Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai)
(Religious Jain Minority)

Department of Information Technology

Academic Year: 2017-18 **Name of Student:Pratiksha Patil**
Semester: VIII **Student ID: 16204011**

Project Title : **Sentiment Analysis Framework for Social Media**

Group No : **14**

Group Members : **Riddhi Prajapati**

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Guide : **Prof. Sunil N. Sushir**

Co Guide :

Random Forest

```
In [63]: rf = RandomForestClassifier(n_estimators=10,
         ...                                 random_state=0)

         rf.fit(X_train_vectorized, y_train)
         pred = rf.predict(vect.transform(X_val))
```

```
In [64]: print('MODEL fitting:', f1_score(y_val, pred))
         print("accuracy of prediction",accuracy_score(y_val, pred))
```

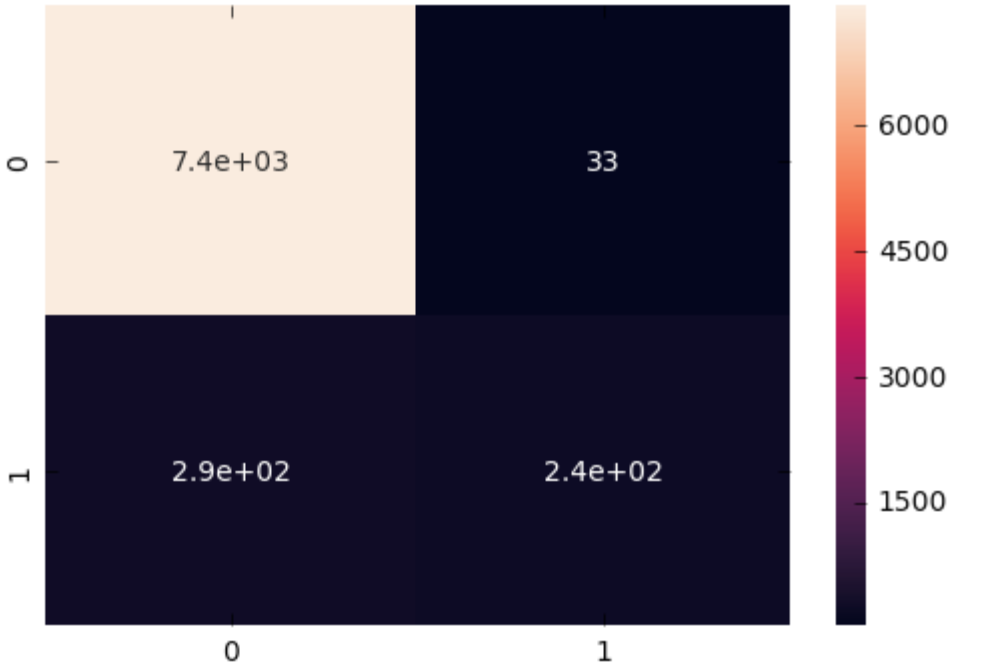
```
MODEL fitting: 0.595267745953
accuracy of prediction 0.959329245401
```

```
In [65]: from sklearn.metrics import confusion_matrix
         cm=confusion_matrix(y_val, pred)
         cm
```

```
Out[65]: array([[7427,   33],
                [ 292,  239]])
```

Now the third and last model is Random Forest on which the same procedure is performed. We get an accuracy of 95% in this model.

```
In [66]: sns.heatmap(cm,annot=True)
         plt.show()
```



Similarly Confusion matrix is plotted for the same which depicts the number of classified and misclassified tweets. The colors for the tweets are displayed according to range of shades assigned for that group of values.