```
# Practical - 1
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# TCOD74
import pandas as pd

url =
"https://archive.ics.uci.edu/ml/machine-learning-databases/iris/iris.d
ata"
column_names = ['sepal_length', 'sepal_width', 'petal_length',
'petal_width', 'class']
data = pd.read_csv(url, names=column_names)

data.head()
```

	sepal_length	sepal_width	petal_length	petal_width	class
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

```
data.isnull().sum()
```

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

```
data['sepal_length'].unique()
```

```
array([5.1, 4.9, 4.7, 4.6, 5. , 5.4, 4.4, 4.8, 4.3, 5.8, 5.7, 5.2,
5.5,
       4.5, 5.3, 7. , 6.4, 6.9, 6.5, 6.3, 6.6, 5.9, 6. , 6.1, 5.6,
6.7,
       6.2, 6.8, 7.1, 7.6, 7.3, 7.2, 7.7, 7.4, 7.9])
```

```
missing_values = data.isnull().sum()
missing_values
```

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

```
description = data.describe()
description
```

```
       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
```

```
data.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   class         150 non-null    object 
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

```
data.shape
```

```
(150, 5)
```

```
data.dtypes
```

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