Exp. No: 12

Decision tree Classification.

Aim:

To implement the decision tree classification

```
from google.colab import drive
    drive . mount ("/ content /gdrive")

import Pandas as pd
import numpy as NP
import matplotlib - pyplot as Plt
import Seaborn as SNS
%. matplotlib - inline

X ,Y > make - regression (N_ sample =1000,
   Noise = 0.05, N. features = 100)

X - shape , y. shape = (1000, 100) ; (1000)]

X_train , X_test , y_train , y_test = train_test.
Split (X, y, test_size = 0.2 , shuffle = true, random_
  State = 42)

rf = MLP regresson (MAX_iter = 1000)

1, stop = X_set [:,0] Max () + 1, step 0.01)

NP . arrange (start = X_set [:,1] . min () : 1,

Stop = X.set [:,1] . Max () + 1, step = 0.01)
```

```
plt. contourf (X1 , X2 , classifier - predict)
    (np.array [x1. ravel (), X2 . ravel ()])
     reshape [x1. shape]), alpha =0.75
         cmap = listed colormap (('red', 'green'))

  plt. xlim (x1. min(), x1. max())
  plt. ylim (X2. min(), Y2 max())

for i j in enumerate (np. unique (y_set));
  plt. scatter (x_set [y_set == j, 0],
 X_set [y. set == j, 1], c = listed colormap
                             ('red', 'green')

 plt. show()
```

o/p

Images of this

Result:

The program is successfully executed and o/p is verified