Ex: No: 12

Date:

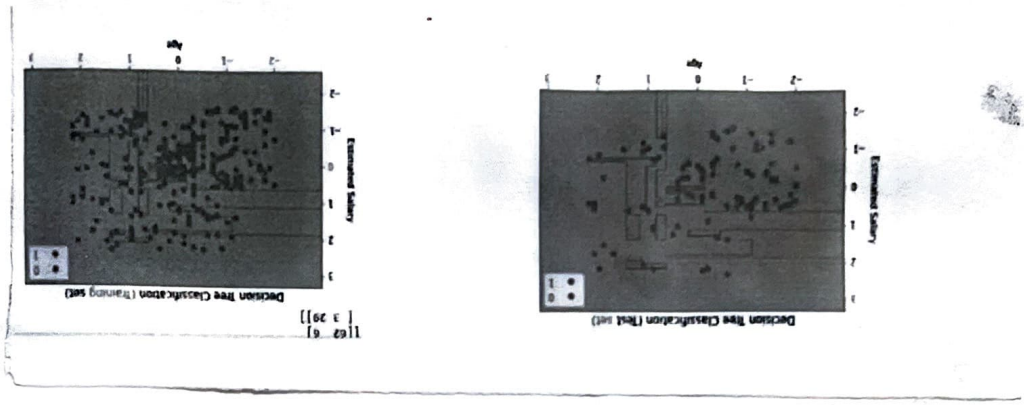
Decision Tree classification

Program code:

```
from google.colab import drive
drive.mount("/content/gdrive")
Import python's necessary libraries
dataset = pd.read_csv(' ')
x = dataset.iloc[:,[2,3]].values
y = dataset.iloc[:,-1].values.
x_train, x_test, y_train, y_test = train_test_
split(x, y, test_size = 0.25, random_state = 0)
sc = StandardScaler()
x_train = sc.fit_transform(x_train)
x_test = sc.transform(x_test)
classifier.fit(x_train, y_train)
y_pred = classifier.predict(x_test)
cm = confusion_matrix(y_test, y_pred)
print("confusion matrix:\n", cm)
```

```
x_set, y_set = x_train, y_train
X1, X2 = np.meshgrid(
np.arrange(start = x_set[:, 0].min() - 1,
stop = x_set[:, 0].max() + 1, step = 0.01),
"       "       "       "       "       "
)
plt.contourf(
X1, X2, classifier.predict(np.array([X1.ravel(),
X2.ravel()]).T).reshape(X1.shape),
alpha = 0.75, cmap = ListedColormap(('red', 'green
)
plt.xlim(X1.min(), X1.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'))(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 is successfully executed & the output is verified.