

```
In [ ]: # download the dataset for the kaggle and perform Exploratory data and analysis
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```
In [7]: import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

```
In [8]: data_set_name= sns.get_dataset_names()
```

```
In [9]: print(data_set_name)
```

```
['anagrams', 'anscombe', 'attention', 'brain_networks', 'car_crashes', 'diamonds',
'dots', 'dowjones', 'exercise', 'flights', 'fmri', 'geyser', 'glue', 'healthexp', 'i
ris', 'mpg', 'penguins', 'planets', 'seaice', 'taxis', 'tips', 'titanic', 'anagram
s', 'anagrams', 'anscombe', 'anscombe', 'attention', 'attention', 'brain_networks',
'brain_networks', 'car_crashes', 'car_crashes', 'diamonds', 'diamonds', 'dots', 'dot
s', 'dowjones', 'dowjones', 'exercise', 'exercise', 'flights', 'flights', 'fmri', 'f
mri', 'geyser', 'geyser', 'glue', 'glue', 'healthexp', 'healthexp', 'iris', 'iris',
'mpg', 'mpg', 'penguins', 'penguins', 'planets', 'planets', 'seaice', 'seaice', 'tax
is', 'taxis', 'tips', 'tips', 'titanic', 'titanic', 'anagrams', 'anscombe', 'attenti
on', 'brain_networks', 'car_crashes', 'diamonds', 'dots', 'dowjones', 'exercise', 'f
lights', 'fmri', 'geyser', 'glue', 'healthexp', 'iris', 'mpg', 'penguins', 'planet
s', 'seaice', 'taxis', 'tips', 'titanic']
```

```
In [10]: info=sns.load_dataset("iris")
info
```

```
Out[10]:
```

	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

```
In [11]: info.head(3)
```

Out[11]:

	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

In [12]: `info.tail(2)`

Out[12]:

	sepal_length	sepal_width	petal_length	petal_width	species
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

In [13]: `info.index`

Out[13]: RangeIndex(start=0, stop=150, step=1)

In [14]: `info.columns`

Out[14]: Index(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',
'species'],
dtype='object')

In [15]: `info.shape`

Out[15]: (150, 5)

In [16]: `info.columns.values`

Out[16]: array(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',
'species'], dtype=object)

In [17]: `info.describe(include="all")`

Out[17]:

	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	setosa
freq	NaN	NaN	NaN	NaN	50
mean	5.843333	3.057333	3.758000	1.199333	NaN
std	0.828066	0.435866	1.765298	0.762238	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 [19]: `info.describe()`

Out[19]:

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.057333	3.758000	1.199333
std	0.828066	0.435866	1.765298	0.762238
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 [20]: `info["sepal_length"]`

```
Out[20]: 0      5.1
         1      4.9
         2      4.7
         3      4.6
         4      5.0
         ...
        145     6.7
        146     6.3
        147     6.5
        148     6.2
        149     5.9
        Name: sepal_length, Length: 150, dtype: float64
```

```
In [21]: info["petal_width"]
```

```
Out[21]: 0      0.2
         1      0.2
         2      0.2
         3      0.2
         4      0.2
         ...
        145     2.3
        146     1.9
        147     2.0
        148     2.3
        149     1.8
        Name: petal_width, Length: 150, dtype: float64
```

```
In [22]: info.sort_index(axis=1, ascending=0)
```

```
Out[22]:
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	species	sepal_width	sepal_length	petal_width	petal_length
0	setosa	3.5	5.1	0.2	1.4
1	setosa	3.0	4.9	0.2	1.4
2	setosa	3.2	4.7	0.2	1.3
3	setosa	3.1	4.6	0.2	1.5
4	setosa	3.6	5.0	0.2	1.4
...
145	virginica	3.0	6.7	2.3	5.2
146	virginica	2.5	6.3	1.9	5.0
147	virginica	3.0	6.5	2.0	5.2
148	virginica	3.4	6.2	2.3	5.4
149	virginica	3.0	5.9	1.8	5.1

150 rows × 5 columns

```
In [23]: info.sort_index(axis=1, ascending=1)
```

Out[23]:

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

150 rows × 5 columns

In [28]: `info.sort_values (by = "petal_length")`

Out[28]:

	sepal_length	sepal_width	petal_length	petal_width	species
22	4.6	3.6	1.0	0.2	setosa
13	4.3	3.0	1.1	0.1	setosa
14	5.8	4.0	1.2	0.2	setosa
35	5.0	3.2	1.2	0.2	setosa
36	5.5	3.5	1.3	0.2	setosa
...
131	7.9	3.8	6.4	2.0	virginica
105	7.6	3.0	6.6	2.1	virginica
117	7.7	3.8	6.7	2.2	virginica
122	7.7	2.8	6.7	2.0	virginica
118	7.7	2.6	6.9	2.3	virginica

150 rows × 5 columns

In [29]: `info.iloc[2]`

```
Out[29]: sepal_length    4.7
         sepal_width    3.2
         petal_length    1.3
         petal_width    0.2
         species        setosa
         Name: 2, dtype: object
```

```
In [32]: task=pd.read_csv("iris_datasets.csv")
```

```
In [33]: task
```

```
Out[33]:
```

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	target
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
...
145	6.7	3.0	5.2	2.3	Iris- virginica
146	6.3	2.5	5.0	1.9	Iris- virginica
147	6.5	3.0	5.2	2.0	Iris- virginica
148	6.2	3.4	5.4	2.3	Iris- virginica
149	5.9	3.0	5.1	1.8	Iris- virginica

150 rows × 5 columns

```
In [35]: info.columns
```

```
Out[35]: Index(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',
               'species'],
              dtype='object')

info.columns.values
```

```
In [36]: info.columns.values
```

```
Out[36]: array(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',
               'species'], dtype=object)
```

```
In [38]: info.iloc[5]
```

```
Out[38]: sepal_length    5.4  
         sepal_width     3.9  
         petal_length    1.7  
         petal_width     0.4  
         species         setosa  
         Name: 5, dtype: object
```

```
In [39]: info.iloc[10]
```

```
Out[39]: sepal_length    5.4  
         sepal_width     3.7  
         petal_length    1.5  
         petal_width     0.2  
         species         setosa  
         Name: 10, dtype: object
```

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In [ ]:
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In [ ]:
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