35  
petal\_width 1.30  
Name: 0.5, dtype: float64

df.quantile(0.75)

➡ sepal\_length 6.4  
sepal\_width 3.3  
petal\_length 5.1  
petal\_width 1.8  
Name: 0.75, dtype: float64