Experiment 7

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Branch:CSE **Section/Group: 20BCS_WM-702A**
Semester: 5th **Date of Performance: 26/10/2022**
Subject Name: Machine Learning Lab **Subject Code: 20CSP-317**

Aim/Overview of the practical:

Implement Decision Tree on any dataset.

Task to be done:

To implement Decision Tree on any data set.

Apparatus/Simulator Used:

- **Google Collab**
- **Python**
- **.csv file**

Code and Output:

```
[1]  import pandas as pd
     from sklearn.datasets import load_iris
     from sklearn.model_selection import train_test_split
     from sklearn.tree import DecisionTreeClassifier
     from sklearn.metrics import classification_report
     from sklearn import tree as t
     import matplotlib.pyplot as plt
     %matplotlib inline
```

```
     iris=load_iris()
     dir(iris)
```

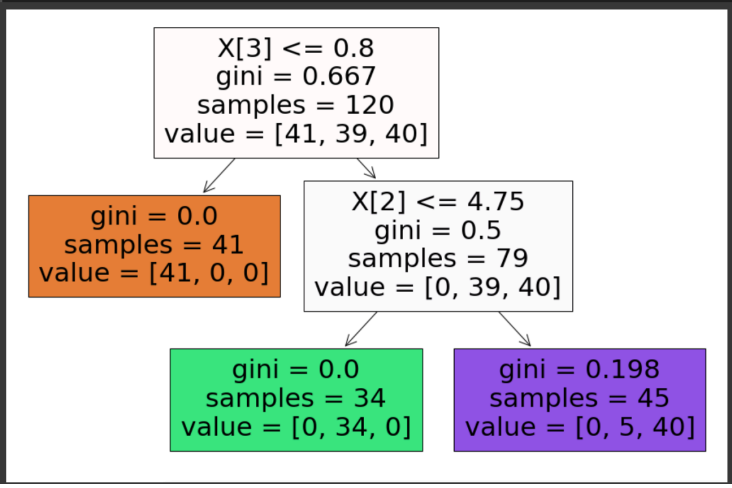
```
['DESCR',
 'data',
 'data_module',
 'feature_names',
 'filename',
 'frame',
 'target',
 'target_names']
```

```
[3]  df=pd.DataFrame(iris.data, columns=iris.feature_names)
     df["target"]=iris.target
```

```
[5]  x=df.drop(["target"], axis="columns")
     y=df.target
     x_train, x_test, y_train, y_test=train_test_split(x,y,test_size=0.20)
     model=DecisionTreeClassifier(max_depth=2)
     model.fit(x_train,y_train) #training the model

     ypred=model.predict(x_test)
```

```
     plt.figure(figsize=(15,10))
     t.plot_tree(model, filled=True)
     plt.show()
```



Learning outcomes (What I have learnt):

1. **Learnt how to implement Decision Tree.**
2. **Learnt about numpy, seaborn, pandas libraries.**
3. **Learnt how to analyse using Decision Tree.**

Evaluation Grid :

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Student Performance (Conduct of experiment) objectives/Outcomes.		12
2.	Viva Voce		10
3.	Submission of Work Sheet (Record)		8
	Total		30