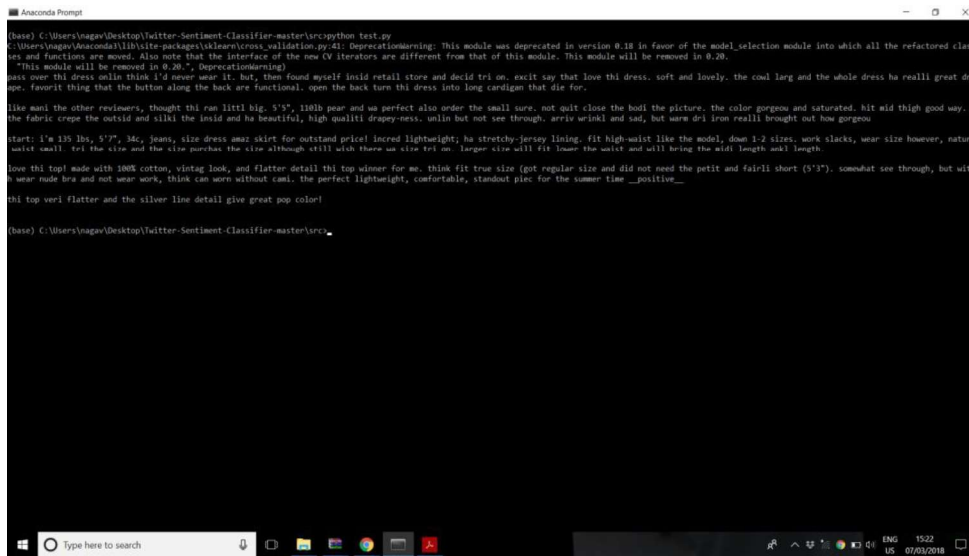


5. RESULTS AND DISCUSSION



```
(base) C:\Users\nagav\Desktop\Twitter-Sentiment-Classifier-master\src>python test.py
C:\Users\nagav\Desktop\Twitter-Sentiment-Classifier-master\src>python test.py
DeprecationWarning: This module was deprecated in version 0.18 in favor of the model_selection module into which all the refactored classes and functions are moved. Also note that the interface of the new CV iterators are different from that of this module. This module will be removed in 0.20.
This module will be removed in 0.20.
DeprecationWarning:
pass over thi dress online think i'd never wear it. but, then found myself insid retail store and decid tri on. excit say that love thi dress. soft and lovely. the coul larg and the whole dress ha reallll great dr
age. favorit thing that the button along the back are functional. open the back turn thi dress into long cardigan that die for.

like mainl the other reviewers, thought thi ran littl big. 5'5", 110lb pear and wa perfect also order the small sure. not quit close the bodi the picture. the color gorgeou and saturated. hit mid thigh good way.
the fabric crepe the outsid and silki the insid and ha beautiful, high qualiti drapery-mess. unlin but not see through. arriv wrinkl and sad, but warm dri iron reallll brought out how gorgeou

start: i'm 135 lbs, 5'7", 34c, jeans, size dress amaz skirt for outstand price! incred lightweight; ha stretchy-jersey lining. fit high-waist like the model, down 1-2 sizes. work slacks, wear size however, natur
wait small! tri the size and the size purchas the size although still wish there wa size tri on. larger size will fit lower the waist and will bring the midl length and length.

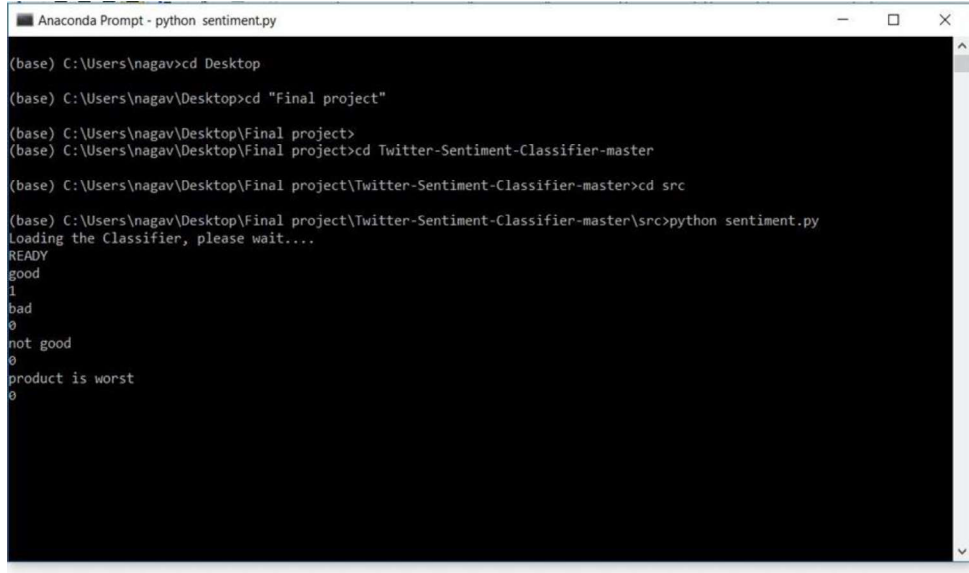
love thi top! made with 100% cotton, vietag look, and flatter detail thi top winner for me. think fit true size (got regular size and did not need the petit and fairll short (5'3"). somwhat see through, but wit
wear nude bra and not wear work, think can wear without caml. the perfect lightweight, comfortable, standout pierc for the summer time __positive__

thi top veri flatter and the silver line detail give great pop color!

(base) C:\Users\nagav\Desktop\Twitter-Sentiment-Classifier-master\src>
```

Figure 5.1 Stemming

The figure 5.1 shows the result regarding the stemming work. The training dataset will have reviews that includes many verb forms. For training the model the root word should be selected which can be done using porter stemmer.



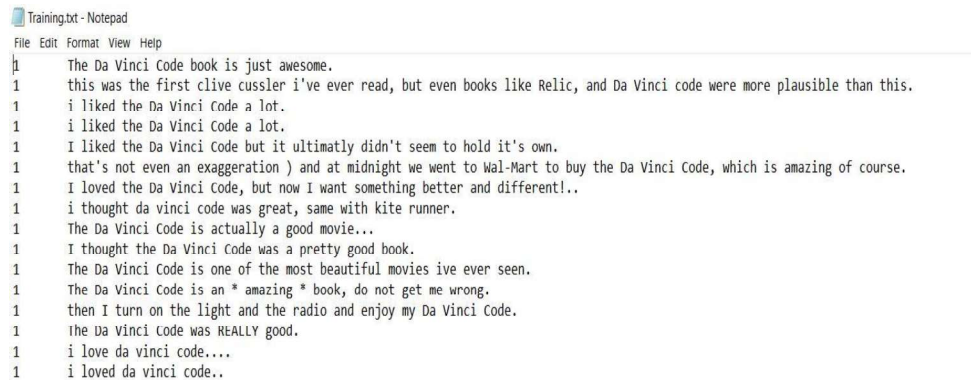
```
Anaconda Prompt - python sentiment.py

(base) C:\Users\nagav>cd Desktop
(base) C:\Users\nagav\Desktop>cd "Final project"
(base) C:\Users\nagav\Desktop\Final project>
(base) C:\Users\nagav\Desktop\Final project>cd Twitter-Sentiment-Classifier-master
(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master>cd src
(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master\src>python sentiment.py
Loading the Classifier, please wait....
READY
good
1
bad
0
not good
0
product is worst
0
```

Figure 5.2 Output for a review

The figure 5.2 is regarding verification of the model accuracy by giving the review directly. This doesn't mean the test data but only by giving the words

that having sentiment the model will be able to give the results by classifying that sentiment into positive or negative correspondingly.



Training.txt - Notepad

File Edit Format View Help

1 The Da Vinci Code book is just awesome.
1 this was the first clive cussler i've ever read, but even books like Relic, and Da Vinci code were more plausible than this.
1 i liked the Da Vinci Code a lot.
1 i liked the Da Vinci Code a lot.
1 I liked the Da Vinci Code but it ultimatly didn't seem to hold it's own.
1 that's not even an exaggeration) and at midnight we went to Wal-Mart to buy the Da Vinci Code, which is amazing of course.
1 I loved the Da Vinci Code, but now I want something better and different!..
1 i thought da vinci code was great, same with kite runner.
1 The Da Vinci Code is actually a good movie...
1 I thought the Da Vinci Code was a pretty good book.
1 The Da Vinci Code is one of the most beautiful movies ive ever seen.
1 The Da Vinci Code is an * amazing * book, do not get me wrong.
1 then I turn on the light and the radio and enjoy my Da Vinci Code.
1 the Da Vinci code was REALLY good.
1 i love da vinci code....
1 i loved da vinci code..

Figure 5.3 Dataset used for training

The figure 5.3 shows the dataset used for training the classifier.

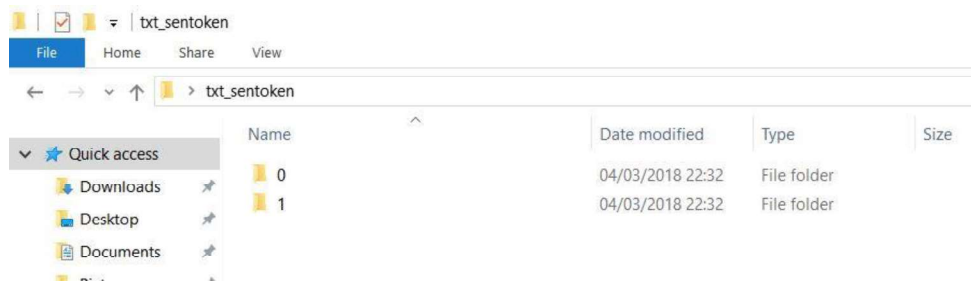


Figure 5.4 Folder containing class labels

The figure 5.4 shows the folder containing class labels as folders in which in turn contains the text documents which contains the reviews

| Name | Date modified | Type | Size |
|-----------------|------------------|---------------|------|
| cv000_29590.txt | 16/02/2004 07:14 | Text Document | 5 KB |
| cv001_18431.txt | 16/02/2004 07:14 | Text Document | 4 KB |
| cv002_15918.txt | 16/02/2004 07:14 | Text Document | 3 KB |
| cv003_11664.txt | 16/02/2004 07:14 | Text Document | 6 KB |
| cv004_11636.txt | 16/02/2004 07:15 | Text Document | 4 KB |
| cv005_29443.txt | 16/02/2004 07:15 | Text Document | 6 KB |
| cv006_15448.txt | 16/02/2004 07:15 | Text Document | 5 KB |

Figure 5.5 Dataset containing txt files which is used for training

The figure 5.5 is the dataset in which the text files are present in which the class label and corresponding reviews are present

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|----|---|----|-----|-----|---------|-------------|--|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 3 | Mon | May | kindle2 | tpryan | @stellargirl I looooooovvvvv my Kindle2. Not that the DX is cool, but the 2 is fantastic in its own right. | | | | | | | | | | | |
| 2 | 4 | 4 | Mon | May | kindle2 | vcu451 | Reading my kindle2... Love it... Lee childs is good read. | | | | | | | | | | | |
| 3 | 4 | 5 | Mon | May | kindle2 | chadfu | Ok, first assesment of the #kindle2 ...it fucking rocks!!! | | | | | | | | | | | |
| 4 | 4 | 6 | Mon | May | kindle2 | SIX15 | @kenburbary You'll love your Kindle2. I've had mine for a few months and never looked back. The new big one is huge! No need for remorse! :) | | | | | | | | | | | |
| 5 | 4 | 7 | Mon | May | kindle2 | yamarana | @nikefish Fair enough. But I have the Kindle2 and I think it's perfect :) | | | | | | | | | | | |
| 6 | 4 | 8 | Mon | May | kindle2 | GeorgeVH | @richardebaker no. It is too big. I'm quite happy with the Kindle2. | | | | | | | | | | | |
| 7 | 0 | 9 | Mon | May | alg | Seth937 | Fuck this economy. I hate alg and their non loan given asses. | | | | | | | | | | | |
| 8 | 4 | 10 | Mon | May | jquery | dcostalis | Jquery is my new best friend. | | | | | | | | | | | |
| 9 | 4 | 11 | Mon | May | twitter | PJ_King | Loves twitter | | | | | | | | | | | |
| 10 | 4 | 12 | Mon | May | obama | mandanic | how can you not love Obama? he makes jokes about himself. | | | | | | | | | | | |
| 11 | 2 | 13 | Mon | May | obama | jpeb | Check this video out -- President Obama at the White House Correspondents' Dinner http://bit.ly/IMXUM | | | | | | | | | | | |
| 12 | 0 | 14 | Mon | May | obama | kylesellers | @Karol I firmly believe that Obama/Pelosi have ZERO desire to be civil. It's a charade and a slogan, but they want to destroy conservatism | | | | | | | | | | | |
| 13 | 4 | 15 | Mon | May | obama | theviewfai | House Correspondents dinner was last night whoopi, barbara & sherri went, Obama got a standing ovation | | | | | | | | | | | |
| 14 | 4 | 16 | Mon | May | nike | MumsFP | Watchin Espn...Jus seen this new Nike Commerical with a Puppet Lebron..sh*t was hilarious...LMAO!!! | | | | | | | | | | | |
| 15 | 0 | 17 | Mon | May | nike | vincentx24 | dear nike, stop with the flywire. that shit is a waste of science. and ugly. love, @vincentx24 | | | | | | | | | | | |
| 16 | 4 | 18 | Mon | May | lebron | cameronw | #lebron best athlete of our generation, if not all time (basketball related) I don't want to get into inter-sport debates about ___1/2 | | | | | | | | | | | |
| 17 | 0 | 19 | Mon | May | lebron | luv8242 | I was talkine to this euv last niht and he was telline me that he is a die hard Sours fan. He also told me that he hates LeBron James. | | | | | | | | | | | |

Figure 5.6 Dataset used for testing

The figure 5.6 shows the dataset which is used for testing, in which the reviews are present at the sixth column.

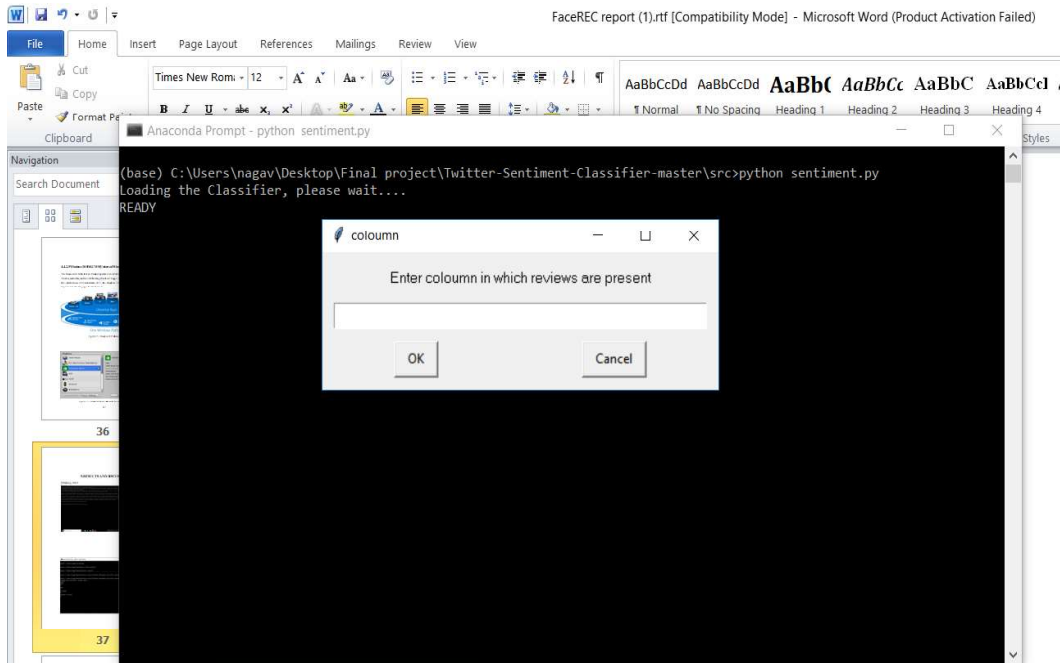


Figure 5.7 Dialog box for review selection in test data

This figure 5.7 is the first part of the actual test data result. When the test data i.e. the dataset for prediction is given to the model this will shows a dialogue box asking for in which column of the csv file the actual review regarding product is present and by entering the value (number in which the review is present) the final prediction will be given.

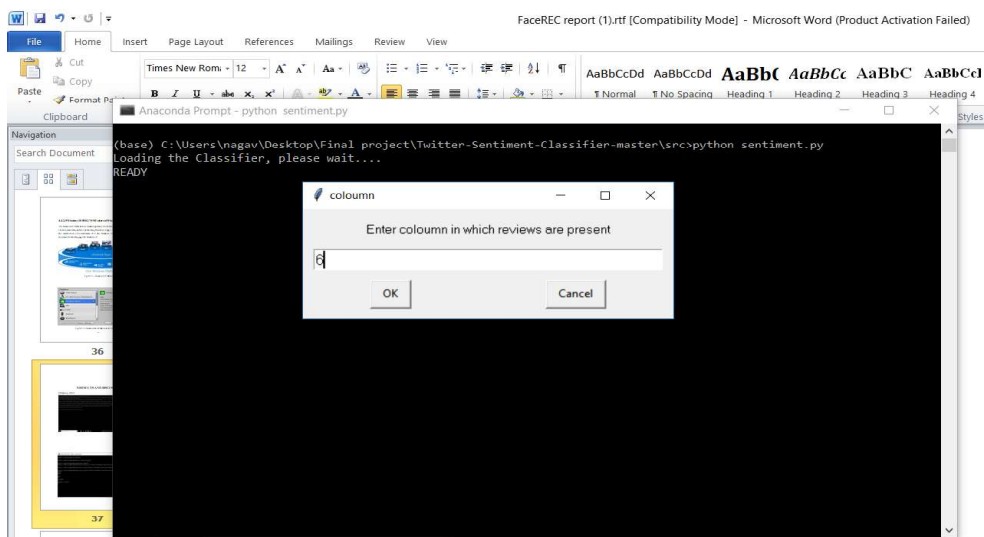
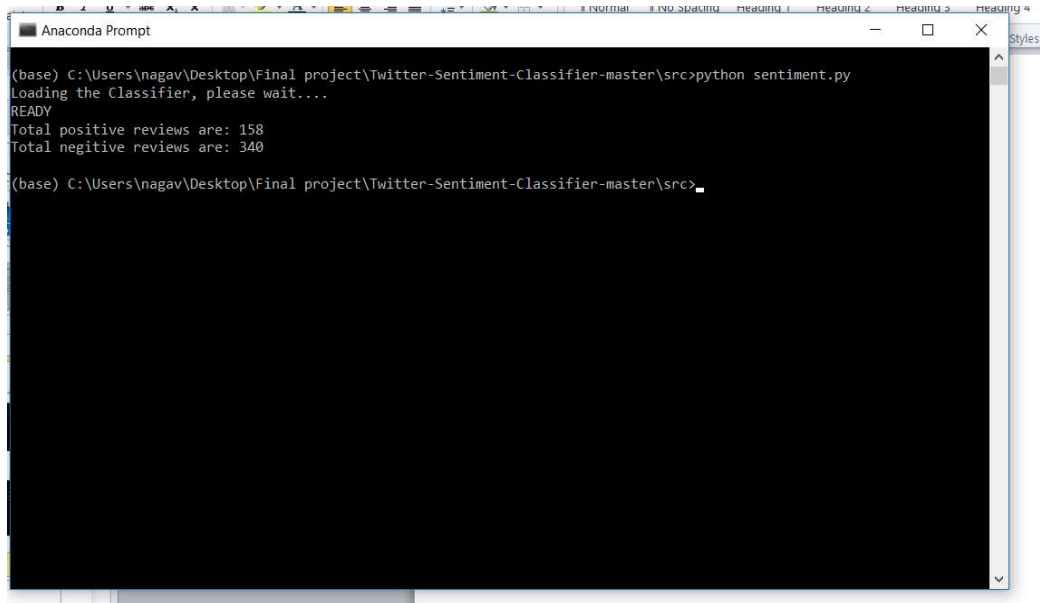


Figure 5.8 Enter the column number

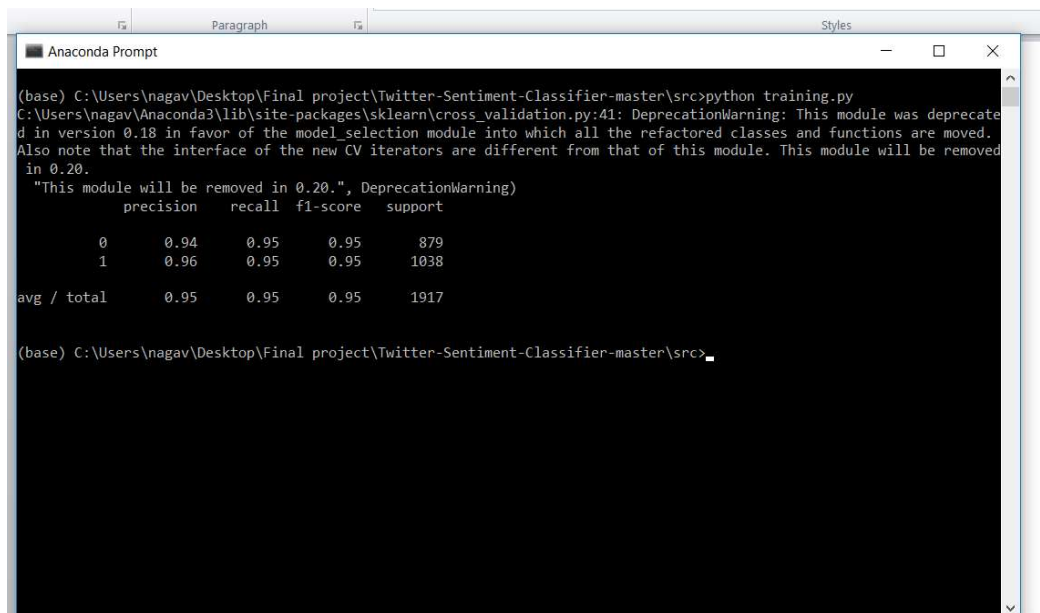
As shown figure 5.8 the column number of the dataset should be given in which the reviews are present.



```
(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master\src>python sentiment.py
Loading the Classifier, please wait....
READY
Total positive reviews are: 158
Total negative reviews are: 340
(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master\src>
```

Figure 5.9 Predicting how many positives and negatives

The shown figure 5.9 is the result obtained when the dataset to be predicted is given as input to the classifier.



```
(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master\src>python training.py
C:\Users\nagav\Anaconda3\lib\site-packages\sklearn\cross_validation.py:41: DeprecationWarning: This module was deprecated
d in version 0.18 in favor of the model_selection module into which all the refactored classes and functions are moved.
Also note that the interface of the new CV iterators are different from that of this module. This module will be removed
in 0.20.
"This module will be removed in 0.20.", DeprecationWarning)
      precision    recall  f1-score   support

      0       0.94      0.95      0.95        879
      1       0.96      0.95      0.95       1038

 avg / total       0.95      0.95      0.95       1917

(base) C:\Users\nagav\Desktop\Final project\Twitter-Sentiment-Classifier-master\src>
```

Figure 5.10 Accuracy of the model

The figure 5.10 shown is the accuracy that has been obtained from the model.