**Hello World Program of ML : Classification of Iris flower according to its petal's and sepal's length and width.**[**¶**](#gjdgxs)

In [1]:

**import** **pandas** **as** **pd**

**1)Acquire the data**[**¶**](#30j0zll)

In [2]:

df = pd.read\_csv('iris.csv')

In [3]:

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]:

df.shape

Out[4]:

(150, 5)

In [5]:

df.loc[df["species"] == "setosa", "species"] = 0  
df.loc[df["species"] == "versicolor", "species"] = 1  
df.loc[df["species"] == "virginica", "species"] = 2

**Divide the data into train and test**[**¶**](#1fob9te)

In [6]:

**from** **sklearn.model\_selection** **import** train\_test\_split

In [7]:

X=df.drop('species',axis=1)  
y=df['species']

In [8]:

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y,test\_size=0.2, random\_state=156)

**2) Train the Model**[**¶**](#3znysh7)

In [15]:

**from** **sklearn.tree** **import** DecisionTreeClassifier  
my\_model = DecisionTreeClassifier(random\_state=0)  
result = my\_model.fit(X\_train,y\_train)

In [16]:

*#from sklearn.svm import SVC*  
*#my\_model = SVC(kernel = 'rbf', random\_state = 0)*  
*#result = my\_model.fit(X\_train, y\_train)*

**3) Test the model**[**¶**](#2et92p0)

In [17]:

*#Predicting the Test Set*  
predictions = result.predict(X\_test)  
predictions

Out[17]:

array([2, 0, 1, 2, 0, 2, 2, 2, 0, 2, 2, 0, 2, 1, 1, 2, 0, 0, 2, 1, 1, 1,  
 1, 2, 0, 1, 2, 0, 0, 2], dtype=int64)

**4) Deploy the model**[**¶**](#tyjcwt)

In [18]:

new\_pred= list(result.predict([[5.1,3.5,1.4,0.2]])) *# Setosa=0,Versicicolor = 1, Verginica=2*  
new\_pred

Out[18]:

[0]

In [19]:

new\_pred= list(result.predict([[4.9,2.4,3.3,1]]))  
new\_pred

Out[19]:

[2]

In [20]:

new\_pred= list(result.predict([[6,2.2,5,1.5]]))  
new\_pred

Out[20]:

[2]

In [ ]: