In [1]:
```
import pandas as pd
import numpy as np
```

In [2]:
```
df=pd.read_csv("C:/Users/77son/Downloads/Iris (1).csv")
```

In [3]:
```
df
```

Out[3]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa
...	...	...	...	...	...	...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

In [4]:
```
df.shape
```

Out[4]:
```
(150, 6)
```

In [6]:
```
df=df.drop(columns=["Id"])
```

In [7]:
```
df.head()
```

Out[7]:

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
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

In [8]:
```
#assign "1:Iris-setosa" "2:Iris-verisicolor" "3:Iris-virginica"
df["Species"].replace({"1:Iris-setosa" "2:Iris-verisicolor" "3:Iris-virginica"})
```

Out[8]:
```
0         Iris-setosa
1         Iris-setosa
2         Iris-setosa
3         Iris-setosa
4         Iris-setosa
             ...
145    Iris-virginica
146    Iris-virginica
147    Iris-virginica
148    Iris-virginica
149    Iris-virginica
Name: Species, Length: 150, dtype: object
```

In [9]:
```
df
```

Out[9]:

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
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 [10]:
```
x=pd.DataFrame(df,columns=["SepalLengthCm","SepalWidthCm","PetalLength"])
```

In [11]:
```
x
```

Out[11]:

	SepalLengthCm	SepalWidthCm	PetalLength
0	5.1	3.5	NaN
1	4.9	3.0	NaN
2	4.7	3.2	NaN
3	4.6	3.1	NaN
4	5.0	3.6	NaN
...	...	...	...
145	6.7	3.0	NaN
146	6.3	2.5	NaN
147	6.5	3.0	NaN
148	6.2	3.4	NaN
149	5.9	3.0	NaN

150 rows × 3 columns

In [12]:
```
y = df.Species.values.reshape(-1,1)
```

In [13]:
```
y
```

Out[13]:
```
array([['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
       ['Iris-setosa'],
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       ['Iris-setosa'],
       ['Iris-setosa'],
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       ['Iris-versicolor'],
       ['Iris-versicolor'],
       ['Iris-versicolor'],
       ['Iris-versicolor'],
       ['Iris-versicolor'],
       ['Iris-virginica'],
       ['Iris-virginica'],
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       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica'],
       ['Iris-virginica']], dtype=object)
```

In [16]:
```
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
from sklearn import metrics
```

In [17]:
```
x_train,x_test,y_train,y_test = train_test_split(x,y,test_size=0.30)
```

In [19]:
```
x_train.shape
```

Out[19]:
```
(105, 3)
```

In [20]:
```
y_train.shape
```

Out[20]:
```
(105, 1)
```

In [21]:
```
k=6
knclr=KNeighborsClassifier(k)
```

In [ ]: