

```
In [1]: #Import required libraries
import pandas as pd
```

```
In [2]: df = pd.read_csv('IRIS.csv')
```

```
In [3]: df.isnull().sum()
```

```
Out[3]: sepal_length    0
sepal_width    0
petal_length    0
petal_width    0
species    0
dtype: int64
```

```
In [4]: df.describe()
```

```
Out[4]:
```

| | 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 [6]: df.columns = ['Sepal_Length', 'Sepal_Width', 'Petal_Length', 'Petal_Width', 'Species']
```

```
In [7]: df.shape
```

```
Out[7]: (150, 5)
```

```
In [8]: df.dtypes
```

```
Out[8]: Sepal_Length    float64
Sepal_Width    float64
Petal_Length    float64
Petal_Width    float64
Species    object
dtype: object
```

```
In [9]: df['Species'] = pd.Categorical(df['Species'])
```

```
In [10]: df.dtypes
```

```
Out[10]: Sepal_Length    float64
Sepal_Width    float64
Petal_Length    float64
Petal_Width    float64
Species    category
dtype: object
```