Ex: 10 Decision Tree

Date: Classification

AIM:-

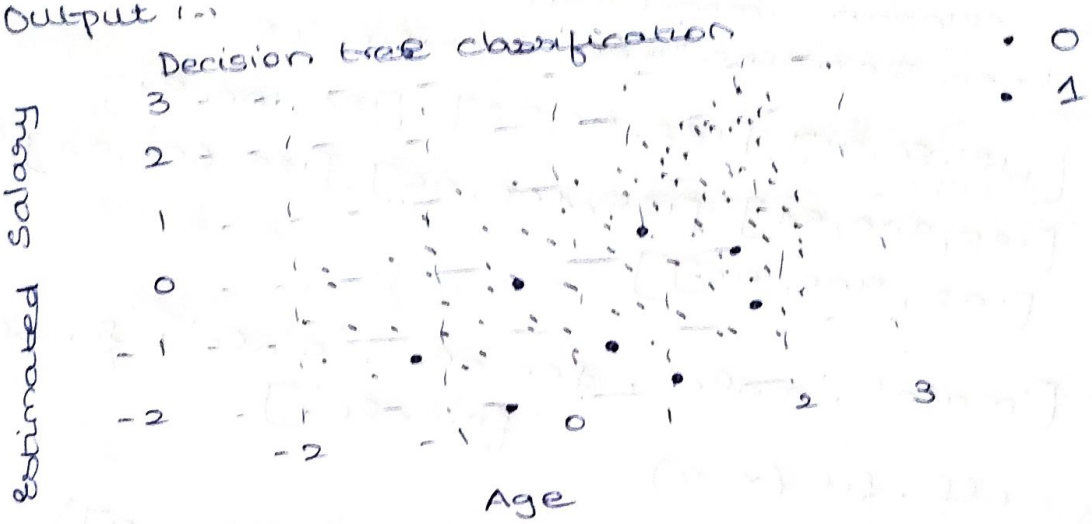
To classify the social network dataset using Decision tree analysis.

Source code:-

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

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
dataset = pd.read_csv('/content/gdrive/
          My-Drive/Social_Network_Ads.csv')
X = dataset.iloc[:,[2,3]].values
y = dataset.iloc[:,-1].value
from sklearn.model_selection import train_test
split X_train, X_test, y_train, y_test = train_test_
                                         split
                (X, y, test_size=0.25, random
                 _state=0)
from sklearn.preprocessing import standard scaler

  sc = StandardScaler()
  X_train = sc.fit_transform(X_train)
  X_test = sc.transform(X_test)

from sklearn.metrics import confusion_
                            matrix

  cm = confusion_matrix(y_test, y_pred)
  Print(cm)
  from matplotlib.colors import ListedColormap
  X_set, y_set = X_train, y_train
  X1, X2 = np.meshgrid(np.arrange(start=X_set
                                  [:,0].
    I, stop = X_set[:,0].max()+1, step=0.01), np.
  (start = X_set[:,1].min()-I, stop = X_set[:,1].
   +1, step = 0.01))                  max()
```

```
for i, j in enumerate (np.unique (y_set)):
    plt.scatter (x_set[y_set == j, 0], x_set[y_set == j, 1
        : Listed Colormap ('red', 'green')) (i), label = j)
plt.title ('Decision Tree classification (Training set)')
plt.xlabel ('Age')
plt.ylabel ('Purchase')
plt.legend ()
plt.show ()
```

Output :-



Result :- Thus, the program for Decision Tree classification was executed successfully & output is verified.