Name –Nishant Barthwal

Roll no. -2001096

 # Splitting the dataset into the Training set and Test set

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.20, random_state = 0)
```

 # Feature Scaling

```
from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test)
```

 # Fitting Decision Tree Classification to the Training set

```
from sklearn.tree import DecisionTreeClassifier
classifier = DecisionTreeClassifier(criterion = 'entropy', random_state = 0)
classifier.fit(X_train, y_train)
```

 # Predicting the Test set results

```
y_pred = classifier.predict(X_test)
```

```
from sklearn.metrics import confusion_matrix
from sklearn.metrics import accuracy_score
```

#printing the accuracy of Decision tree

```
accuracy_score(y_test, y_pred)
```

OUPUT –

0.9895833333333334

 # Fitting SVM to the Training set

```
from sklearn.svm import SVC
classifier = SVC(kernel = 'linear', random_state = 0)
classifier.fit(X_train, y_train)
```

 # Predicting the Test set results

```
y_pred = classifier.predict(X_test)
```

#Accuracy of SVM

```
accuracy_score(y_test, y_pred)
```

OUTPUT – 0.9739583333333334

#fitting knn model

```
from sklearn.neighbors import KNeighborsClassifier
classifier=KNeighborsClassifier(n_neighbors=5,metric='minkowski',p=2)
classifier.fit(X_train,y_train)
```

 # Predicting the Test set results

```
y_pred = classifier.predict(X_test)
```

 # Predicting the Test set results

```
y_pred = classifier.predict(X_test)
```

 # Making the Confusion Matrix

```
from sklearn.metrics import confusion_matrix
```

```
cm = confusion_matrix(y_test, y_pred)
```

#Accuracy of knn

```
accuracy_score(y_test, y_pred)
```

OUTPUT -

```
0.875
```