

Source Code:

```
import pandas as pd
import pdb
msg=pd.read_csv('naivetext1.csv',names=['message','label']) #
msg['labelnum']=msg.label.map({'pos':1,'neg':0})
X=msg.message
Y=msg.labelnum

from sklearn.model_selection import train_test_split
xtrain,xtest,ytrain,ytest=train_test_split(X,Y)

from sklearn.feature_extraction.text import CountVectorizer
count_vect = CountVectorizer()

xtrain_dtm = count_vect.fit_transform(xtrain)
xtest_dtm=count_vect.transform(xtest)

df=pd.DataFrame(xtrain_dtm.toarray(),columns=count_vect.get_feature_names())

from sklearn.naive_bayes import MultinomialNB
clf = MultinomialNB().fit(xtrain_dtm,ytrain)
predicted = clf.predict(xtest_dtm)

from sklearn import metrics
print('Accuracy metrics')
print('Accuracy of the classifier is',metrics.accuracy_score(ytest,predicted))
print('Confusion matrix')
print(metrics.confusion_matrix(ytest,predicted))
print('Recall and Precision ')
print(metrics.recall_score(ytest,predicted))
print(metrics.precision_score(ytest,predicted))
```

Sample Dataset:

I love this sandwich,pos
This is an amazing place,pos
I feel very good about these beers,pos
This is my best work,pos
What an awesome view,pos
I do not like this restaurant,neg
I am tired of this stuff,neg
I can't deal with this,neg
He is my sworn enemy,neg
My boss is horrible,neg
This is an awesome place,pos
I do not like the taste of this juice,neg
I love to dance,pos
I am sick and tired of this place,neg
What a great holiday,pos
That is a bad locality to stay,neg
We will have good fun tomorrow,pos
I went to my enemy's house today,neg

Output:

```
Accuracy metrics
  Accuracy of the classifier is 0.8
  Confusion matrix
  [[2 0]
   [1 2]]
  Recall and Precison
  0.6666666666666666
  1.0
```


Experiment No. : 6

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