**Exercise 8: Web page mining**

**Assignment Specification**

**Description**: This program will extract data from a web page and perform some analysis.

**Input**: No user provided input. Data will be collected from any news website.

**Output**:

Print the headlines

Generate a wordcloud for the words/bigrams in the headlines

Calculate the sentiment

Write an interpretation of the results

See details in the Procedure.

**Procedure**:

1. Import the needed libraries
2. Define the target URL and open it
3. Load the page into your “soup” (if you are using Beautifulsoup)
4. Create an empty list to host the list of words from the headlines and then populate it
5. Transform the story heading/headlines into a string first and a list then
6. Remove from the list you created all the non-semantically relevant words (the “stopwords”), using the attached file “stopwords\_en.txt” for the list of stopwords. Feel free to update the list, adding words that may be too frequent and – in your opinion – not too relevant (explaining the reason why you want to remove them). Filter out non-alphabetical elements and perform all the other preliminary cleaning on the text that you may require
7. Looping into the list of clean headlines, print the headlines with the highest and lowest sentiment (3 each)
8. Extract bigram, generating a separate list. Consider bigrams 2 words appearing together more than 2 times in the whole text. Bigrams will be like “word1\_word2”, meaning you will create a new string composed by the 2 words, separated by an underscore (“\_”)
9. Merge the list of single words with the list of bigrams
10. Create a wordcloud with the resulting list. If wordcloud is not available on your computer, either use an online option (see previous assignments) or calculate the sentiment as in previous assignments
11. Write your interpretation in a separate word/pdf document (3+ pages). Interpretation must include the wordcloud, the list of bigrams and comments/interpretations for each one of them. It must also include a full interpretation of the entire analysis
12. Submit the py and the word/pdf files.

Please note:

* The code MUST be well commented for each functional group of lines (e.g.: a basic loop is a group; a function needs to be commented as entire function and inside it for its functional groups). Comments need to explain **clearly** what the statement is doing. **Lack or not enough comments will lead to 30% less total points. Non original comments will be considered null**
* The interpretation document **has to be original**. **Non original comments will be considered null.** **Document counts for 50% of the entire grade.**