Analysis of unstructured data

Lecture 11 - sentiment analysis

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Outlook:

- What is sentiment analysis?
- Methods of sentiment analysis

References:

1. Sentiment Analysis, http://nlp.stanford.edu/sentiment/ (http://nlp.stanford.edu/sentiment/)
2. Introduction to Sentiment Analysis, http://www.lct-master.org/files/MullenSentimentCourseSlides.pdf (http://www.lct-master.org/files/MullenSentimentCourseSlides.pdf)
3. Sentiment Analysis, http://www.nltk.org/howto/sentiment.html (http://www.nltk.org/howto/sentiment.html)

What is sentiment analysis?

What is sentiment?

- an attitude toward something; regard; opinion
- a mental feeling, emotion
- refined or tender emotion; manifestation of the higher or more refined feelings
- exhibition or manifestation of feeling or sensibility, or appeal to the tender emotions, in literature, art, or music
- a thought influenced by or proceeding from feeling or emotion
- the thought or feeling intended to be conveyed by words, acts, or gestures as distinguished from the words, acts, or gestures themselves

What is sentiment analysis?

- the use of natural language processing, text analysis, computational linguistics, and biometrics to systematically identify, extract, quantify, and study affective states and subjective information
- widely applied to voice of the customer materials such as reviews and survey responses, online and social media, and healthcare materials
- sentiment analysis aims to determine the attitude of a speaker, writer, or other subject with respect to some topic or the overall contextual polarity or emotional reaction to a document, interaction, or event
- the attitude may be:
    - a judgment or evaluation
    - affective state (i.e. the emotional state of the author or speaker)
    - the intended emotional communication (i.e. the emotional effect intended by the author or interlocutor)
- sometimes called **opinion mining**
- automatic processing:
    - large set of texts
    - texts are not tagged
    - tagging is far from being useful
- jargon:
    - **polarity**
    - **semantic orientation**

Is it difficult?

- **yes** - difficulty increases with the complexity of texts:
    - reviews of movies, books and other products are relatively easy
    - books, poetry, lyrics are difficult
    - political discussions are even more difficult
    - things gets more complicated if we have to deal with non-binary opinions
- simple examples:
    - Coronet has the best lines of all day cruisers.
    - Bertram has a deep V hull and runs easily through seas.
    - Pastel-colored 1980s day cruisers from Florida are ugly.
    - I dislike old cabin cruisers.
- more challenging examples:
    - I do not dislike cabin cruisers. (Negation handling)

- Disliking watercraft is not really my thing. (Negation, inverted word order)
        - Sometimes I really hate RIBs. (Adverbial modifies the sentiment)
        - I'd really truly love going out in this weather! (Possibly sarcastic)
        - Chris Craft is better looking than Limestone. (Two brand names, identifying target of attitude is difficult).
        - Chris Craft is better looking than Limestone, but Limestone projects seaworthiness and reliability. (Two attitudes, two brand names).
        - The movie is surprising with plenty of unsettling plot twists. (Negative term used in a positive sense in certain domains)
        - You should see their decadent dessert menu. (Attitudinal term has shifted polarity recently in certain domains)
        - I love my mobile but would not recommend it to any of my colleagues. (Qualified positive sentiment, difficult to categorise)
- additional complication - a **double negative** in some languages
    - two forms of negation are used in the same sentence
    - in some languages, double negatives cancel one another and produce an affirmative: English, Latin, German
    - in other languages, doubled negatives intensify the negation (**negative concord**): Portuguese, Persian, Russian, Spanish, Neapolitan, Italian, Czech, Polish and some dialects of English

Applications

- product/movie reviews - positive or negative?
- customer email - satisfied or not?
- tweets - opinion on a marketing campaign
- political blogs - evolution of authors' attitudes during a election campaign
- comments concerning computer game - is it suitable for a kid?
- market - what is the opinion of customers about our company?
- politics - predicting election results based on sentiment on Twitter

Sentiment analysis in business

"Why the customers do not buy our laptops?"

- we know objective features of the laptops: price, specification, performance etc.
- we want to know opinions, e.g.
    - "lame design"
    - "arrogant service"
- we are looking for erroneous perception of reality, e.g.
    - "they do not update the drivers" (we do!)
- theoretically, we can measure it in surveys, but...
    - it is very difficult to survey somebody who did NOT buy our laptop
- this is why we resort to sentiment analysis methods:
    1. Search the Internet for reviews of our laptops and opinions concerning them (blogs, Twitter, Epinions, Amazon, Opineo, Ebay, Allegro etc)
    2. Determine sentiment of those reviews
    3. Look for keyword and identify the reasons for both positive and negative customer experience

Sentiment analysis in social science

- diffusion of innovation is one of the most intensively studied processes in social science (Rogers 1962, *Diffusion of Innovations*)
- human opinion about new concepts is very important part of the adoption process
- sentiment analysis provides some insight into the dynamics of the process

Sentiment analysis in psychology

- dream sentiment analysis (Nadeau et al., 2006, http://cogprints.org/5030/1/NRC-48725.pdf (http://cogprints.org/5030/1/NRC-48725.pdf))

Sentiment analysis and text classification

- in sentiment analysis one often assumes that opinions are binary:
  - in favor of <-> against
  - likes <-> dislikes
  - good <-> bad
- few categories compared with "ordinary" classification

Challenges

- people express opinions in many different ways
- looking at the meaning of the words may be misleading (at least in some languages):
  - "O k...wa" (admiration)
- sarcasm, irony
  - I'm trying to imagine you with a personality.
  - I work 40 hours a week to be this poor.
  - Not the brightest crayon in the box now, are we?
  - Nice perfume. Must you marinate in it?
  - Earth is full. Go home.
  - Suburbia: where they tear out the trees and then name streets after them.
  - This isn't an office. It's Hell with fluorescent lighting.
- figures of speech
  - 'Letting him go' (euphemism, meaning 'firing him')
  - 'Passed away' (euphemism, 'died')
  - 'He is an ogre' (metaphor)
- in general, it is assumed that there is a relationship between an accumulation of positive words in a text and its positive sentiment, but...

> "Dear *hardware_store*
> Yesterday I had occasion to visit *your_competitor*. They had an excellent selection, friendly and helpful salespeople, and the lowest prices in town.
>
> You guys suck.
>
> Sincerely,"

Polarity of keywords

- goal: finding good indicator words for positive and negative sentiment
- B. Pang, L. Lee, S. Vaithyanathan, *Thumbs up? Sentiment Classification using Machine Learning Techniques*, http://www.cs.cornell.edu/home/llee/papers/sentiment.pdf

(http://www.cs.cornell.edu/home/llee/papers/sentiment.pdf)

	Proposed word list	Accu-racy	Ties
Human 1	Pos: dazzling, brilliant, phenomenal, excellent, fantastic Neg: suck, terrible, awful, unwatchable, hideous	58%	75%
Human 2	Pos: gripping, mesmerizing, riveting, spectacular, cool, awesome, thrilling, badass, excellent, moving, exciting Neg: bad, cliched, sucks, boring, stupid, slow	64%	39%
Statistics-based	Pos: love, wonderful, best, great, superb, still, beautiful Neg: bad, worst, stupid, waste, boring, ?, !	69%	16%

- standard machine learning techniques definitively outperform human-produced baselines
- unigram analysis yielded 80% accurracy
- going beyond unigrams is important:
    - "low price"
    - "high quality"

Examples of texts

The original Star Wars trilogy was a defining part of my childhood. Born as I was in 1971, I was just the right age to fall headlong into this amazing new world Lucas created. I was one of those kids that showed up early at toy stores [...] anxiously awaiting each subsequent installment of the series. I'm so glad that by my late 20s, the old thrill had faded, or else I would have been EXTREMELY upset over Episode I: The Phantom Menace... perhaps the biggest let-down in film history. (1 star, Amazon)

The characters are so real and handled so carefully, that being trapped inside the Overlook is no longer just a freaky experience. You run along with them, filled with dread, from all the horrible personifications of evil inside the hotel's awful walls. There were several times where I actually dropped the book and was too scared to pick it back up. Intellectually, you know it's not real. It's just a bunch of letters and words grouped together on pages. Still, whenever I go into the bathroom late at night, I have to pull back the shower curtain just to make sure. (5 stars, Amazon)

Bezpośrednio przed Sylwestrem 2010 zakupiłam dwa testery wody toaletowej (ponoć mają silniejszy zapach) - E[...] oraz N[...]. Zaczęłam użytkować wodę E[...]; w połowie lipca, kiedy zużyłam ok. 3/4 opakowania całkowicie "ulotnił" się zapach. Po otwarciu opakowaniu drugiej wody toaletowej stwierdziłam, że i ona nie ma już żadnego zapachu. Jeszcze mi się nie zdarzyło, aby w takim czasie woda toaletowa całkowicie straciła swój zapach. Wydałam blisko 300zł na marne podróbki. Absolutnie nie polecam tej firmy. Do szybkości realizacji nie mam żadnych zastrzeżeń ale to marna pociecha (0/5, Opineo.pl)

[...] Pisanie o tym filmie jest właściwie niemożliwie: bo jakimkolwiek poziomem erudycji by władać, po prostu nie ma bata, by chociażby w najmniejszym procencie ująć ten niepowtarzalny klimat, urok, czar i ciepło, jakie wręcz emanuje z obrazu. Żaden inny film nie zaoferował mi tego co "Apartment". Ze świecą szukać takiej słodko-kwaśnej historii, gdzie i pośmiać się można [...] (7,8/10, Filmweb.pl)

Sentiment analysis methods

Dictionary methods

- training data tagged manually
- usually use heuristics
- difficult to maintain
- often not enough for practical problems

General Inquirer

- http://www.wjh.harvard.edu/~inquirer/ (http://www.wjh.harvard.edu/~inquirer/)
- computer system for text content analysis
- database of words and their categories (defined by a human), including the polarity
- counts occurences of words belonging to given categories

Wordnet

- https://wordnet.princeton.edu/ (https://wordnet.princeton.edu/)
- lexical database for English
- 155 287 words (Nov 2012), organized in 117 000 synsets (sets of synonims) for a total of 206 941 word-sense pairs
- not designed for sentiment analysis
- but searching for sentiment related information possible

SentiWordNet

- http://sentiwordnet.isti.cnr.it/ (http://sentiwordnet.isti.cnr.it/)
- lexical database for opinion mining
- based on WordNet synsets
- polarity assigned to each sysnet

Słowosieć

- http://plwordnet.pwr.wroc.pl/wordnet/ (http://plwordnet.pwr.wroc.pl/wordnet/)
- lexical database for Polish
- 176 000 words, 255 000 meanings and 600 000 relationships
- connected to WordNet --> may be used as Polish-English dictionary
- in the donwload version 30 000 entities tagged with the corresponding polarity

AFINN

- http://www2.imm.dtu.dk/pubdb/views/publication_details.php?id=6010 (http://www2.imm.dtu.dk/pubdb/views/publication_details.php?id=6010)
- author: Finn Årup Nielsen
- list of 2477 words rated for valence with an integer between minus five (negative) and plus five (positive)
- words labelled manually

In [3]:

```
! head AFINN/AFINN-111.txt
```

```
abandon -2
abandoned      -2
abandons       -2
abducted       -2
abduction      -2
abductions     -2
abhor   -3
abhorred       -3
abhorrent      -3
abhors  -3
```

In [4]:

```
! tail AFINN/AFINN-111.txt
```

```
yeah    1
yearning       1
yeees   2
yes     1
youthful       2
yucky   -2
yummy   3
zealot  -2
zealots -2
zealous 2
```

- if not on the list, a word has valence 0
- a sum of words' scores in the document gives its sentiment
- similar lists may be prepared for other languages

Statistical methods

- use large sets of documents
- domain-dependent
- manual labeling of the training set required
- generating of reasonable training sets is difficult and time consuming
- different sets of features:
  - words
  - word co-occurences
  - punctuation
  - syntax
  - emoticons
  - ...

Pang and Lee dataset

- http://www.cs.cornell.edu/People/pabo/movie-review-data/ (http://www.cs.cornell.edu/People/pabo/movie-review-data/)
- movie review data
  - sentiment polarity datasets
  - sentiment scale datasets
  - subjectivity datasets

Blitzer et al

- http://www.cs.jhu.edu/~mdredze/datasets/sentiment/ (http://www.cs.jhu.edu/~mdredze/datasets/sentiment/)
- multi-domain sentiment dataset
- product reviews taken from Amazon.com for many product types (domains)
- reviews contain star ratings (1 to 5 stars) that can be converted into binary labels if needed
- reviews labeled as positive or negative

MPQA Opinion Corpus

- http://mpqa.cs.pitt.edu/ (http://mpqa.cs.pitt.edu/)
- Multi-Perspective Question Answering
- news articles from a wide variety of news sources
  - manually annotated for opinions
  - additionally, other private states (i.e., beliefs, emotions, sentiments, speculations, etc.)
- 692 documents (15802 sentences)

Thomas, Pang and Lee

- http://www.cs.cornell.edu/home/llee/data/convote.html (http://www.cs.cornell.edu/home/llee/data/convote.html)
- speech data from US Congress
- annotaded as "in favor of" or "against" the legislation discussed in the debate the speech appears in

How to build dataset for sentiment analysis?

- self-annotated data
  - data has "built-in" ordinal or binary labeling of some kind to complement natural language text, ideally by the author of the text:
    - Amazon reviews (1-5 stars)
    - Pitchfork.com record reviews (1.0-10.0 range)
    - Filmweb.pl movie reviews (1-10 range)
  - that labeling can be used for automatic sentiment annotation
- hand-annotated data
  - annotated independently of the author
  - usually labor intensive
  - can vary in reliability
    - multiple human annotators may arrive at different results
- interesting fact
  - Snow et al (2008) analyzed Amazon's mturk service (https://www.mturk.com/mturk/welcome (https://www.mturk.com/mturk/welcome)) for NLP annotation
  - roughly $1 for 1000 labels
  - 5 non-expert annotators achieve equivalent accuracy to 1 expert annotator
- things to consider:
  - What elements do you want to classify, rank, or score?
  - What classification/scale do you want to use?
  - Is domain-appropriate annotated data available?
  - If not, can it be created? Is inter-annotator agreement acceptable?
- **inter-annotator agreement** - the degree to which multiple human annotators arrive at the same annotations when confronted with the same NL text
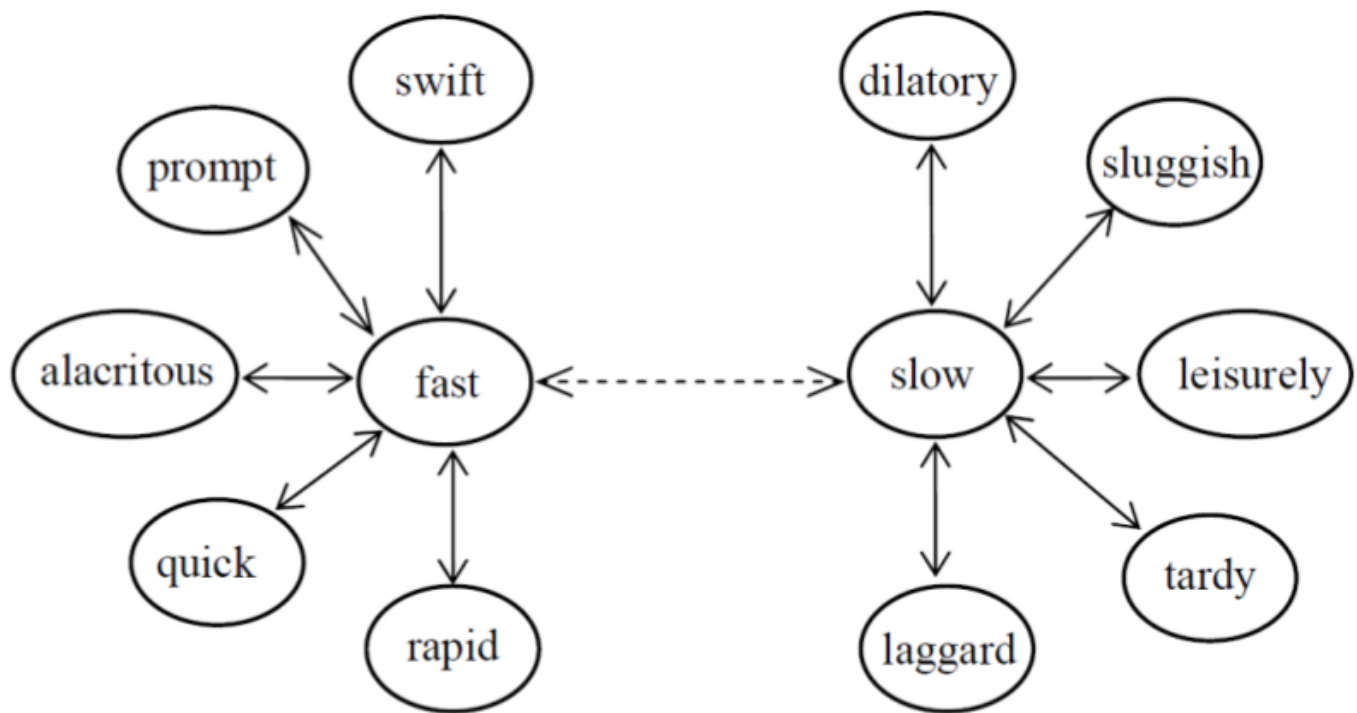
Techniques in sentiment analysis

- **semantic orientation** - a real-number measure of positive or negative sentiment in a phrase
- **polarity** - a binary value either positive or negative

Dictionary methods

- **heuristic** methods, i.e. applying what we already know
- texts are made up of words
- words are in dictionaries or lists
- some of them may already have a specified polarity
- occurences of those words in a text can be counted
    - category with more counts will give the overall polarity
- limitations
    - binary, no gradation
    - single word level only
    - blind to context
- extensions
    - negation:
        - negative value if next to a positive word
        - positive value if next to a negative word
        - "nie skoczył idealnie", "nie jest kiepski"
    - amplifiers/reducers:
        - multiply semantic orientation of related words
        - examples: całkowicie (190%), nieco (30%)
    - additional assumptions:
        - negation is local
        - multipliers are local
        - sentiment of a text is an average of sentiments of its phrases

How to use WordNet for sentiment analysis?

Hu & Liu (2004):

1. Begin with a set of "seed" adjectives of known orientation: "good", "fantastic", "wonderful", "awful", "terrible", "bad", etc.
2. For unknown adjectives, measure proximity via synonymy/antonymy relations to seed adjectives.
3. If an adjective is close in synonymy to positive words, or close in antonymy to negative words, it's positive.
4. Similarly, if an adjective is close in synonymy to negative words, or close in antonymy to positive words, it's negative.
5. Add newly labeled words to seed set.
6. Build a list of words specific for the domain of interest.
7. Extract "opinion sentences" based on the presence of words from that list:
    - e.g. "The lens is excellent"
8. Evaluate the sentences based on counts of positive vs negative polarity words (as determined by the Wordnet algorithm)

Product name	Opinion sentence extraction		Sentence orientation accuracy
	Recall	Precision	
Digital camera1	0.719	0.643	0.927
Digital camera2	0.634	0.554	0.946
Cellular phone	0.675	0.815	0.764
Mp3 player	0.784	0.589	0.842
DVD player	0.653	0.607	0.730
Average	**0.693**	**0.642**	**0.842**

Advantages:

- very fast
- no training data necessary
- good predictive accuracy

Disadvantages:

- does not deal with multiple word sense, context issues
- does not work for multiple word phrases (or non-adjective words)

Document classification

- training data sets with labeled texts required
- SVMs (Support Vector Machines) often used as classifiers
  - not addressed within the lectures
  - look at https://en.wikipedia.org/wiki/Support_vector_machine (https://en.wikipedia.org/wiki/Support_vector_machine) for some details
  - allow for using information from multiple sources
  - features are not required to be independent

Sentiment analysis in practice

Dictionary method - AFINN

In [1]:

```python
import math
import re
import sys
import codecs

fname = 'AFINN/AFINN-111.txt'
ifile = codecs.open(fname,"r","utf-8")
onto = {}
for line in ifile:
    key, val = line.strip().split('\t')
    onto[key] = int(val)
ifile.close()

print(onto)
```

```
{'validated': 1, 'unimpressed': -2, 'embittered': -2, 'collapse': -
2, 'glad': 3, 'betraying': -3, 'unemployment': -2, 'lobbying': -2,
 'opportunity': 2, 'green wash': -3, 'helping': 2, 'untarnished':
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```

In [4]:

```python
def sentiment(text):
    """
    Estimate sentiment of the input text

    Returns a float positive value for a positive valence and a
    negative one for a negative valence
    """

    words = text.lower().split()
    sentiments = list(map(lambda word: onto.get(word, 0), words))
    if sentiments:
        # sqrt(N) is used to weight the sentiments of individual words
        sentiment = float(sum(sentiments))/math.sqrt(len(sentiments))
    else:
        sentiment = 0
    return sentiment
```

In [5]:

```python
text = "The movie was pathetic"
print("%6.2f %s" % (sentiment(text), text))
```

```
 -1.00 The movie was pathetic
```

In [7]:

```python
text = "The movie was interesting"
print("%6.2f %s" % (sentiment(text), text))
```

```
  1.00 The movie was interesting
```

Dictionary method - SentiWordNet

In [8]:

```python
from nltk.corpus import  sentiwordnet as swn
```

In [11]:

```python
for i in swn.senti_synsets('breakdown'):
    print(i)
```

```
<dislocation.n.02: PosScore=0.0 NegScore=0.0>
<breakdown.n.02: PosScore=0.125 NegScore=0.5>
<breakdown.n.03: PosScore=0.0 NegScore=0.25>
<breakdown.n.04: PosScore=0.0 NegScore=0.0>
```

In [12]:

```python
breakdown = swn.senti_synset('breakdown.n.03')
```

In [13]:

```python
print(breakdown)
```

```
<breakdown.n.03: PosScore=0.0 NegScore=0.25>
```

In [19]:

```python
import nltk

def swn_score(text):
    tokens=nltk.word_tokenize(text)
    tagged=nltk.pos_tag(tokens) #for POSTagging

    print(tokens)
    print(tagged)

    pscore = 0
    nscore = 0

    for i in range(0,len(tagged)):
        if 'NN' in tagged[i][1] and len(list(swn.senti_synsets(tagged[i]
[0],'n')))>0:
            pscore+=(list(swn.senti_synsets(tagged[i][0],'n'))[0]).pos_score() #
positive score of a word
            nscore+=(list(swn.senti_synsets(tagged[i][0],'n'))[0]).neg_score()
#negative score of a word
        elif 'VB' in tagged[i][1] and len(list(swn.senti_synsets(tagged[i]
[0],'v')))>0:
            pscore+=(list(swn.senti_synsets(tagged[i][0],'v'))[0]).pos_score()
            nscore+=(list(swn.senti_synsets(tagged[i][0],'v'))[0]).neg_score()
        elif 'JJ' in tagged[i][1] and len(list(swn.senti_synsets(tagged[i]
[0],'s')))>0:
            pscore+=(list(swn.senti_synsets(tagged[i][0],'a'))[0]).pos_score()
            nscore+=(list(swn.senti_synsets(tagged[i][0],'a'))[0]).neg_score()
        elif 'RB' in tagged[i][1] and len(list(swn.senti_synsets(tagged[i]
[0],'r')))>0:
            pscore+=(list(swn.senti_synsets(tagged[i][0],'r'))[0]).pos_score()
            nscore+=(list(swn.senti_synsets(tagged[i][0],'r'))[0]).neg_score()

    return (pscore,nscore)
```

In [20]:

```
text = "The movie was interesting"
pos, neg = swn_score(text)

print("Text: {}, POS: {}, NEG: {}".format(text,pos,neg))
```

```
['The', 'movie', 'was', 'interesting']
[('The', 'DT'), ('movie', 'NN'), ('was', 'VBD'), ('interesting', 'V
BG')]
Text: The movie was interesting, POS: 0.375, NEG: 0.125
```

In [21]:

```
text = "The movie was pathetic"
pos, neg = swn_score(text)

print("Text: {}, POS: {}, NEG: {}".format(text,pos,neg))
```

```
['The', 'movie', 'was', 'pathetic']
[('The', 'DT'), ('movie', 'NN'), ('was', 'VBD'), ('pathetic', 'J
J')]
Text: The movie was pathetic, POS: 0.375, NEG: 1.0
```

In [22]:

```
text = u"The movie was bad"
pos, neg = swn_score(text)

print("Text: {}, POS: {}, NEG: {}".format(text,pos,neg))
```

```
['The', 'movie', 'was', 'bad']
[('The', 'DT'), ('movie', 'NN'), ('was', 'VBD'), ('bad', 'JJ')]
Text: The movie was bad, POS: 0.25, NEG: 0.75
```

"Ordinary" text classification

See previous lecture for details.

Sentiment analysis and NLTK

Combined with an arbitrary classifier

In [23]:

```
from nltk.corpus import subjectivity
```

In [24]:

```
n_instances = 100
subj_docs = [(sent, 'subj') for sent in subjectivity.sents(categories='subj')[:n
_instances]]
obj_docs = [(sent, 'obj') for sent in subjectivity.sents(categories='obj')[:n_in
stances]]
print(len(subj_docs), len(obj_docs))
```

```
100 100
```

In [25]:

```
print(subj_docs[0])
```

```
(['smart', 'and', 'alert', ',', 'thirteen', 'conversations', 'abou
t', 'one', 'thing', 'is', 'a', 'small', 'gem', '.'], 'subj')
```

In [26]:

```
print(obj_docs[0])
```

```
(['the', 'movie', 'begins', 'in', 'the', 'past', 'where', 'a', 'you
ng', 'boy', 'named', 'sam', 'attempts', 'to', 'save', 'celebi', 'fr
om', 'a', 'hunter', '.'], 'obj')
```

We split the data into a training and a test sets:

In [27]:

```
train_subj_docs = subj_docs[:80]
test_subj_docs = subj_docs[80:100]
train_obj_docs = obj_docs[:80]
test_obj_docs = obj_docs[80:100]
training_docs = train_subj_docs+train_obj_docs
testing_docs = test_subj_docs+test_obj_docs
```

In [28]:

```
from nltk.sentiment import SentimentAnalyzer
import nltk.sentiment.util as utils
```

```
/usr/local/lib/python3.5/dist-packages/nltk/twitter/__init__.py:20:
UserWarning: The twython library has not been installed. Some funct
ionality from the twitter package will not be available.
  warnings.warn("The twython library has not been installed. "
```

In [29]:

```
sentim_analyzer = SentimentAnalyzer()
all_words_neg = sentim_analyzer.all_words([utils.mark_negation(doc) for doc in t
raining_docs])
```

In [30]:

```
print(all_words_neg)
```

```
['smart', 'and', 'alert', ',', 'thirteen', 'conversations', 'abou
t', 'one', 'thing', 'is', 'a', 'small', 'gem', '.', 'color', ',',
 'musical', 'bounce', 'and', 'warm', 'seas', 'lapping', 'on', 'isla
nd', 'shores', '.', 'and', 'just', 'enough', 'science', 'to', 'sen
d', 'you', 'home', 'thinking', '.', 'it', 'is', 'not', 'a_NEG', 'ma
ss-market_NEG', 'entertainment_NEG', 'but_NEG', 'an_NEG', 'uncompro
mising_NEG', 'attempt_NEG', 'by_NEG', 'one_NEG', 'artist_NEG', 'to_
NEG', 'think_NEG', 'about_NEG', 'another_NEG', '.', 'a', 'light-hea
rted', 'french', 'film', 'about', 'the', 'spiritual', 'quest', 'o
f', 'a', 'fashion', 'model', 'seeking', 'peace', 'of', 'mind', 'whi
le', 'in', 'a', 'love', 'affair', 'with', 'a', 'veterinarian', 'wh
o', 'is', 'a', 'non-practicing', 'jew', '.', 'my', 'wife', 'is', 'a
n', 'actress', 'has', 'its', 'moments', 'in', 'looking', 'at', 'th
e', 'comic', 'effects', 'of', 'jealousy', '.', 'in', 'the', 'end',
 ',', 'though', ',', 'it', 'is', 'only', 'mildly', 'amusing', 'whe
n', 'it', 'could', 'have', 'been', 'so', 'much', 'more', '.', 'work
s', 'both', 'as', 'an', 'engaging', 'drama', 'and', 'an', 'incisiv
e', 'look', 'at', 'the', 'difficulties', 'facing', 'native', 'ameri
cans', '.', 'even', 'a', 'hardened', 'voyeur', 'would', 'require',
 'the', 'patience', 'of', 'job', 'to', 'get', 'through', 'this', 'i
nterminable', ',', 'shapeless', 'documentary', 'about', 'the', 'swi
nging', 'subculture', '.', 'when', 'perry', 'fists', 'a', 'bull',
 'at', 'the', 'moore', 'farm', ',', "it's", 'only', 'a', 'matter',
 'of', 'time', 'before', 'he', 'gets', 'the', 'upper', 'hand', 'i
n', 'matters', 'of', 'the', 'heart', '.', 'the', 'characters', '.',
 '.', '.', 'are', 'paper-thin', ',', 'and', 'their', 'personalitie
s', 'undergo', 'radical', 'changes', 'when', 'it', 'suits', 'the',
 'script', '.', 'the', 'script', 'is', 'a', 'tired', 'one', ',', 'w
ith', 'few', 'moments', 'of', 'joy', 'rising', 'above', 'the', 'sta
le', 'material', '.', 'the', 'bland', 'outweighs', 'the', 'nifty',
 ',', 'and', 'cletis', 'tout', 'never', 'becomes_NEG', 'the_NEG',
 'clever_NEG', 'crime_NEG', 'comedy_NEG', 'it_NEG', 'thinks_NEG',
 'it_NEG', 'is_NEG', '.', 'directed', 'by', 'david', 'twohy', 'wit
h', 'the', 'same', 'great', 'eye', 'for', 'eerie', 'understatemen
t', 'that', 'he', 'brought', 'to', 'pitch', 'black', '.', "it's",
 'a', 'very', 'tasteful', 'rock', 'and', 'roll', 'movie', '.', 'yo
u', 'could', 'put', 'it', 'on', 'a', 'coffee', 'table', 'anywhere',
 '.', 'provides', 'the', 'kind', 'of', "'laugh", "therapy'", 'i', 'n
eed', 'from', 'movie', 'comedies', '--', 'offbeat', 'humor', ',',
 'amusing', 'characters', ',', 'and', 'a', 'happy', 'ending', '.',
 'after', 'seeing', "'analyze", 'that', ',', "'", 'i', 'feel', 'bet
ter', 'already', '.', 'worth', 'a', 'look', 'by', 'those', 'on', 'b
oth', 'sides', 'of', 'the', 'issues', ',', 'if', 'only', 'for', 'th
e', 'perspective', 'it', 'offers', ',', 'one', 'the', 'public', 'ra
rely', 'sees', '.', 'watching', 'the', 'film', 'is', 'like', 'readi
ng', 'a', 'times', 'portrait', 'of', 'grief', 'that', 'keeps', 'shi
fting', 'focus', 'to', 'the', 'journalist', 'who', 'wrote', 'it',
 '.', 'despite', 'these', 'annoyances', ',', 'the', 'capable', 'cla
yburgh', 'and', 'tambor', 'really', 'do', 'a', 'great', 'job', 'o
f', 'anchoring', 'the', 'characters', 'in', 'the', 'emotional', 're
alities', 'of', 'middle', 'age', '.', "it's", 'a', 'good', 'thing',
 'that', 'woolly', 'mammoths', 'are', 'extinct', ',', 'because', 'th
is', 'movie', 'will', 'have', 'every', 'kid', 'in', 'the', 'schooly
ard', 'wishing', 'for', 'their', 'very', 'own', '.', 'preposterou
s', 'and', 'tedious', ',', 'sonny', 'is', 'spiked', 'with', 'uninte
ntional', 'laughter', 'that', ',', 'unfortunately', ',', 'occurs',
 'too', 'infrequently', 'to', 'make', 'the', 'film', 'even', 'a',
 'guilty', 'pleasure', '.', '4ever', 'has', 'the', 'same', 'sledgeh
ammer', 'appeal', 'as', 'pokemon', 'videos', ',', 'but', 'it', 'bre
athes', 'more', 'on', 'the', 'big', 'screen', 'and', 'induces', 'he
adaches', 'more', 'slowly', '.', 'si', 'el', 'siglo', 'xxi', 'neces
```

ita', 'de', 'héroes', ',', 'el', 'hombre', 'araña', 'parece', 'haber', 'llegado', 'para', 'quedarse', '.', "it's", 'hard', 'to', 'tell', 'with', 'all', 'the', 'crashing', 'and', 'banging', 'where', 'the', 'salesmanship', 'ends', 'and', 'the', 'movie', 'begins', '.', 'it', 'desperately', 'wants', 'to', 'be', 'a', 'wacky', ',', 'screwball', 'comedy', ',', 'but', 'the', 'most', 'screwy', 'thing', 'here', 'is', 'how', 'so', 'many', 'talented', 'people', 'were', 'convinced', 'to', 'waste', 'their', 'time', '.', 'writer/director', 'walter', 'hill', 'is', 'in', 'his', 'hypermasculine', 'element', 'here', ',', 'once', 'again', 'able', 'to', 'inject', 'some', 'real', 'vitality', 'and', 'even', 'art', 'into', 'a', 'pulpy', 'concept', 'that', ',', 'in', 'many', 'other', 'hands', 'would', 'be', 'completely', 'forgettable', '.', 'hill', 'looks', 'to', 'be', 'going', 'through', 'the', 'motions', ',', 'beginning', 'with', 'the', 'pale', 'script', '.', 'extremely', 'well', 'cast', ',', 'especially', 'in', 'the', 'large', 'number', 'of', 'supporting', 'roles', '.', 'a', 'chilling', 'tale', 'of', 'one', 'of', 'the', 'great', 'crimes', 'of', '20th', 'century', 'france', ':', 'the', 'murder', 'of', 'two', 'rich', 'women', 'by', 'their', 'servants', 'in', '1933', '.', 'a', 'dark', ',', 'quirky', 'road', 'movie', 'that', 'constantly', 'defies', 'expectation', '.', 'impostor', "doesn't", 'do_NEG', 'much_NEG', 'with_NEG', 'its_NEG', 'template_NEG', ',_NEG', 'despite_NEG', 'a_NEG', 'remarkably_NEG', 'strong_NEG', 'cast_NEG', '.', 'though', 'it', 'lacks', 'the', 'utter', 'authority', 'of', 'a', 'genre', 'gem', ',', "there's", 'a', 'certain', 'robustness', 'to', 'this', 'engaging', 'mix', 'of', 'love', 'and', 'bloodletting', '.', 'if', 'you', 'can', 'keep', 'your', 'eyes', 'open', 'amid', 'all', 'the', 'blood', 'and', 'gore', ',', "you'll", 'see', 'del', 'toro', 'has', 'brought', 'unexpected', 'gravity', 'to', 'blade', 'ii', '.', "there's", 'undeniable', 'enjoyment', 'to', 'be', 'had', 'from', 'films', 'crammed', 'with', 'movie', 'references', ',', 'but', 'the', 'fun', 'wears', 'thin', '--', 'then', 'out', '--', 'when', "there's", 'nothing', 'else_NEG', 'happening_NEG', '.', 'a', 'work', 'that', 'lacks', 'both', 'a', 'purpose', 'and', 'a', 'strong', 'pulse', '.', 'it', 'helps', 'that', 'lil', 'bow', 'wow', '.', ',', '.', 'tones', 'down', 'his', 'pint-sized', 'gangsta', 'act', 'to', 'play', 'someone', 'who', 'resembles', 'a', 'real', 'kid', '.', 'a', 'mimetic', 'approximation', 'of', 'better', 'films', 'like', 'contempt', 'and', '8', '1/2', '.', 'eastwood', 'is', 'an', 'icon', 'of', 'moviemaking', ',', 'one', 'of', 'the', 'best', 'actors', ',', 'directors', 'and', 'producers', 'around', ',', 'responsible', 'for', 'some', 'excellent', 'work', '.', 'but', 'even', 'a', 'hero', 'can', 'stumble', 'sometimes', '.', 'nair', "doesn't", 'use_NEG', '[monsoon_NEG', 'wedding]_NEG', 'to_NEG', 'lament_NEG', 'the_NEG', 'loss_NEG', 'of_NEG', 'culture_NEG', '.', 'instead', ',', 'she', 'sees', 'it', 'as', 'a', 'chance', 'to', 'revitalize', 'what', 'is', 'and', 'always', 'has', 'been', 'remarkable', 'about', 'clung-to', 'traditions', '.', 'stuffed', 'to', 'the', 'brim', 'with', 'ideas', ',', 'american', 'instigator', 'michael', "moore's", 'film', 'is', 'a', 'rambling', 'examination', 'of', 'american', 'gun', 'culture', 'that', 'uses', 'his', 'usual', 'modus', 'operandi', 'of', 'crucifixion', 'through', 'juxtaposition', '.', '.', '.', '.', 'a', 'joke', 'at', 'once', 'flaky', 'and', 'resonant', ',', 'lightweight', 'and', 'bizarrely', 'original', '.', "fontaine's", 'direction', ',', 'especially', 'her', 'agreeably', 'startling', 'use', 'of', 'close-ups', 'and', 'her', 'grace', 'with', 'a', 'moving', 'camera', ',', 'creates', 'sheerly', 'cinematic', 'appeal', '.', 'starts', 'slowly', ',', 'but', 'adrien', 'brody', 'Â\x96', 'in', 'the', 'title', 'role', 'Â\x96', 'helps', 'make', 'the', "film's", 'conclusion', 'powerful', 'and', 'satisfying', '.', 'a', 'refreshing', 'change', 'from', 'the', 'usual', 'whoopee-cushion', 'ef

fort', 'aimed', 'at', 'the', 'youth', 'market', '.', 'you', 'reall
y', 'have', 'to', 'salute', 'writer-director', 'haneke', '(', 'he',
'adapted', 'elfriede', "jelinek's", 'novel', ')', 'for', 'making',
'a', 'film', 'that', "isn't", 'nearly_NEG', 'as_NEG', 'graphic_NE
G', 'but_NEG', 'much_NEG', 'more_NEG', 'powerful_NEG', ',_NEG', 'br
utally_NEG', 'shocking_NEG', 'and_NEG', 'difficult_NEG', 'to_NEG',
'watch_NEG', '.', 'barry', 'convinces', 'us', "he's", 'a', 'danger
ous', ',', 'secretly', 'unhinged', 'guy', 'who', 'could', 'easily',
'have', 'killed', 'a', 'president', 'because', 'it', 'made', 'him',
'feel', 'powerful', '.', 'a', 'distant', ',', 'even', 'sterile',
',', 'yet', 'compulsively', 'watchable', 'look', 'at', 'the', 'sor
did', 'life', 'of', "hogan's", 'heroes', 'star', 'bob', 'crane',
'.', "there's", 'no', 'disguising_NEG', 'this_NEG', 'as_NEG', 'one
_NEG', 'of_NEG', 'the_NEG', 'worst_NEG', 'films_NEG', 'of_NEG', 'th
e_NEG', 'summer_NEG', '.', 'or', 'for', 'the', 'year', ',', 'for',
'that', 'matter', '.', 'director', 'dan', 'verete', 'uses', 'his',
'camera', 'as', 'the', 'metaphoric', 'needle', ',', 'and', 'his',
'cast', 'in', 'each', 'segment', 'as', 'his', 'thread', ',', 'to',
'form', 'a', 'sweeping', 'tapestry', 'of', 'mis-explanation', 'an
d', 'contention', '.', 'waydowntown', 'just', 'like', 'most', 'larg
e', 'cities', ',', "isn't", 'somewhere_NEG', "you'll_NEG", 'want_NE
G', 'to_NEG', 'spend_NEG', 'the_NEG', 'rest_NEG', 'of_NEG', 'your_N
EG', 'life_NEG', ',_NEG', 'but_NEG', 'it_NEG', 'sure_NEG', 'is_NE
G', 'a_NEG', 'fun_NEG', 'place_NEG', 'to_NEG', 'visit_NEG', 'for_NE
G', 'a_NEG', 'while_NEG', '.', 'the', 'acting', 'in', 'pauline', 'a
nd', 'paulette', 'is', 'good', 'all', 'round', ',', 'but', 'what',
'really', 'sets', 'the', 'film', 'apart', 'is', "debrauwer's", 're
fusal', 'to', 'push', 'the', 'easy', 'emotional', 'buttons', '.',
'the', 'only', 'young', 'people', 'who', 'possibly', 'will', 'enjo
y', 'it', 'are', 'infants', '.', '.', '.', 'who', 'might', 'be', 'd
istracted', 'by', 'the', "movie's", 'quick', 'movements', 'and', 's
ounds', '.', "there's", 'lots', 'of', 'cool', 'stuff', 'packed', 'i
nto', "espn's", 'ultimate', 'x', '.', 'it', 'gets', 'old', 'quickl
y', '.', 'watch', 'barbershop', 'again', 'if', "you're", 'in', 'nee
d', 'of', 'a', 'cube', 'fix--this', "isn't", 'worth_NEG', 'sitting_
NEG', 'through_NEG', '.', 'harland', 'williams', 'is', 'so', 'funn
y', 'in', 'drag', 'he', 'should', 'consider', 'permanent', 'sex-rea
ssignment', '.', 'the', "film's", 'images', 'give', 'a', 'backbon
e', 'to', 'the', 'company', 'and', 'provide', 'an', 'emotional', 'e
dge', 'to', 'its', 'ultimate', 'demise', '.', "it's", 'the', 'kin
d', 'of', 'film', 'where', 'the', 'villain', 'even', 'gives', 'an',
'evil', 'look', 'for', 'his', 'passport', 'photo', '.', 'how', 'ca
n', 'you', 'resist', 'that', '?', 'plotless', 'collection', 'of',
'moronic', 'stunts', 'is', 'by', 'far', 'the', 'worst', 'movie',
'of', 'the', 'year', '.', 'a', 'broad', ',', 'melodramatic', 'estr
ogen', 'opera', "that's", 'pretty', 'toxic', 'in', 'its', 'own', 'r
ight', '.', 'just', 'a', 'kiss', 'wants', 'desperately', 'to', 'com
e', 'off', 'as', 'a', 'fanciful', 'film', 'about', 'the', 'typica
l', 'problems', 'of', 'average', 'people', '.', 'but', 'it', 'is',
'set', 'in', 'a', 'world', 'that', 'is', 'very', ',', 'very', 'fa
r', 'from', 'the', 'one', 'most', 'of', 'us', 'inhabit', '.', 'thi
s', 'is', 'a', 'movie', 'where', 'the', 'most', 'notable', 'observa
tion', 'is', 'how', 'long', "you've", 'been', 'sitting', 'still',
'.', 'with', 'a', 'romantic', 'comedy', 'plotline', 'straight', 'f
rom', 'the', 'ages', ',', 'this', 'cinderella', 'story', "doesn't",
'have_NEG', 'a_NEG', 'single_NEG', 'surprise_NEG', 'up_NEG', 'its_N
EG', 'sleeve_NEG', '.', 'but', 'it', 'does', 'somehow', 'manage',
'to', 'get', 'you', 'under', 'its', 'spell', '.', 'a', 'charming',
'trifle', '.', '.', '.', 'a', 'welcome', 'return', 'to', 'jocular',
'form', '.', "it's", 'not', 'difficult_NEG', 'to_NEG', 'spot_NEG',
'the_NEG', 'culprit_NEG', 'early-on_NEG', 'in_NEG', 'this_NEG', 'p

redictable_NEG', 'thriller_NEG', '.', 'without', 'the', 'dark', 'sp
ookiness', 'of', 'crystal', 'lake', 'camp', ',', 'the', 'horror',
'concept', 'completely', 'loses', 'its', 'creepy', 'menace', '.',
"there's", 'suspension', 'of', 'disbelief', 'and', 'then', "ther
e's", 'bad', 'screenwriting', '.', '.', '.', 'this', 'film', 'pack
s', 'a', 'wallop', 'of', 'the', 'latter', '.', 'little', 'more', 't
han', 'a', 'stylish', 'exercise', 'in', 'revisionism', 'whose', 'po
int', '.', '.', '.', 'is', 'no', 'doubt_NEG', 'true_NEG', ',_NEG',
'but_NEG', 'serves_NEG', 'as_NEG', 'a_NEG', 'rather_NEG', 'thin_NE
G', 'moral_NEG', 'to_NEG', 'such_NEG', 'a_NEG', 'knowing_NEG', 'fab
le_NEG', '.', 'anyone', 'who', 'can', 'count', 'to', 'five', '(',
'the', "film's", 'target', 'market', '?', ')', 'can', 'see', 'wher
e', 'this', 'dumbed-down', 'concoction', 'is', 'going', '.', 'ever
y', 'defiantly', 'over-the-top', 'action', 'scene', '--', 'from',
'high-stakes', 'car', 'chases', 'to', 'fearsome', 'drug', 'busts',
'--', 'seizes', 'your', 'adrenal', 'gland', 'and', 'milks', 'it',
'like', 'an', 'epileptic', 'farmer', '.', 'kosminsky', '.', '.',
'.', 'puts', 'enough', 'salt', 'into', 'the', 'wounds', 'of', 'th
e', 'tortured', 'and', 'self-conscious', 'material', 'to', 'make',
'it', 'sting', '.', 'a', 'sobering', 'and', 'powerful', 'documenta
ry', 'about', 'the', 'most', 'severe', 'kind', 'of', 'personal', 'l
oss', ':', 'rejection', 'by', "one's", 'mother', '.', 'if', 'the',
'story', 'lacks', 'bite', ',', 'the', 'performances', 'are', 'neve
r', 'less_NEG', 'than_NEG', 'affectionate_NEG', '.', 'a', 'deftly',
'entertaining', 'film', ',', 'smartly', 'played', 'and', 'smartly',
'directed', '.', 'ice', 'age', 'is', 'the', 'first', 'computer-gene
rated', 'feature', 'cartoon', 'to', 'feel', 'like', 'other', 'movie
s', ',', 'and', 'that', 'makes', 'for', 'some', 'glacial', 'pacin
g', 'early', 'on', '.', 'i', 'like', 'my', 'christmas', 'movies',
'with', 'more', 'elves', 'and', 'snow', 'and', 'less', 'pimps', 'a
nd', "ho's", '.', "ferrara's", 'strongest', 'and', 'most', 'touchin
g', 'movie', 'of', 'recent', 'years', '.', 'skip', 'work', 'to', 's
ee', 'it', 'at', 'the', 'first', 'opportunity', '.', 'both', 'the',
'film', 'and', "nachtwey's", 'photos', 'hammer', 'home', 'the', 'gr
im', 'reality', 'of', 'the', "world's", 'gutters', 'and', 'battlefi
elds', ',', 'and', 'will', 'make', 'you', 'question', 'what', "'new
s'", 'really', 'is', '.', 'so', 'relentlessly', 'wholesome', 'it',
'made', 'me', 'want', 'to', 'swipe', 'something', '.', 'shyamala
n', 'offers', 'copious', 'hints', 'along', 'the', 'way', '--', 'myr
iad', 'signs', ',', 'if', 'you', 'will', '--', 'that', 'beneath',
'the', 'familiar', ',', 'funny', 'surface', 'is', 'a', 'far', 'big
ger', ',', 'far', 'more', 'meaningful', 'story', 'than', 'one', 'i
n', 'which', 'little', 'green', 'men', 'come', 'to', 'earth', 'fo
r', 'harvesting', 'purposes', '.', 'that', "'alabama'", 'manages',
'to', 'be', 'pleasant', 'in', 'spite', 'of', 'its', 'predictabilit
y', 'and', 'occasional', 'slowness', 'is', 'due', 'primarily', 't
o', 'the', 'perkiness', 'of', 'witherspoon', '(', 'who', 'is', 'alw
ays', 'a', 'joy', 'to', 'watch', ',', 'even', 'when', 'her', 'mater
ial', 'is', 'not', 'first-rate_NEG', ')_NEG', '.', '.', '.', 'again
st', 'all', 'odds', 'in', 'heaven', 'and', 'hell', ',', 'it', 'cree
ped', 'me', 'out', 'just', 'fine', '.', 'the', 'movie', 'begins',
'in', 'the', 'past', 'where', 'a', 'young', 'boy', 'named', 'sam',
'attempts', 'to', 'save', 'celebi', 'from', 'a', 'hunter', '.', 'em
erging', 'from', 'the', 'human', 'psyche', 'and', 'showing', 'chara
cteristics', 'of', 'abstract', 'expressionism', ',', 'minimalism',
'and', 'russian', 'constructivism', ',', 'graffiti', 'removal', 'h
as', 'secured', 'its', 'place', 'in', 'the', 'history', 'of', 'mode
rn', 'art', 'while', 'being', 'created', 'by', 'artists', 'who', 'a
re', 'unconscious', 'of', 'their', 'artistic', 'achievements', '.',
'spurning', 'her', "mother's", 'insistence', 'that', 'she', 'get',
'on', 'with', 'her', 'life', ',', 'mary', 'is', 'thrown', 'out',

'of', 'the', 'house', ',', 'rejected', 'by', 'joe', ',', 'and', 'e
xpelled', 'from', 'school', 'as', 'she', 'grows', 'larger', 'with',
'child', '.', 'amitabh', "can't", 'believe_NEG', 'the_NEG', 'board_
NEG', 'of_NEG', 'directors_NEG', 'and_NEG', 'his_NEG', 'mind_NEG',
 'is_NEG', 'filled_NEG', 'with_NEG', 'revenge_NEG', 'and_NEG', 'wha
t_NEG', 'better_NEG', 'revenge_NEG', 'than_NEG', 'robbing_NEG', 'th
e_NEG', 'bank_NEG', 'himself_NEG', ',_NEG', 'ironic_NEG', 'as_NEG',
'it_NEG', 'may_NEG', 'sound_NEG', '.', 'she', ',', 'among', 'other
s', 'excentricities', ',', 'talks', 'to', 'a', 'small', 'rock',
 ',', 'gertrude', ',', 'like', 'if', 'she', 'was', 'alive', '.', 't
his', 'gives', 'the', 'girls', 'a', 'fair', 'chance', 'of', 'pullin
g', 'the', 'wool', 'over', 'their', 'eyes', 'using', 'their', 'sexi
ness', 'to', 'poach', 'any', 'last', 'vestige', 'of', 'common', 'se
nse', 'the', 'dons', 'might', 'have', 'had', '.', 'styled', 'afte
r', "vh1's", '"', 'behind', 'the', 'music', ',', '"', 'this', 'mock
umentary', 'profiles', 'the', 'rise', 'and', 'fall', 'of', 'an', 'i
nternet', 'startup', ',', 'called', 'icevan', '.', 'com', '.', 'bei
ng', 'blue', 'is', 'not', 'his_NEG', 'only_NEG', 'predicament_NEG',
';', 'he', 'also', 'lacks', 'the', 'ability', 'to', 'outwardly', 'e
xpress', 'his', 'emotions', '.', 'the', "killer's", 'clues', 'are',
'a', 'perversion', 'of', 'biblical', 'punishments', 'for', 'sins',
 ':', 'stoning', ',', 'burning', ',', 'decapitation', '.', 'david',
'is', 'a', 'painter', 'with', "painter's", 'block', 'who', 'takes',
'a', 'job', 'as', 'a', 'waiter', 'to', 'get', 'some', 'inspiratio
n', '.', 'women', 'craved', 'him', 'and', 'men', 'wanted', 'to', 'b
e', 'him', '.', 'set', 'on', 'an', 'island', 'off', 'the', 'coast',
'of', 'florida', ',', 'a', 'techno', 'rave', 'party', 'attracts',
 'a', 'diverse', 'group', 'of', 'college', 'coeds', 'and', 'a', 'co
ast', 'guard', 'officer', '.', 'lesson', 'to', 'be', 'learned',
 ':', 'never', ',_NEG', 'never_NEG', 'mess_NEG', 'with_NEG', '"_NE
G', 'the_NEG', 'gay_NEG', 'mafia_NEG', '!', '"', 'the', 'theme', 'o
f', 'the', 'film', 'simultaneously', 'addresses', 'the', 'similarit
ies', 'between', 'the', 'two', 'factions', 'of', 'law', 'and', 'cri
me', 'while', 'revealing', 'the', 'similarities', 'between', 'the',
'two', 'brothers', '.', "they're", 'jewish', ',', "they're", 'grand
mothers', ',', 'and', "they're", 'lesbians', '.', 'but', "he's", 'n
eglecting', 'his', 'work', ',', 'carping', 'at', 'his', 'mom', ',',
'and', 'behaving', 'badly', 'toward', 'his', 'loyal', 'friend', 'bo
bbi', '.', 'with', 'all', 'this', 'going', 'on', ',', "gerry's", 'e
stranged', 'wife', 'margaret', 'is', 'worried', 'for', 'her', "daug
hter's", 'safety', 'and', 'finds', 'herself', 'another', 'target',
 'in', 'the', 'race', 'to', 'find', 'the', 'code', '.', 'valento',
 'feels', 'the', 'heat', 'and', 'turns', 'the', 'table', ':', 'he',
'makes', 'the', 'dupe', 'into', 'one', 'of', 'his', 'own', 'and',
 'rubs', 'the', "da's", 'nose', 'in', 'it', '.', 'saigon', ',', '19
52', ',', 'a', 'beautiful', ',', 'exotic', ',', 'and', 'mysteriou
s', 'city', 'caught', 'in', 'the', 'grips', 'of', 'the', 'vietnames
e', 'war', 'of', 'liberation', 'from', 'the', 'french', 'colonial',
'powers', '.', 'deep', 'in', 'the', 'northwest', ',', 'there', 'i
s', 'a', 'lone', 'ranch', 'tucked', 'away', 'so', 'purposefully',
 ',', 'the', 'only', 'way', 'to', 'find', 'it', 'is', 'by', 'not',
 'looking_NEG', '.', 'as', 'a', 'young', 'teenager', ',', 'he', 'fi
nds', 'out', 'who', 'his', 'father', 'is', '.', 'in', 'life', ',',
 "there's", 'silver', ',', 'and', "there's", 'lead', ',', 'says',
 'rikki', 'ortega', ',', 'as', 'he', 'moves', 'to', 'be', 'king',
 'of', 'the', 'street', 'in', '"', '&#193', ';', 'nglio', ',', '"',
'l', '.', 'a', '.', "'s", 'east', 'side', '.', 'all', 'these', 'gam
es', 'of', 'chasing', ',', 'rejecting', 'and', 'seducing', 'are',
 'played', 'out', 'in', 'an', 'economically', 'and', 'spiritually',
'depressed', 'hong', 'kong', ',', 'without', 'much', 'gusto', '.',
 'television', 'made', 'him', 'famous', ',', 'but', 'his', 'bigges

t', 'hits', 'happened', 'off', 'screen', '.', 'jordan', 'is', 'a',
'mom', 'who', 'is', 'on', 'a', 'life', 'long', 'search', 'for', 't
rue', 'faith', 'as', 'she', 'tries', 'to', 'protect', 'her', 'onl
y', 'child', 'from', 'what', 'she', 'believes', 'is', 'injustice',
'.', "'bloody", "magic'", 'is', 'the', 'story', 'of', 'zack', ',',
'an', 'eleven', 'year', 'old', 'school', 'boy', ',', "who's", 'fami
ly', 'is', 'visited', 'by', 'three', 'debt', 'collectors', '.', 'ho
wever', ',', 'jane', ',', "wendy's", '12-year-old', 'daughter',
',', 'sees', 'it', 'all', 'as', 'make', 'believe', 'and', 'refuse
s', 'to', 'believe', 'in', 'the', 'tales', '.', 'called', '"', 'a
n', 'elegant', 'documentary', '"', 'by', 'sundance', 'and', '"', 'e
loquent', 'and', 'deeply', 'moving', '"', 'by', 'the', 'la', 'time
s', ',', 'toyo', 'miyatake', ':', 'infinite', 'shades', 'of', 'gra
y', 'is', 'a', 'penetrating', 'portrait', 'of', 'this', "photograph
er's", 'search', 'for', 'truth', 'and', 'beauty', 'in', 'a', 'worl
d', 'of', 'impermanence', '.', 'straight', 'up', ':', 'helicopter
s', 'in', 'action', 'will', 'take', 'audiences', 'on', 'a', 'serie
s', 'of', 'aerial', 'adventures', '.', 'a', 'lapp', 'woman', 'ann
i', 'gives', 'a', 'shelter', 'to', 'both', 'of', 'them', 'at', 'he
r', 'farm', '.', 'it', 'also', 'touches', 'on', 'the', 'encroachmen
t', 'of', 'christianity', 'brought', 'by', 'the', 'missionaries',
',', 'which', 'is', 'at', 'odds', 'with', "mepe's", 'tribal', 'an
d', 'traditional', 'roots', '.', 'a', 'set', 'of', 'grisly', 'murde
rs', 'brings', 'fbi', 'agent', 'will', 'graham', '(', 'norton',
')', 'out', 'of', 'retirement', 'and', 'puts', 'him', 'in', 'searc
h', 'of', 'an', 'atrocious', 'killer', '(', 'fiennes', ')', "wh
o's", 'driven', 'by', 'the', 'image', 'of', 'a', 'painting', '.',
'soon', ',', 'the', 'team', 'begins', 'to', 'suspect', 'that', "kn
owles'", 'main', 'objective', 'is', 'actually', 'to', 'recover', 't
he', 'prototype', 'of', 'a', 'dna', 'testing', 'machine', 'called',
'the', 'huxley', 'project', ',', 'which', 'his', 'company', 'has',
'spent', 'years', 'and', 'millions', 'of', 'dollars', 'developin
g', '.', 'his', 'mother', 'persuades', 'a', 'renowned', 'entomologi
st', 'to', 'take', 'them', 'on', 'a', 'trip', 'to', 'the', 'jungl
e', 'to', 'search', 'for', 'the', 'butterfly', ',', 'leading', 't
o', 'an', 'adventure', 'that', 'will', 'transform', 'their', 'live
s', '.', 'with', 'a', 'rare', 'gift', 'for', 'melding', 'subjectivi
ty', 'with', 'biographical', 'facts', ',', 'm&#225', ';', 'rton',
'brings', 'sabina', 'spielrein', 'back', 'to', 'life', ',', 'bod
y', 'and', 'soul', '.', 'seeking', 'a', 'mental', 'escape', ',', 's
imone', 'begins', 'to', 'tune', 'into', "what's", 'happening', 'wit
h', 'the', 'other', 'couples', 'around', 'her', '.', 'the', 'beatl
e', 'fan', 'is', 'a', 'drama', 'about', 'albert', ',', 'a', 'psycho
tic', 'prisoner', 'who', 'is', 'a', 'devoted', 'fan', 'of', 'john',
'lennon', 'and', 'the', 'beatles', '.', 'then', ',', 'in', '1974',
',', 'something', 'incredible', 'happened', '-', 'they', 'fell',
'in', 'love', '.', 'on', 'her', 'deathbed', ',', 'candice', 'klei
n', 'accidentally', 'asks', 'the', 'question', ',', '"', 'what', 'd
id', 'i', 'ever', 'do', 'to', 'deserve', 'this', '?', '"', 'shot',
'as', 'a', '"', 'behind-the-scenes', '"', 'look', 'at', 'how',
'a', 'fictional', 'kung-fu', 'movie', 'is', 'made', ',', 'the', 'f
ilm', 'is', 'basically', 'a', 'movie', 'about', 'the', 'making', 'o
f', 'a', 'movie', '.', 'before', 'the', 'investigation', 'ends',
',', "we've", 'met', 'boyfriends', ',', 'a', 'drug', 'dealer',
',', "alicia's", 'mom', ',', "hadley's", 'dad', ',', 'nurses',
',', 'doctors', ',', 'and', 'an', 'orderly', '.', 'but', 'what',
'exactly', 'is', 'good', '&#38', ';', 'what', 'exactly', 'is', 'ev
il', '?', 'the', 'movie', 'takes', 'place', 'in', 'mexico', ',', '2
002', '(', 'based', 'on', 'a', 'story', 'from', 'the', "1800's",
')', '.', "rainone's", 'love', 'affair', 'with', 'singing', 'sensa
tion', 'kelly', 'mcguire', 'whom', 'he', 'discovered', 'and', 'hi

s', 'near', 'demise', 'by', 'the', 'hands', 'of', 'his', 'own', 'prot&#233', ';', 'g&#233', ';', 'vincent', 'riccola', 'is', 'the', 'juice', 'that', 'fuels', 'this', 'roller', 'coaster', 'ride', 'through', 'two', 'debauchery-filled', 'decades', 'of', 'greed', ',', 'sex', ',', 'drugs', 'and', 'rock', 'and', 'roll', '.', 'trapped', 'in', 'a', 'lovers', 'triangle', 'and', 'ruthless', 'game', 'of', 'lust', ',', 'greed', ',', 'and', 'betrayal', 'we', 'follow', 'one', "woman's", 'hypnotic', 'journey', 'to', 'discover', 'her', 'true', 'self', '.', '.', '.', 'decent-but-dull', 'dek', 'loves', 'shirley', ',', 'so', 'much', 'so', 'that', 'he', 'humiliates', 'her', 'by', 'proposing', 'without', 'warning', 'on', 'national', 'television', '.', 'since', 'all', 'her', 'architects', 'are', 'either', 'busy', 'otherwise', 'or', 'too', 'conservative', 'in', 'style', ',', 'this', 'ambivalent', 'honour', 'falls', 'to', 'numerobis', '.', "there's", 'a', 'story', 'that', 'goes', 'around', 'the', 'town', 'of', 'darkness', 'falls', 'about', 'her', ',', 'and', "she's", 'called', 'the', 'tooth', 'fairy', '.', 'a', 'strange', 'film', 'employing', 'old', 'home', 'movies', 'and', 'newly', 'shot', 'footage', 'in', 'an', 'effort', 'to', 'expose', 'one', 'hungarian', 'family', 'and', 'their', 'mutiple', 'problems', 'from', 'the', '1940s', 'to', 'current', '.', 'matsumoto', 'and', 'sawako', 'were', 'a', 'happy', 'couple', ',', 'but', 'meddling', 'parents', 'and', 'chase', 'for', 'success', 'push', 'the', 'boy', 'to', 'a', 'tragic', 'choice', '.', 'elvis', 'teams', 'up', 'with', 'jack', '(', 'ossie', 'davis', ')', ',', 'a', 'fellow', 'nursing', 'home', 'resident', 'who', 'thinks', 'that', 'he', 'is', 'actually', 'president', 'john', 'f', '.', 'kennedy', ',', 'and', 'the', 'two', 'valiant', 'old', 'codgers', 'sally', 'forth', 'to', 'battle', 'an', 'evil', 'egyptian', 'entity', 'who', 'has', 'chosen', 'their', 'long-term', 'care', 'facility', 'as', 'his', 'happy', 'hunting', 'grounds', '.', 'everywhere', 'he', 'goes', 'he', 'is', 'plagued', 'by', 'cats', 'and', 'when', 'by', 'chance', 'he', 'meets', 'carol', 'on', 'a', 'lonely', 'highway', 'they', 'must', 'begin', 'a', 'journey', ',', 'avoiding', 'the', 'mysterious', 'private', 'detective', 'mr', 'barlow', 'and', 'the', 'terrifying', 'inhuman', 'creature', 'jack', ',', 'to', 'uncover', 'the', 'dark', 'truth', 'to', "charlie's", 'life', '.', 'used', 'to', 'living', 'in', 'poverty', ',', 'it', 'seemed', 'impossible', 'for', 'cass', 'and', 'cary', 'to', 'have', 'a', 'comfortable', 'and', 'bountiful', 'life', 'until', 'doqa', 'gracia', 'comes', 'to', 'bring', 'them', 'into', 'her', 'home', '.', 'the', 'story', 'of', 'a', 'normal', 'family', 'in', 'which', 'come', 'out', 'the', 'dreams', 'of', 'those', 'who', 'have', 'lost', 'their', 'possibilities', 'and', 'of', 'those', 'who', 'want', 'to', 'realize', 'them', '.', 'with', 'grit', 'and', 'determination', 'molly', 'guides', 'the', 'girls', 'on', 'an', 'epic', 'journey', ',', 'one', 'step', 'ahead', 'of', 'the', 'authorities', ',', 'over', '1', ',', '500', 'miles', 'of', "australia's", 'outback', 'in', 'search', 'of', 'the', 'rabbit-proof', 'fence', 'that', 'bisects', 'the', 'continent', 'and', 'will', 'lead', 'them', 'home', '.', 'they', 'nevertherless', 'feel', 'responsible', 'to', 'protect', 'the', 'flag', 'until', "monday's", 'ceremony', '.', 'the', 'doctor', 'realizes', "it''s", 'a', 'love', 'virus', 'so', 'he', 'advises', 'him', 'to', 'woo', 'the', 'girl', 'somehow', ',', 'not', 'realizing_NEG', 'that_NEG', 'munnabhai_NEG', 'has_NEG', 'fallen_NEG', 'for_NEG', 'none_NEG', 'other_NEG', 'than_NEG', 'his_NEG', 'own_NEG', 'younger_NEG', 'sister_NEG', 'komal_NEG', '.', 'however', ',', 'he', 'can', 'only', 'inhabit', 'the', 'body', 'of', 'a', 'child', 'for', 'a', 'short', 'time', '.', 'years', 'later', ',', 'on', 'a', 'hunting', 'trip', 'in', 'the', 'maine', 'woods', ',', 'they', 'are', 'overtaken', 'by', 'a', 'blizzard', ',', 'a', 'vicious', 'storm', 'in', 'which', 'something', 'much', 'more', 'ominous', 'moves', '.',

'consequently', ',', 'what', 'begins', 'as', 'an', 'enthusiastic',
'road', 'trip', 'is', 'soon', 'plagued', 'with', 'mysterious', 'roa
dside', 'obstacles', 'that', 'threaten', 'to', 'prevent', 'the', 'b
oys', 'from', 'ever', 'making', 'it', 'to', 'the', 'competition',
'.', 'when', 'she', 'gets', 'into', 'trouble', 'with', 'the', 'pol
ice', 'simon', 'represses', 'his', 'death', 'wish', 'and', 'decide
s', 'to', 'help', 'her', 'out', '.', 'chon', 'then', 'travels', 't
o', 'new', 'york', 'for', 'roy', "o'bannon", '(', 'owen', 'wilson',
')', '.', 'not', 'only_NEG', 'must_NEG', 'they_NEG', 'overcome_NE
G', 'an_NEG', 'enemy_NEG', 'adept_NEG', 'at_NEG', 'technological_NE
G', 'witchery_NEG', ',_NEG', 'they_NEG', 'must_NEG', 'overcome_NE
G', 'the_NEG', 'curse_NEG', 'that_NEG', 'marks_NEG', 'their_NEG',
'destiny_NEG', '.', 'their', 'life', 'becomes', 'less', 'ordinar
y', 'when', 'they', 'encounter', 'herb', ',', 'a', 'mischievous',
'and', 'malevolent', 'geek', '.', 'they', 'call', 'themselves',
'd', '.', 'e', '.', 'b', '.', 's', '.', 'the', 'story', 'starts',
'with', 'hakimi', ',', 'a', 'freelance', 'scriptwriter', 'who', 'i
s', 'on', 'his', 'way', 'to', 'send', 'his', '7-year-old', 'daughte
r', ',', 'imelda', ',', 'to', 'his', "ex-wife's", 'house', 'on', 'o
ne', 'stormy', 'night', '.', 'they', 'follow', 'leads', ',', 'infor
mants', 'turn', 'up', 'dead', ',', "nick's", 'wife', 'is', 'unhapp
y', "he's", 'back', 'on', 'the', 'street', ',', "henry's", 'protect
ive', 'of', 'the', 'dead', "cop's", 'wife', '.', 'the', 'second',
'part', 'of', 'aki', 'kaurism&#228', ';', "ki's", '"', 'finland',
'"', 'trilogy', ',', 'the', 'film', 'follows', 'a', 'man', 'who',
'arrives', 'in', 'helsinki', 'and', 'gets', 'beaten', 'up', 'so',
'severely', 'he', 'develops', 'amnesia', '.', 'soon', 'after', 'th
e', 'accident', ',', 'the', 'survivors', 'of', 'the', 'accident',
'start', 'dropping', 'like', 'flies', '.', 'edgar', 'becomes', 'in
tent', 'on', 'laying', 'down', 'some', 'new', 'rules', 'and', 'turn
ing', 'his', 'coddled', 'son', 'into', 'someone', 'who', 'can', 'ta
ke', 'on', 'the', 'family', 'farm', '.', 'bound', 'by', 'a', 'lon
g', 'red', 'cord', ',', 'a', 'young', 'couple', 'wanders', 'in', 's
earch', 'of', 'something', 'they', 'have', 'forgotten', '.', 'sudde
n', 'fame', 'does', 'not', 'seem_NEG', 'to_NEG', 'solve_NEG', 'ever
ything_NEG', ',_NEG', 'however_NEG', '.', 'with', 'no', 'option_NE
G', ',_NEG', 'joe_NEG', 'and_NEG', 'katsuragi_NEG', 'must_NEG', 'us
e_NEG', 'their_NEG', 'martial_NEG', 'arts_NEG', 'skills_NEG', 'to_N
EG', 'fight_NEG', 'in_NEG', 'the_NEG', 'muscle_NEG', 'dome_NEG',
'.', 'drawing', 'from', 'his', 'time', 'with', 'the', 'kids', ',',
'he', 'writes', 'a', 'story', 'about', 'children', 'who', "don't",
'want_NEG', 'to_NEG', 'grow_NEG', 'up_NEG', '.', "she's", 'an', 'a
rtist', ',', 'but', "hasn't", 'picked_NEG', 'up_NEG', 'a_NEG', 'bru
sh_NEG', 'in_NEG', 'a_NEG', 'year_NEG', '.', 'when', 'his', 'daught
er', 'is', 'kidnapped', 'and', 'held', 'in', 'exchange', 'for', 'pr
iceless', 'diamonds', ',', 'the', 'leader', 'of', 'a', 'crew', 'o
f', 'highly', 'skilled', 'urban', 'thieves', '(', 'dmx', ')', 'forg
es', 'an', 'unlikely', 'alliance', 'with', 'a', 'taiwanese', 'intel
ligence', 'officer', '(', 'jet', 'li', ')', 'to', 'rescue', 'her',
'.', '"', 'garmento', '"', 'tells', 'the', 'other', 'side', 'of',
'the', 'story', ',', 'with', 'a', 'dark', 'and', 'satirical', 'loo
k', 'at', 'new', "york's", 'wholesale', 'garment', 'industry', ',',
'where', 'shady', 'deals', 'are', 'made', 'for', 'a', 'buck', 'an
d', 'ruthlessness', 'is', 'a', 'prerequisite', 'for', 'career', 'su
ccess', '.', 'rudy', 'yellowshirt', 'is', 'an', 'investigator', 'wi
th', 'the', 'police', 'department', 'and', 'witnesses', 'firsthan
d', 'the', 'painful', 'legacy', 'of', 'indian', 'existence', '.',
'journeying', 'from', 'the', 'vietnam', 'war', 'to', 'pulaski',
',', 'tennessee', 'and', 'back', 'to', 'vietnam', ',', 'daughter',
'from', 'danang', 'tensely', 'unfolds', 'as', 'cultural', 'differen
ces', 'and', 'the', 'years', 'of', 'separation', 'take', 'their',

```
     'toll', 'in', 'a', 'riveting', 'film', 'about', 'longing', 'and',
     'the', 'personal', 'legacy', 'of', 'war', '.', 'each', 'weekend',
     'they', 'come', 'back', 'with', 'nothing', 'but_NEG', 'a_NEG', 'ha
ngover_NEG', '.']
```

In the simplest case we use unigrams, but we want to take the negative labels into account:

In [31]:

```
unigram_feats = sentim_analyzer.unigram_word_feats(all_words_neg, min_freq=4)
print(len(unigram_feats))
sentim_analyzer.add_feat_extractor(utils.extract_unigram_feats, unigrams=unigram
_feats)
```

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We use the unigrams to build `feature-values` pairs:

In [32]:

```
training_set = sentim_analyzer.apply_features(training_docs)
test_set = sentim_analyzer.apply_features(testing_docs)
```

In [33]:

```
print(training_set[0])
```

```
({'contains(them)': False, 'contains(be)': False, 'contains(all)':
 False, 'contains(who)': False, 'contains(out)': False, 'contains(f
rom)': False, 'contains(film)': False, 'contains(both)': False, 'co
ntains(to)': False, 'contains(have)': False, 'contains(of)': False,
'contains(,_NEG)': False, 'contains(on)': False, 'contains(even)':
 False, 'contains(what)': False, 'contains(you)': False, 'contains
(but)': False, 'contains(two)': False, 'contains(more)': False, 'co
ntains(.)': True, 'contains(;)': False, 'contains(look)': False, 'c
ontains(and)': True, 'contains(as)': False, 'contains(:)': False,
 'contains(the_NEG)': False, 'contains(the)': False, 'contains())':
False, 'contains(for)': False, 'contains(of_NEG)': False, 'contains
(home)': False, 'contains(which)': False, 'contains(to_NEG)': Fals
e, 'contains(only)': False, 'contains(so)': False, 'contains(wit
h)': False, 'contains(most)': False, 'contains(life)': False, 'cont
ains(by)': False, 'contains(a_NEG)': False, 'contains(her)': False,
'contains(if)': False, 'contains(like)': False, 'contains(are)': Fa
lse, 'contains(him)': False, 'contains(one)': True, 'contains(at)':
False, 'contains(search)': False, 'contains(")': False, 'contains(n
ot)': False, 'contains(when)': False, 'contains(where)': False, 'co
ntains(()': False, 'contains(that)': False, 'contains(his)': False,
'contains(,)': True, 'contains(begins)': False, 'contains(they)': F
alse, 'contains(about)': True, "contains(it's)": False, 'contains(a
n)': False, 'contains(make)': False, 'contains(he)': False, 'contai
ns(in)': False, 'contains(story)': False, 'contains(movie)': False,
'contains(made)': False, "contains(there's)": False, 'contains(lov
e)': False, 'contains(--)': False, 'contains(can)': False, 'contain
s(has)': False, 'contains(into)': False, 'contains(their)': False,
 'contains(this)': False, 'contains(a)': True, 'contains(will)': Fa
lse, 'contains(but_NEG)': False, 'contains(its)': False, 'contains
(it)': False, 'contains(she)': False, 'contains(is)': True, 'contai
ns(some)': False}, 'subj')
```

Now we can train the classifier:

In [34]:

```python
from nltk.classify import NaiveBayesClassifier

trainer = NaiveBayesClassifier.train
classifier = sentim_analyzer.train(trainer, training_set)

for key,value in sorted(sentim_analyzer.evaluate(test_set).items()):
    print('{0}: {1}'.format(key, value))
```

```
Training classifier
Evaluating NaiveBayesClassifier results...
Accuracy: 0.8
F-measure [obj]: 0.8
F-measure [subj]: 0.8
Precision [obj]: 0.8
Precision [subj]: 0.8
Recall [obj]: 0.8
Recall [subj]: 0.8
```

Vader

Other possibility is to use VADER, http://comp.social.gatech.edu/papers/icwsm14.vader.hutto.pdf (http://comp.social.gatech.edu/papers/icwsm14.vader.hutto.pdf)

In [35]:

```python
from nltk.sentiment.vader import SentimentIntensityAnalyzer
```

In [36]:

```
sentences = ["VADER is smart, handsome, and funny.", # positive sentence example
             "VADER is smart, handsome, and funny!", # punctuation emphasis handl
ed correctly (sentiment intensity adjusted)
             "VADER is very smart, handsome, and funny.",  # booster words handl
ed correctly (sentiment intensity adjusted)
             "VADER is VERY SMART, handsome, and FUNNY.",  # emphasis for ALLCAP
S handled
             "VADER is VERY SMART, handsome, and FUNNY!!!",# combination of sign
als - VADER appropriately adjusts intensity
             "VADER is VERY SMART, really handsome, and INCREDIBLY FUNNY!!!",# b
ooster words & punctuation make this close to ceiling for score
             "The book was good.",         # positive sentence
             "The book was kind of good.", # qualified positive sentence is hand
led correctly (intensity adjusted)
             "The plot was good, but the characters are uncompelling and the dia
log is not great.", # mixed negation sentence
             "A really bad, horrible book.",       # negative sentence with boos
ter words
             "At least it isn't a horrible book.", # negated negative sentence w
ith contraction
             ":) and :D",       # emoticons handled
             "",                # an empty string is correctly handled
             "Today sux",       #  negative slang handled
             "Today sux!",      #  negative slang with punctuation emphasis handle
d
             "Today SUX!",      #  negative slang with capitalization emphasis
             "Today kinda sux! But I'll get by, lol" # mixed sentiment example w
ith slang and constrastive conjunction "but"
]
```

In [37]:

```
paragraph = "It was one of the worst movies I've seen, despite good reviews. \
Unbelievably bad acting!! Poor direction. VERY poor production. \
The movie was bad. Very bad movie. VERY bad movie. VERY BAD movie. VERY BAD movi
e!"
```

In [38]:

```
from nltk import tokenize
lines_list = tokenize.sent_tokenize(paragraph)
sentences.extend(lines_list)
```

In [39]:

```python
sid = SentimentIntensityAnalyzer()
for sentence in sentences:
    print(sentence)
    ss = sid.polarity_scores(sentence)
    for k in sorted(ss):
        print('{0}: {1}, '.format(k, ss[k]))
    print(" ")
```

```
VADER is smart, handsome, and funny.
compound: 0.8316,
neg: 0.0,
neu: 0.254,
pos: 0.746,

VADER is smart, handsome, and funny!
compound: 0.8439,
neg: 0.0,
neu: 0.248,
pos: 0.752,

VADER is very smart, handsome, and funny.
compound: 0.8545,
neg: 0.0,
neu: 0.299,
pos: 0.701,

VADER is VERY SMART, handsome, and FUNNY.
compound: 0.9227,
neg: 0.0,
neu: 0.246,
pos: 0.754,

VADER is VERY SMART, handsome, and FUNNY!!!
compound: 0.9342,
neg: 0.0,
neu: 0.233,
pos: 0.767,

VADER is VERY SMART, really handsome, and INCREDIBLY FUNNY!!!
compound: 0.9469,
neg: 0.0,
neu: 0.294,
pos: 0.706,

The book was good.
compound: 0.4404,
neg: 0.0,
neu: 0.508,
pos: 0.492,

The book was kind of good.
compound: 0.3832,
neg: 0.0,
neu: 0.657,
pos: 0.343,

The plot was good, but the characters are uncompelling and the dial
og is not great.
compound: -0.7042,
neg: 0.327,
neu: 0.579,
pos: 0.094,

A really bad, horrible book.
compound: -0.8211,
neg: 0.791,
neu: 0.209,
pos: 0.0,
```

```
At least it isn't a horrible book.
compound: 0.431,
neg: 0.0,
neu: 0.637,
pos: 0.363,

:) and :D
compound: 0.7925,
neg: 0.0,
neu: 0.124,
pos: 0.876,


compound: 0.0,
neg: 0.0,
neu: 0.0,
pos: 0.0,

Today sux
compound: -0.3612,
neg: 0.714,
neu: 0.286,
pos: 0.0,

Today sux!
compound: -0.4199,
neg: 0.736,
neu: 0.264,
pos: 0.0,

Today SUX!
compound: -0.5461,
neg: 0.779,
neu: 0.221,
pos: 0.0,

Today kinda sux! But I'll get by, lol
compound: 0.2228,
neg: 0.195,
neu: 0.531,
pos: 0.274,

It was one of the worst movies I've seen, despite good reviews.
compound: -0.7584,
neg: 0.394,
neu: 0.606,
pos: 0.0,

Unbelievably bad acting!!
compound: -0.6572,
neg: 0.686,
neu: 0.314,
pos: 0.0,

Poor direction.
compound: -0.4767,
neg: 0.756,
neu: 0.244,
pos: 0.0,

VERY poor production.
```

```
compound: -0.6281,
neg: 0.674,
neu: 0.326,
pos: 0.0,

The movie was bad.
compound: -0.5423,
neg: 0.538,
neu: 0.462,
pos: 0.0,

Very bad movie.
compound: -0.5849,
neg: 0.655,
neu: 0.345,
pos: 0.0,

VERY bad movie.
compound: -0.6732,
neg: 0.694,
neu: 0.306,
pos: 0.0,

VERY BAD movie.
compound: -0.7398,
neg: 0.724,
neu: 0.276,
pos: 0.0,

VERY BAD movie!
compound: -0.7616,
neg: 0.735,
neu: 0.265,
pos: 0.0,
```

In [ ]: