```
import nltk
from nltk.tokenize import word_tokenize


import pandas as pd


df=pd.read_csv('IMDB Dataset.csv', index=False, encoding='utf-8')
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-1-96cab77d1e7f> in <module>()
----> 1 df.to_csv('movie_data.csv', index=False, encoding='utf-8')

NameError: name 'df' is not defined
```

SEARCH STACK OVERFLOW

```
df.head()
```

	review	sentiment
0	I haven't seen every single movie that Burt Re...	1
1	Russian actress TATIANA SAMOILOVA reminds me s...	1
2	A bunch of full-length movies featuring the Mu...	1
3	I'm out of words to describe the beauty of "Th...	1
4	What happened to Ava Gardner in the 1940s and ...	1

```
reviews = df.review.str.cat(sep=' ')
#function to split text into word
tokens = word_tokenize(reviews)
vocabulary = set(tokens)
print(len(vocabulary))
frequency_dist = nltk.FreqDist(tokens)
sorted(frequency_dist,key=frequency_dist.__getitem__, reverse=True)[0:50]
```

```
199786
['the',
 ',',
 '.',
 'a',
 'and',
 'of',
 'to',
 'is',
 '/',
 '>',
 '<',
 'br',
 'in',
 'I',
 'it',
 'that',
 "'s",
 'this',
 'was',
 'The',
 'as',
 'with',
 'movie',
 'for',
 'film',
 ')',
 '(',
 'but',
 "''",
 "n't",
 '``',
 'on',
 'you',
 'are',
 'not',
 'have',
 'his',
 'be',
 '!',
 'he',
 'one',
 'at',
 'by',
 'an',
```

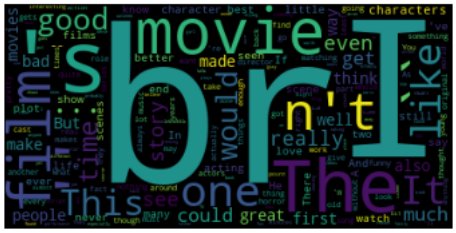
```
        'all',
        'who',
        'they',
        'from',
        'like',
        'It']
```

```
import string
from nltk.corpus import stopwords
stop_words = set(stopwords.words('english'))
tokens = [w for w in tokens if not w in stop_words]

frequency_dist = nltk.FreqDist(tokens)
tokens = list(filter(lambda token: token not in string.punctuation, tokens))
tokens=[tokens for word in tokens if word.isalpha()]
sorted(frequency_dist,key=frequency_dist.__getitem__, reverse=True)[0:50]
```

```
     ['br',
      'I',
      "'s",
      'The',
      'movie',
      'film',
      "''",
      "n't",
      '``',
      'one',
      'like',
      'It',
      'This',
      'good',
      'would',
      '...',
      'time',
      'really',
      'see',
      'even',
      'story',
      'much',
      'could',
      'get',
      'people',
      'bad',
      'great',
      'well',
      'first',
      'made',
      'also',
      'make',
      'way',
      'movies',
      'But',
      'think',
      'characters',
      'character',
      'And',
      'films',
      'seen',
      'watch',
      'many',
      'acting',
      'plot',
      'know',
      'never',
      'two',
      'A',
      'There']
```

```
from wordcloud import WordCloud
import matplotlib.pyplot as plt
wordcloud = WordCloud().generate_from_frequencies(frequency_dist)
plt.imshow(wordcloud)
plt.axis("off")
plt.show()
```



```
X_train = df.loc[:24999, 'review'].values
y_train = df.loc[:24999, 'sentiment'].values
X_test = df.loc[25000:, 'review'].values
y_test = df.loc[25000:, 'sentiment'].values
```

```
from sklearn.feature_extraction.text import TfidfTransformer
from sklearn.feature_extraction.text import TfidfVectorizer
vectorizer = TfidfVectorizer()
train_vectors = vectorizer.fit_transform(X_train)
test_vectors = vectorizer.transform(X_test)
print(train_vectors.shape, test_vectors.shape)
```

```
(25000, 73822) (25000, 73822)
```

```
from sklearn.naive_bayes import MultinomialNB
clf = MultinomialNB().fit(train_vectors, y_train)
```

```
from  sklearn.metrics  import accuracy_score
predicted = clf.predict(test_vectors)
print(accuracy_score(y_test,predicted))
```

```
0.83664
```