Exp. 8

Decision Tree classification

Code

```
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_shapes, y_shapes = [(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)

clf = MLPRegressor (max_iter = 1000)
clf.fit (X_train, y_train)

1, step = X_set [:, 0].max () + 1, step 0.01)
    np.arrange [start = X_set [:, 1].

min() - 1, step = X_set [:, 1].max() + 1,
step = 0.01).
```

```
plt.contourf(X1, X2, classifier.predict
(np.array([x1.ravel(), X2.ravel()]).T)
.reshape(X1.shape), alpha = 0.75
(map = ListedColormap(('red', 'green'))
plt.xlim(X1.min(), X2.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 = ListedColormap
('red', 'green'))
plt.show()
```

o/p

Images of that

Result:

Thus the program was successfully