

## **Experiment 2.3**

## **K-Nearest Neighbors**

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## **1. Aim/Overview of the practical:**

Apply KNN classifier on iris dataset.

## 2. Source Code:

	<pre>data_path = "/content/drive/MyDrive/ML Lab/Iris.csv"</pre>			
		+ Code	+ Text	
[2]	<pre>import pandas as pd import numpy as np</pre>			
[3]	df = pd.read_csv(data_path )			

[4] df.head()

	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



```
[5] df['Species'].value_counts()
```

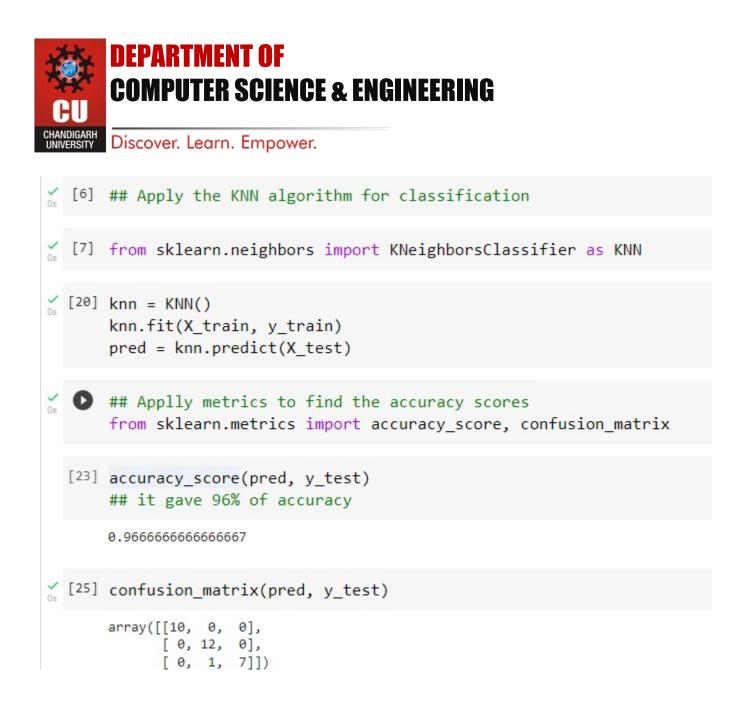
Iris-setosa 50 Iris-versicolor 50 Iris-virginica 50 Name: Species, dtype: int64

[15] ## don't need the id column as it is unique to every row df.drop('Id', axis = 1, inplace = True)

```
/ [16] ## Now splitting the data independent and dependent variable
X = df.drop('Species', axis = 1)
y = df['Species']
```

```
[17] ## Now splitting the data into train and test split
from sklearn.model_selection import train_test_split
```

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 0.2, random\_state = 10)





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## Learning outcomes (What I have learnt):

- 1. Learn about the KNN algorithm
- 2. Learn to perform the KNN algorithm on iris dataset
- 3. Learnt about the exploratory data analysis
- 4. Learn to optimize the Model
- 5. Got the clear concept of KNN classifier

### **Evaluation Grid :**

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	StudentPerformance(Conduct of experiment)objectives/Outcomes.		12
2.	Viva Voce		10



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3.	Submission of Work Sheet	8
	(Record)	
	Total	30