In [2]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
```

In [3]:
```
df = pd.read_csv('iris.csv')
df.head()
```

Out[3]:

	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

In [4]:
```
missing_values = df.isnull().sum()
print(missing_values)
```

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

In [5]:
```
df.describe()
```

Out[5]:

	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]:
```
print (df.shape)
```

```
(150, 5)
```

In [7]:
```
print(df.dtypes)
```

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

In [8]:
```
from sklearn.preprocessing import MinMaxScaler
scaler=MinMaxScaler()

df[['sepal_length','sepal_width','petal_length','petal_width']]=sca
df.head()
```

Out[8]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	0.222222	0.625000	0.067797	0.041667	setosa
1	0.166667	0.416667	0.067797	0.041667	setosa
2	0.111111	0.500000	0.050847	0.041667	setosa
3	0.083333	0.458333	0.084746	0.041667	setosa
4	0.194444	0.666667	0.067797	0.041667	setosa

In [9]:
```
from sklearn.preprocessing import LabelEncoder
encoder = LabelEncoder()

df['species'] = encoder.fit_transform(df['species'])
df.head()
```

Out[9]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	0.222222	0.625000	0.067797	0.041667	0
1	0.166667	0.416667	0.067797	0.041667	0
2	0.111111	0.500000	0.050847	0.041667	0
3	0.083333	0.458333	0.084746	0.041667	0
4	0.194444	0.666667	0.067797	0.041667	0

In [ ]:

In [ ]:

In [ ]: