Ex no:12 Decision tree Classification

Aim:- To implement the deasion 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_samples = 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)

if = MLP regressor (max_iter =1000)
if.fit (x_train , y_train)

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)
```

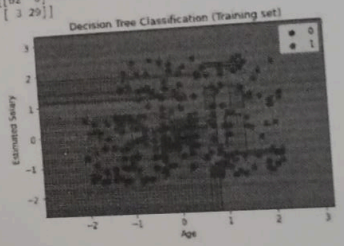
```
plt.contourf (x1, x2, classifier.predict
(np.array [x1.ravel(), x2.ravel()]).
reshape (x1.shape), alpha = 0.75
cmap = ListedColormap (('red', 'green'))
plt.xlim (x1.min(), x1.max())
plt.ylim (x2.min(), y2.max())
for i, j in enumerate (np.unique (y_set));
  plt.scatter (x_set [y_set == j, 0],
x_set [y.set == j, 1], c = listed colormap ('red', 'gre
plt.show()
```

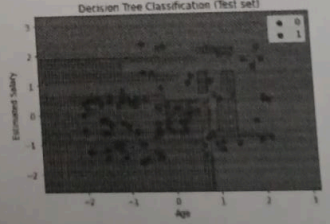
O/P

Images of that

OUTPUT :

```
[[62  6]
 [ 3 29]]
```





Result

Thus the program was successfully executed and O/P is verified