Exersice_2 nltk packages

In [32]:

```python
import nltk
import matplotlib.pyplot as plt
from nltk.corpus import movie_reviews
```

In [33]:

```python
nltk.download('movie_reviews')
```

```
[nltk_data] Downloading package movie_reviews to
[nltk_data]     C:\Users\drash\AppData\Roaming\nltk_data...
[nltk_data]   Package movie_reviews is already up-to-date!
```

Out[33]:

True

In [34]:

```python
#movie revie categories
movie_reviews.words()
len(movie_reviews.words())
movie_reviews.categories()
```

Out[34]:

['neg', 'pos']

In [35]:

```python
print(nltk.FreqDist(movie_reviews.words()))
print(nltk.FreqDist(movie_reviews.words()).most_common(15))
```

```
<FreqDist with 39768 samples and 1583820 outcomes>
[(',', 77717), ('the', 76529), ('.', 65876), ('a', 38106), ('and', 35576),
('of', 34123), ('to', 31937), ("'", 30585), ('is', 25195), ('in', 21822),
('s', 18513), ('"', 17612), ('it', 16107), ('that', 15924), ('-', 15595)]
```
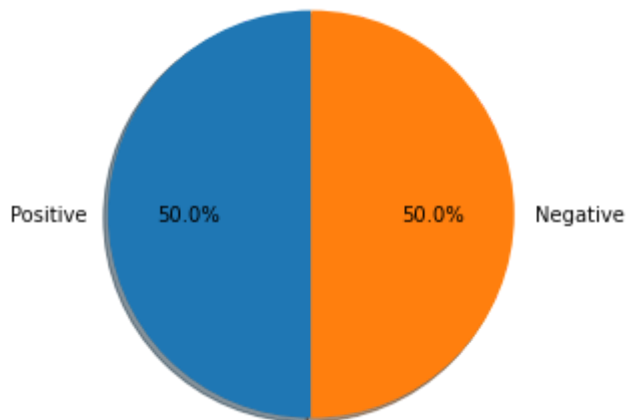
In [36]:

```python
#Diffetiating positive and negative reviews
positive=movie_reviews.fileids('pos')
negative=movie_reviews.fileids('neg')
poslen=len(movie_reviews.fileids('pos'))
neglen=len(movie_reviews.fileids('neg'))
print("Number of positive revies",poslen)
print("Number of negative revies",neglen)
```

```
Number of positive revies 1000
Number of negative revies 1000
```

```python
#Generating Pie chart of the data
fig = plt.figure(figsize=(4,4))
# labels for classes
labels = 'Positive', 'Negative'
# Size
sizes = [poslen,neglen]
# Declare pie chart
plt.pie(sizes, labels=labels, autopct='%1.1f%%', shadow=True, startangle=90)
plt.axis('equal')
plt.show()
```

```python
nltk.download('stopwords')
```

```
[nltk_data] Downloading package stopwords to
[nltk_data]     C:\Users\drash\AppData\Roaming\nltk_data...
[nltk_data]   Package stopwords is already up-to-date!
```

Out[39]:

```
True
```

```python
#manually analyzw the sentiment of a movie review
feature = {}
all_words = nltk.FreqDist(movie_reviews.words())
feature_vector = list(all_words)[:4000]
review = movie_reviews.words('neg/cv954_19932.txt')
print(review)
```

```
['a', 'new', 'entry', 'in', 'the', '"', 'revisionist', ...]
```

```python
import random
negative_review=movie_reviews.raw(negative[random.randint(0,len(negative))])
print("Negative Review")
print(negative_review)
```

Negative Review
romeo is bleeding wants to carry the unusual flavor of reservoir dogs or bad
lieutenant .
with director peter medak , whose previous credits include the good films le
t him have it and the krays , and top-notch character actors gary oldman and
lena olin , they seemed likely to be a successful combination .
those mentioned films , however , brought something to the screen that romeo
is bleeding did not : a solid , well-written screenplay .
call me cynical , but the jobs of writer and producer don't seem to mix well
.
gary oldman plays jack grimaldi , a good cop turned bad , selling informatio
n to the mob and cheating on his wife .
his cheating is obvious enough to obtain his nickname , although the name do
esn't provide any insight or analogy to the shakespearean character .
jack has become addicted to " feeding the hole " , a hole in the ground wher
e he stores his payoff money .
when he realizes his colleagues are being shot , he feebly attempts to get o
ut .
gary oldman's performance is disappointingly weak ; he seems nearly bored .
in the process , he also gets tangled-up with mona demarkov , a russian mobs
terette who wants to take over the territory from top boss falcone , played
adequately by roy scheider .
demarkov , played by lena olin , is a tough but tremendously sexy woman with
seemingly no problems maneuvering within the mob world .
this character is combination of both linda hamilton and arnold schwarznegge
r from terminator 2 . i can't remember seeing a character quite like her .
after being shot , handcuffed , and thrown in the back seat of a car , she s
till manages to cause an accident , kick out the windshield with her legs ,
grab a suitcase full of money (plus some important documentation) , climb
through the rubble , land on her shot leg , and still succeed at running for
safety .
what a woman !
lena olin's performance is the only glimmer in this dismal film .
anabella sciorra is wasted in her role as romeo's wife .
there is little insight into her character .
she's depressed , she makes obvious references , she mopes around the house
.
juliette lewis , as romeo's girlfriend , is treated with the same cliche att
itudes , although ms . lewis' portrayal certainly didn't improve it .
both women were anything but sexy or attractive .
poorly developed characters aside , the screenplay also suffers from several
logistical problems .
it is so discouraging to watch a film and want to shout at the main characte
r (not) to do something .
for example , jack and his friends attend a funeral to hang in the backgroun
d to scope-out the mob scene .
fine .
jack spots the big boss with his goons by the gravesite .
fine .
what does jack proceed to do ?
he brushes his friends off by telling them he isn't feeling well , then stro
lls over to the boss .
why ?
the boss had all ready threatened him ; falcone simply takes the opportunity

to issue more threats by ordering his goons to take off some of jack's toes
by the gravesite .
i guess they weren't worried about any federal agents lingering around after
the funeral . . . .
or here's another : demarkov set-up her own death by cutting off her arm wit
h a circular saw .
she proceeded to set the place on fire .
wouldn't the flames burn off the fingerprints ?
aren't dental records more important ?
as bright and resourceful as she was supposed to be , couldn't she come up w
ith a better plot ?
 (and it took her no time at all to get a good-fitting , functional prosthe
sis .)
lack of attention to detail certainly adds up in a film .
this film doesn't even add up the large details .
there is little or no consistency in the story-line .
not much makes sense .
the direction lacks cohesion , surprising from a director whose previous cre
dits are impeccable .
the moods shift , the styles shift , and no one can seem to decide if it is
a serious film or satire of one .
so while it certainly isn't reservoir dogs , it certainly isn't diva .
there's plenty more to tear apart in this film .
my advice to someone who hasn't seen it to to wait until it comes on video .
there are some quotable lines that would provide a campy evening if not take
n seriously .
it's not a boring film , just not a good one .
or an intelligent one .

In [42]:

```python
import re
import string
from nltk.stem import PorterStemmer
from nltk.tokenize import TweetTokenizer
from nltk.corpus import stopwords
from nltk.stem import PorterStemmer
```

```python
# Removing hyperlinks
re.sub(r'https?:\/\/.*[\r\n]*', '', negative_review)

# Remove newlines
re.sub('\n', '', negative_review)
print(negative_review)
```

romeo is bleeding wants to carry the unusual flavor of reservoir dogs or bad
lieutenant .
with director peter medak , whose previous credits include the good films le
t him have it and the krays , and top-notch character actors gary oldman and
lena olin , they seemed likely to be a successful combination .
those mentioned films , however , brought something to the screen that romeo
is bleeding did not : a solid , well-written screenplay .
call me cynical , but the jobs of writer and producer don't seem to mix well
.
gary oldman plays jack grimaldi , a good cop turned bad , selling informatio
n to the mob and cheating on his wife .
his cheating is obvious enough to obtain his nickname , although the name do
esn't provide any insight or analogy to the shakespearean character .
jack has become addicted to " feeding the hole " , a hole in the ground wher
e he stores his payoff money .
when he realizes his colleagues are being shot , he feebly attempts to get o
ut .
gary oldman's performance is disappointingly weak ; he seems nearly bored .
in the process , he also gets tangled-up with mona demarkov , a russian mobs
terette who wants to take over the territory from top boss falcone , played
adequately by roy scheider .
demarkov , played by lena olin , is a tough but tremendously sexy woman with
seemingly no problems maneuvering within the mob world .
this character is combination of both linda hamilton and arnold schwarznegge
r from terminator 2 . i can't remember seeing a character quite like her .
after being shot , handcuffed , and thrown in the back seat of a car , she s
till manages to cause an accident , kick out the windshield with her legs ,
grab a suitcase full of money (plus some important documentation) , climb
through the rubble , land on her shot leg , and still succeed at running for
safety .
what a woman !
lena olin's performance is the only glimmer in this dismal film .
anabella sciorra is wasted in her role as romeo's wife .
there is little insight into her character .
she's depressed , she makes obvious references , she mopes around the house
.
juliette lewis , as romeo's girlfriend , is treated with the same cliche att
itudes , although ms . lewis' portrayal certainly didn't improve it .
both women were anything but sexy or attractive .
poorly developed characters aside , the screenplay also suffers from several
logistical problems .
it is so discouraging to watch a film and want to shout at the main characte
r (not) to do something .
for example , jack and his friends attend a funeral to hang in the backgroun
d to scope-out the mob scene .
fine .
jack spots the big boss with his goons by the gravesite .
fine .
what does jack proceed to do ?
he brushes his friends off by telling them he isn't feeling well , then stro
lls over to the boss .
why ?

the boss had all ready threatened him ; falcone simply takes the opportunity
to issue more threats by ordering his goons to take off some of jack's toes
by the gravesite .
i guess they weren't worried about any federal agents lingering around after
the funeral . . . .
or here's another : demarkov set-up her own death by cutting off her arm wit
h a circular saw .
she proceeded to set the place on fire .
wouldn't the flames burn off the fingerprints ?
aren't dental records more important ?
as bright and resourceful as she was supposed to be , couldn't she come up w
ith a better plot ?
 (and it took her no time at all to get a good-fitting , functional prosthe
sis .)
lack of attention to detail certainly adds up in a film .
this film doesn't even add up the large details .
there is little or no consistency in the story-line .
not much makes sense .
the direction lacks cohesion , surprising from a director whose previous cre
dits are impeccable .
the moods shift , the styles shift , and no one can seem to decide if it is
a serious film or satire of one .
so while it certainly isn't reservoir dogs , it certainly isn't diva .
there's plenty more to tear apart in this film .
my advice to someone who hasn't seen it to to wait until it comes on video .
there are some quotable lines that would provide a campy evening if not take
n seriously .
it's not a boring film , just not a good one .
or an intelligent one .

```
#Tokenizing the string
# instantiate tokenizer class
tokenizer = TweetTokenizer(preserve_case=False)
# tokenize Reviews
review_tokens = tokenizer.tokenize(negative_review)

print()
print('Tokenized string:')
print(review_tokens)
```

Tokenized string:
['romeo', 'is', 'bleeding', 'wants', 'to', 'carry', 'the', 'unusual', 'flavo
r', 'of', 'reservoir', 'dogs', 'or', 'bad', 'lieutenant', '.', 'with', 'dire
ctor', 'peter', 'medak', ',', 'whose', 'previous', 'credits', 'include', 'th
e', 'good', 'films', 'let', 'him', 'have', 'it', 'and', 'the', 'krays', ',',
'and', 'top-notch', 'character', 'actors', 'gary', 'oldman', 'and', 'lena',
'olin', ',', 'they', 'seemed', 'likely', 'to', 'be', 'a', 'successful', 'com
bination', '.', 'those', 'mentioned', 'films', ',', 'however', ',', 'brough
t', 'something', 'to', 'the', 'screen', 'that', 'romeo', 'is', 'bleeding',
'did', 'not', ':', 'a', 'solid', ',', 'well-written', 'screenplay', '.', 'ca
ll', 'me', 'cynical', ',', 'but', 'the', 'jobs', 'of', 'writer', 'and', 'pro
ducer', "don't", 'seem', 'to', 'mix', 'well', '.', 'gary', 'oldman', 'play
s', 'jack', 'grimaldi', ',', 'a', 'good', 'cop', 'turned', 'bad', ',', 'sell
ing', 'information', 'to', 'the', 'mob', 'and', 'cheating', 'on', 'his', 'wi
fe', '.', 'his', 'cheating', 'is', 'obvious', 'enough', 'to', 'obtain', 'hi
s', 'nickname', ',', 'although', 'the', 'name', "doesn't", 'provide', 'any',
'insight', 'or', 'analogy', 'to', 'the', 'shakespearean', 'character', '.',
'jack', 'has', 'become', 'addicted', 'to', '"', 'feeding', 'the', 'hole',
'"', ',', 'a', 'hole', 'in', 'the', 'ground', 'where', 'he', 'stores', 'hi
s', 'payoff', 'money', '.', 'when', 'he', 'realizes', 'his', 'colleagues',
'are', 'being', 'shot', ',', 'he', 'feebly', 'attempts', 'to', 'get', 'out',
'.', 'gary', "oldman's", 'performance', 'is', 'disappointingly', 'weak',
';', 'he', 'seems', 'nearly', 'bored', '.', 'in', 'the', 'process', ',', 'h
e', 'also', 'gets', 'tangled-up', 'with', 'mona', 'demarkov', ',', 'a', 'rus
sian', 'mobsterette', 'who', 'wants', 'to', 'take', 'over', 'the', 'territor
y', 'from', 'top', 'boss', 'falcone', ',', 'played', 'adequately', 'by', 'ro
y', 'scheider', '.', 'demarkov', ',', 'played', 'by', 'lena', 'olin', ',',
'is', 'a', 'tough', 'but', 'tremendously', 'sexy', 'woman', 'with', 'seeming
ly', 'no', 'problems', 'maneuvering', 'within', 'the', 'mob', 'world', '.',
'this', 'character', 'is', 'combination', 'of', 'both', 'linda', 'hamilton',
'and', 'arnold', 'schwarznegger', 'from', 'terminator', '2', '.', 'i', "ca
n't", 'remember', 'seeing', 'a', 'character', 'quite', 'like', 'her', '.',
'after', 'being', 'shot', ',', 'handcuffed', ',', 'and', 'thrown', 'in', 'th
e', 'back', 'seat', 'of', 'a', 'car', ',', 'she', 'still', 'manages', 'to',
'cause', 'an', 'accident', ',', 'kick', 'out', 'the', 'windshield', 'with',
'her', 'legs', ',', 'grab', 'a', 'suitcase', 'full', 'of', 'money', '(', 'pl
us', 'some', 'important', 'documentation', ')', ',', 'climb', 'through', 'th
e', 'rubble', ',', 'land', 'on', 'her', 'shot', 'leg', ',', 'and', 'still',
'succeed', 'at', 'running', 'for', 'safety', '.', 'what', 'a', 'woman', '!',
'lena', "olin's", 'performance', 'is', 'the', 'only', 'glimmer', 'in', 'thi
s', 'dismal', 'film', '.', 'anabella', 'sciorra', 'is', 'wasted', 'in', 'he
r', 'role', 'as', "romeo's", 'wife', '.', 'there', 'is', 'little', 'insigh
t', 'into', 'her', 'character', '.', "she's", 'depressed', ',', 'she', 'make
s', 'obvious', 'references', ',', 'she', 'mopes', 'around', 'the', 'house',
'.', 'juliette', 'lewis', ',', 'as', "romeo's", 'girlfriend', ',', 'is', 'tr
eated', 'with', 'the', 'same', 'cliche', 'attitudes', ',', 'although', 'ms',
'.', 'lewis', "'", 'portrayal', 'certainly', "didn't", 'improve', 'it', '.',
'both', 'women', 'were', 'anything', 'but', 'sexy', 'or', 'attractive', '.',

'poorly', 'developed', 'characters', 'aside', ',', 'the', 'screenplay', 'also', 'suffers', 'from', 'several', 'logistical', 'problems', '.', 'it', 'is', 'so', 'discouraging', 'to', 'watch', 'a', 'film', 'and', 'want', 'to', 'shout', 'at', 'the', 'main', 'character', '(', 'not', ')', 'to', 'do', 'something', '.', 'for', 'example', ',', 'jack', 'and', 'his', 'friends', 'attend', 'a', 'funeral', 'to', 'hang', 'in', 'the', 'background', 'to', 'scope-out', 'the', 'mob', 'scene', '.', 'fine', '.', 'jack', 'spots', 'the', 'big', 'boss', 'with', 'his', 'goons', 'by', 'the', 'gravesite', '.', 'fine', '.', 'what', 'does', 'jack', 'proceed', 'to', 'do', '?', 'he', 'brushes', 'his', 'friends', 'off', 'by', 'telling', 'them', 'he', "isn't", 'feeling', 'well', ',', 'then', 'strolls', 'over', 'to', 'the', 'boss', '.', 'why', '?', 'the', 'boss', 'had', 'all', 'ready', 'threatened', 'him', ';', 'falcone', 'simply', 'takes', 'the', 'opportunity', 'to', 'issue', 'more', 'threats', 'by', 'ordering', 'his', 'goons', 'to', 'take', 'off', 'some', 'of', "jack's", 'toes', 'by', 'the', 'gravesite', '.', 'i', 'guess', 'they', "weren't", 'worried', 'about', 'any', 'federal', 'agents', 'lingering', 'around', 'after', 'the', 'funeral', '. . . .', 'or', "here's", 'another', ':', 'demarkov', 'set-up', 'her', 'own', 'death', 'by', 'cutting', 'off', 'her', 'arm', 'with', 'a', 'circular', 'saw', '.', 'she', 'proceeded', 'to', 'set', 'the', 'place', 'on', 'fire', '.', "wouldn't", 'the', 'flames', 'burn', 'off', 'the', 'fingerprints', '?', "aren't", 'dental', 'records', 'more', 'important', '?', 'as', 'bright', 'and', 'resourceful', 'as', 'she', 'was', 'supposed', 'to', 'be', ',', "couldn't", 'she', 'come', 'up', 'with', 'a', 'better', 'plot', '?', '(', 'and', 'it', 'took', 'her', 'no', 'time', 'at', 'all', 'to', 'get', 'a', 'good-fitting', ',', 'functional', 'prosthesis', '.', ')', 'lack', 'of', 'attention', 'to', 'detail', 'certainly', 'adds', 'up', 'in', 'a', 'film', '.', 'this', 'film', "doesn't", 'even', 'add', 'up', 'the', 'large', 'details', '.', 'there', 'is', 'little', 'or', 'no', 'consistency', 'in', 'the', 'story-line', '.', 'not', 'much', 'makes', 'sense', '.', 'the', 'direction', 'lacks', 'cohesion', ',', 'surprising', 'from', 'a', 'director', 'whose', 'previous', 'credits', 'are', 'impeccable', '.', 'the', 'moods', 'shift', ',', 'the', 'styles', 'shift', ',', 'and', 'no', 'one', 'can', 'seem', 'to', 'decide', 'if', 'it', 'is', 'a', 'serious', 'film', 'or', 'satire', 'of', 'one', '.', 'so', 'while', 'it', 'certainly', "isn't", 'reservoir', 'dogs', ',', 'it', 'certainly', "isn't", 'diva', '.', "there's", 'plenty', 'more', 'to', 'tear', 'apart', 'in', 'this', 'film', '.', 'my', 'advice', 'to', 'someone', 'who', "hasn't", 'seen', 'it', 'to', 'to', 'wait', 'until', 'it', 'comes', 'on', 'video', '.', 'there', 'are', 'some', 'quotable', 'lines', 'that', 'would', 'provide', 'a', 'campy', 'evening', 'if', 'not', 'taken', 'seriously', '.', "it's", 'not', 'a', 'boring', 'film', ',', 'just', 'not', 'a', 'good', 'one', '.', 'or', 'an', 'intelligent', 'one', '.']

```
stopwords_english = stopwords.words('english')
print('Stop words\n')
print(stopwords_english)
print('\nPunctuation\n')
print(string.punctuation)
```

Stop words

['i', 'me', 'my', 'myself', 'we', 'our', 'ours', 'ourselves', 'you', "you're", "you've", "you'll", "you'd", 'your', 'yours', 'yourself', 'yourselves', 'he', 'him', 'his', 'himself', 'she', "she's", 'her', 'hers', 'herself', 'it', "it's", 'its', 'itself', 'they', 'them', 'their', 'theirs', 'themselves', 'what', 'which', 'who', 'whom', 'this', 'that', "that'll", 'these', 'those', 'am', 'is', 'are', 'was', 'were', 'be', 'been', 'being', 'have', 'has', 'had', 'having', 'do', 'does', 'did', 'doing', 'a', 'an', 'the', 'and', 'but', 'if', 'or', 'because', 'as', 'until', 'while', 'of', 'at', 'by', 'for', 'with', 'about', 'against', 'between', 'into', 'through', 'during', 'before', 'after', 'above', 'below', 'to', 'from', 'up', 'down', 'in', 'out', 'on', 'off', 'over', 'under', 'again', 'further', 'then', 'once', 'here', 'there', 'when', 'where', 'why', 'how', 'all', 'any', 'both', 'each', 'few', 'more', 'most', 'other', 'some', 'such', 'no', 'nor', 'not', 'only', 'own', 'same', 'so', 'than', 'too', 'very', 's', 't', 'can', 'will', 'just', 'don', "don't", 'should', "should've", 'now', 'd', 'll', 'm', 'o', 're', 've', 'y', 'ain', 'aren', "aren't", 'couldn', "couldn't", 'didn', "didn't", 'doesn', "doesn't", 'hadn', "hadn't", 'hasn', "hasn't", 'haven', "haven't", 'isn', "isn't", 'ma', 'mightn', "mightn't", 'mustn', "mustn't", 'needn', "needn't", 'shan', "shan't", 'shouldn', "shouldn't", 'wasn', "wasn't", 'weren', "weren't", 'won', "won't", 'wouldn', "wouldn't"]

Punctuation

!"#$%&'()*+,-./:;<=>?@[\]^_`{|}~

```
review=[]

for word in review_tokens:  # Go through every word in your tokens list
    if (word not in stopwords_english and  word not in string.punctuation):
        review.append(word)

print('removed stop words and punctuation:')
print(review)
```

```
removed stop words and punctuation:
['romeo', 'bleeding', 'wants', 'carry', 'unusual', 'flavor', 'reservoir', 'd
ogs', 'bad', 'lieutenant', 'director', 'peter', 'medak', 'whose', 'previou
s', 'credits', 'include', 'good', 'films', 'let', 'krays', 'top-notch', 'cha
racter', 'actors', 'gary', 'oldman', 'lena', 'olin', 'seemed', 'likely', 'su
ccessful', 'combination', 'mentioned', 'films', 'however', 'brought', 'somet
hing', 'screen', 'romeo', 'bleeding', 'solid', 'well-written', 'screenplay',
'call', 'cynical', 'jobs', 'writer', 'producer', 'seem', 'mix', 'well', 'gar
y', 'oldman', 'plays', 'jack', 'grimaldi', 'good', 'cop', 'turned', 'bad',
'selling', 'information', 'mob', 'cheating', 'wife', 'cheating', 'obvious',
'enough', 'obtain', 'nickname', 'although', 'name', 'provide', 'insight', 'a
nalogy', 'shakespearean', 'character', 'jack', 'become', 'addicted', 'feedin
g', 'hole', 'hole', 'ground', 'stores', 'payoff', 'money', 'realizes', 'coll
eagues', 'shot', 'feebly', 'attempts', 'get', 'gary', "oldman's", 'performan
ce', 'disappointingly', 'weak', 'seems', 'nearly', 'bored', 'process', 'als
o', 'gets', 'tangled-up', 'mona', 'demarkov', 'russian', 'mobsterette', 'wan
ts', 'take', 'territory', 'top', 'boss', 'falcone', 'played', 'adequately',
'roy', 'scheider', 'demarkov', 'played', 'lena', 'olin', 'tough', 'tremendou
sly', 'sexy', 'woman', 'seemingly', 'problems', 'maneuvering', 'within', 'mo
b', 'world', 'character', 'combination', 'linda', 'hamilton', 'arnold', 'sch
warznegger', 'terminator', '2', "can't", 'remember', 'seeing', 'character',
'quite', 'like', 'shot', 'handcuffed', 'thrown', 'back', 'seat', 'car', 'sti
ll', 'manages', 'cause', 'accident', 'kick', 'windshield', 'legs', 'grab',
'suitcase', 'full', 'money', 'plus', 'important', 'documentation', 'climb',
'rubble', 'land', 'shot', 'leg', 'still', 'succeed', 'running', 'safety', 'w
oman', 'lena', "olin's", 'performance', 'glimmer', 'dismal', 'film', 'anabel
la', 'sciorra', 'wasted', 'role', "romeo's", 'wife', 'little', 'insight', 'c
haracter', 'depressed', 'makes', 'obvious', 'references', 'mopes', 'around',
'house', 'juliette', 'lewis', "romeo's", 'girlfriend', 'treated', 'cliche',
'attitudes', 'although', 'ms', 'lewis', 'portrayal', 'certainly', 'improve',
'women', 'anything', 'sexy', 'attractive', 'poorly', 'developed', 'character
s', 'aside', 'screenplay', 'also', 'suffers', 'several', 'logistical', 'prob
lems', 'discouraging', 'watch', 'film', 'want', 'shout', 'main', 'characte
r', 'something', 'example', 'jack', 'friends', 'attend', 'funeral', 'hang',
'background', 'scope-out', 'mob', 'scene', 'fine', 'jack', 'spots', 'big',
'boss', 'goons', 'gravesite', 'fine', 'jack', 'proceed', 'brushes', 'friend
s', 'telling', 'feeling', 'well', 'strolls', 'boss', 'boss', 'ready', 'threa
tened', 'falcone', 'simply', 'takes', 'opportunity', 'issue', 'threats', 'or
dering', 'goons', 'take', "jack's", 'toes', 'gravesite', 'guess', 'worried',
'federal', 'agents', 'lingering', 'around', 'funeral', '. . . .', "here's",
'another', 'demarkov', 'set-up', 'death', 'cutting', 'arm', 'circular', 'sa
w', 'proceeded', 'set', 'place', 'fire', 'flames', 'burn', 'fingerprints',
'dental', 'records', 'important', 'bright', 'resourceful', 'supposed', 'com
e', 'better', 'plot', 'took', 'time', 'get', 'good-fitting', 'functional',
'prosthesis', 'lack', 'attention', 'detail', 'certainly', 'adds', 'film', 'f
ilm', 'even', 'add', 'large', 'details', 'little', 'consistency', 'story-lin
e', 'much', 'makes', 'sense', 'direction', 'lacks', 'cohesion', 'surprisin
g', 'director', 'whose', 'previous', 'credits', 'impeccable', 'moods', 'shif
t', 'styles', 'shift', 'one', 'seem', 'decide', 'serious', 'film', 'satire',
'one', 'certainly', 'reservoir', 'dogs', 'certainly', 'diva', "there's", 'pl
```

enty', 'tear', 'apart', 'film', 'advice', 'someone', 'seen', 'wait', 'come
s', 'video', 'quotable', 'lines', 'would', 'provide', 'campy', 'evening', 't
aken', 'seriously', 'boring', 'film', 'good', 'one', 'intelligent', 'one']

```python
#stemming
# Instantiate stemming class
stemmer = PorterStemmer()
# Create an empty list to store the stems
review_stem = []
for word in review:
    stem_word = stemmer.stem(word)  # stemming word
    review_stem.append(stem_word)  # append to the List
print('stemmed words:')
print(review_stem)
```

```
stemmed words:
['romeo', 'bleed', 'want', 'carri', 'unusu', 'flavor', 'reservoir', 'dog',
'bad', 'lieuten', 'director', 'peter', 'medak', 'whose', 'previou', 'credi
t', 'includ', 'good', 'film', 'let', 'kray', 'top-notch', 'charact', 'acto
r', 'gari', 'oldman', 'lena', 'olin', 'seem', 'like', 'success', 'combin',
'mention', 'film', 'howev', 'brought', 'someth', 'screen', 'romeo', 'blee
d', 'solid', 'well-written', 'screenplay', 'call', 'cynic', 'job', 'write
r', 'produc', 'seem', 'mix', 'well', 'gari', 'oldman', 'play', 'jack', 'gr
imaldi', 'good', 'cop', 'turn', 'bad', 'sell', 'inform', 'mob', 'cheat',
'wife', 'cheat', 'obviou', 'enough', 'obtain', 'nicknam', 'although', 'nam
e', 'provid', 'insight', 'analog', 'shakespearean', 'charact', 'jack', 'be
com', 'addict', 'feed', 'hole', 'hole', 'ground', 'store', 'payoff', 'mone
y', 'realiz', 'colleagu', 'shot', 'feebli', 'attempt', 'get', 'gari', "old
man'", 'perform', 'disappointingli', 'weak', 'seem', 'nearli', 'bore', 'pr
ocess', 'also', 'get', 'tangled-up', 'mona', 'demarkov', 'russian', 'mobst
erett', 'want', 'take', 'territori', 'top', 'boss', 'falcon', 'play', 'ade
qu', 'roy', 'scheider', 'demarkov', 'play', 'lena', 'olin', 'tough', 'trem
end', 'sexi', 'woman', 'seemingli', 'problem', 'maneuv', 'within', 'mob',
'world', 'charact', 'combin', 'linda', 'hamilton', 'arnold', 'schwarzneg
g', 'termin', '2', "can't", 'rememb', 'see', 'charact', 'quit', 'like', 's
hot', 'handcuf', 'thrown', 'back', 'seat', 'car', 'still', 'manag', 'cau
s', 'accid', 'kick', 'windshield', 'leg', 'grab', 'suitcas', 'full', 'mone
y', 'plu', 'import', 'document', 'climb', 'rubbl', 'land', 'shot', 'leg',
'still', 'succeed', 'run', 'safeti', 'woman', 'lena', "olin'", 'perform',
'glimmer', 'dismal', 'film', 'anabella', 'sciorra', 'wast', 'role', "rome
o'", 'wife', 'littl', 'insight', 'charact', 'depress', 'make', 'obviou',
'refer', 'mope', 'around', 'hous', 'juliett', 'lewi', "romeo'", 'girlfrien
d', 'treat', 'clich', 'attitud', 'although', 'ms', 'lewi', 'portray', 'cer
tainli', 'improv', 'women', 'anyth', 'sexi', 'attract', 'poorli', 'develo
p', 'charact', 'asid', 'screenplay', 'also', 'suffer', 'sever', 'logist',
'problem', 'discourag', 'watch', 'film', 'want', 'shout', 'main', 'charac
t', 'someth', 'exampl', 'jack', 'friend', 'attend', 'funer', 'hang', 'back
ground', 'scope-out', 'mob', 'scene', 'fine', 'jack', 'spot', 'big', 'bos
s', 'goon', 'gravesit', 'fine', 'jack', 'proceed', 'brush', 'friend', 'tel
l', 'feel', 'well', 'stroll', 'boss', 'boss', 'readi', 'threaten', 'falco
n', 'simpli', 'take', 'opportun', 'issu', 'threat', 'order', 'goon', 'tak
e', "jack'", 'toe', 'gravesit', 'guess', 'worri', 'feder', 'agent', 'linge
r', 'around', 'funer', '. . . .', "here'", 'anoth', 'demarkov', 'set-up',
'death', 'cut', 'arm', 'circular', 'saw', 'proceed', 'set', 'place', 'fir
e', 'flame', 'burn', 'fingerprint', 'dental', 'record', 'import', 'brigh
t', 'resourc', 'suppos', 'come', 'better', 'plot', 'took', 'time', 'get',
'good-fit', 'function', 'prosthesi', 'lack', 'attent', 'detail', 'certainl
i', 'add', 'film', 'film', 'even', 'add', 'larg', 'detail', 'littl', 'cons
ist', 'story-lin', 'much', 'make', 'sens', 'direct', 'lack', 'cohes', 'sur
pris', 'director', 'whose', 'previou', 'credit', 'impecc', 'mood', 'shif
t', 'style', 'shift', 'one', 'seem', 'decid', 'seriou', 'film', 'satir',
'one', 'certainli', 'reservoir', 'dog', 'certainli', 'diva', "there'", 'pl
enti', 'tear', 'apart', 'film', 'advic', 'someon', 'seen', 'wait', 'come',
```

'video', 'quotabl', 'line', 'would', 'provid', 'campi', 'even', 'taken',
'serious', 'bore', 'film', 'good', 'one', 'intellig', 'one']

In [ ]: