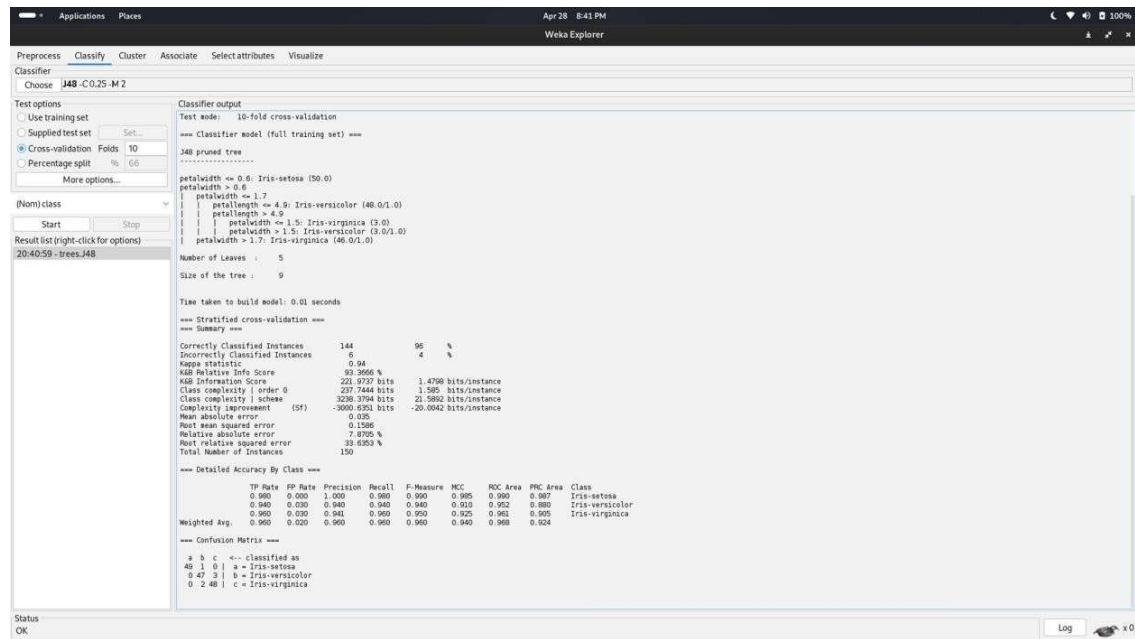**Name: Mohammad AsifReg no: 20214096Group: 6C**

1.

2.

Code:

ID3

from sklearn import datasets

from sklearn.model_selection import train_test_split

from sklearn import tree

```python
# Load dataset
iris = datasets.load_iris()

# Split dataset into training set and test set
X_train, X_test, y_train, y_test = train_test_split(iris.data, iris.target, test_size=0.3)

# Create Decision Tree classifer object
clf = tree.DecisionTreeClassifier()

# Train Decision Tree Classifer
clf = clf.fit(X_train,y_train)

# Predict the response for test dataset
y_pred = clf.predict(X_test)
```

J48

```python
from sklearn import datasets
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import OneHotEncoder
from sklearn import tree

# Load dataset
weather = datasets.load_weather_nominal()

# Preprocess dataset
enc = OneHotEncoder()
enc.fit(weather.data)
X = enc.transform(weather.data)

# Split dataset into training set and test set
```

```python
X_train, X_test, y_train, y_test = train_test_split(X, weather.target, test_size=0.3)


# Create Decision Tree classifer object
clf = tree.DecisionTreeClassifier()


# Train Decision Tree Classifer
clf = clf.fit(X_train,y_train)


# Predict the response for test dataset
y_pred = clf.predict(X_test)
```