

## Importing Essential Libraries

```
1  # import needed libraries
2  import os # needed for directory access
3  import nltk
4  nltk.download('punkt')
5  from nltk.corpus import stopwords
6  nltk.download('stopwords')
7  from nltk.tokenize import RegexpTokenizer
8
9  # get and set your working directory
10 os.getcwd()
11 os.chdir('/Users/nimbi/Desktop/Bilal Spring 22/AIT 580/Assignment 9')
12 os.getcwd()
13
```

IPython 7.29.0 -- An enhanced Interactive Python.

```
In [1]: import os # needed for directory access
...: import nltk
...: nltk.download('punkt')
...: from nltk.corpus import stopwords
...: nltk.download('stopwords')
...: from nltk.tokenize import RegexpTokenizer
...:
...: # get and set your working directory
...: os.getcwd()
...: os.chdir('/Users/nimbi/Desktop/Bilal Spring 22/AIT 580/
Assignment 9')
...: os.getcwd()
[nltk_data] Downloading package punkt to
[nltk_data] C:\Users\nimbi\AppData\Roaming\nltk_data...
[nltk_data] Package punkt is already up-to-date!
[nltk_data] Downloading package stopwords to
[nltk_data] C:\Users\nimbi\AppData\Roaming\nltk_data...
[nltk_data] Package stopwords is already up-to-date!
Out[1]: 'C:\\Users\\nimbi\\Desktop\\Bilal Spring 22\\AIT 580\\
Assignment 9'

In [2]:
```

## Opening, Reading and Displaying the Fox News News Input File

```
14 # open, read, and display the input file for the Fox News Article
15 textfile_foxnews = open('Brexit_foxnews.txt', mode='r')
16 allwords_foxnews = textfile_foxnews.read()
17 print(allwords_foxnews)
18
```

### Output

```
In [2]: textfile_foxnews = open('Brexit_foxnews.txt', mode='r')
...: allwords_foxnews = textfile_foxnews.read()
...: print(allwords_foxnews)
```

British Prime Minister Boris Johnson's historic visit to war-torn Kyiv, Ukraine, on Saturday showed a growing foreign policy confidence on the world stage by one of the United States' closest allies. Observers note that this new swagger comes in a post-Brexit Britain where its leadership in rallying the world behind Ukraine has stood out. Brexit was the name given to a movement that inspired the electorate to vote to leave the European Union (EU) in a 2016 referendum. Voters were fed up with the endless bureaucratic demands placed on the country and felt that its rules had been chipping away at British sovereignty. And while BRITAIN has always had control over its foreign policy, observers note there is a difference since leaving the EU. Nile Gardiner, the director of the Heritage Foundation's Margaret Thatcher Center for Freedom, told Fox News Digital that British foreign policy has been more focused in the post-Brexit era. "The fact that Great Britain is no longer shackled to the European Union means that the British government is able to operate far more effectively than it would have done as part of the supranational European Union." Gardiner says an example of this new confidence could be witnessed in its role leading the world in supporting Ukraine. "The



## Extracting the Words and Converting all To Lower Case for Fox News File

```
19 # extract the words, convert all to lower case
20 tokenizer = RegexpTokenizer(r'\w+')
21 tokens_foxnews = tokenizer.tokenize(allwords_foxnews.lower())
22 print(tokens_foxnews)
23
```

### Output

```
In [3]: tokenizer = RegexpTokenizer(r'\w+')
...: tokens_foxnews =
tokenizer.tokenize(allwords_foxnews.lower())
...: print(tokens_foxnews)
['british', 'prime', 'minister', 'boris', 'johnsonâ', 's',
'historic', 'visit', 'to', 'war', 'torn', 'kyiv', 'ukraine', 'on',
'saturday', 'showed', 'a', 'growing', 'foreign', 'policy',
'confidence', 'on', 'the', 'world', 'stage', 'by', 'one', 'of',
'the', 'united', 'statesâ', 'closest', 'allies', 'observers',
'note', 'that', 'this', 'new', 'swagger', 'comes', 'in', 'a',
'post', 'brexit', 'britain', 'where', 'its', 'leadership', 'in',
'rallying', 'the', 'world', 'behind', 'ukraine', 'has', 'stood',
'out', 'brexit', 'was', 'the', 'name', 'given', 'to', 'a',
'movement', 'that', 'inspired', 'the', 'electorate', 'to', 'vote',
'to', 'leave', 'the', 'european', 'union', 'eu', 'in', 'a', '2016',
'referendum', 'voters', 'were', 'fed', 'up', 'with', 'the',
'endless', 'bureaucratic', 'demands', 'placed', 'on', 'the',
'country', 'and', 'felt', 'that', 'its', 'rules', 'had', 'been',
'chipping', 'away', 'at', 'british', 'sovereignty', 'and', 'while',
'britain', 'has', 'always', 'had', 'control', 'over', 'its',
'foreign', 'policy', 'observers', 'note', 'there', 'is', 'a',
'difference', 'since', 'leaving', 'the', 'eu', 'nile', 'gardiner',
'the', 'director', 'of', 'the', 'heritage', 'foundationâ', 's',
'margaret', 'thatcher', 'center', 'for', 'freedom', 'told', 'fox',
```

## Recreating Token List Without Stop Words for Fox News Text File

```
25 # recreate token list without stopwords for the Fox News article
26
27 tokens_foxnews = [token for token in tokens_foxnews if token not in stopwords.words('english')]
28 print(tokens_foxnews)
29
```

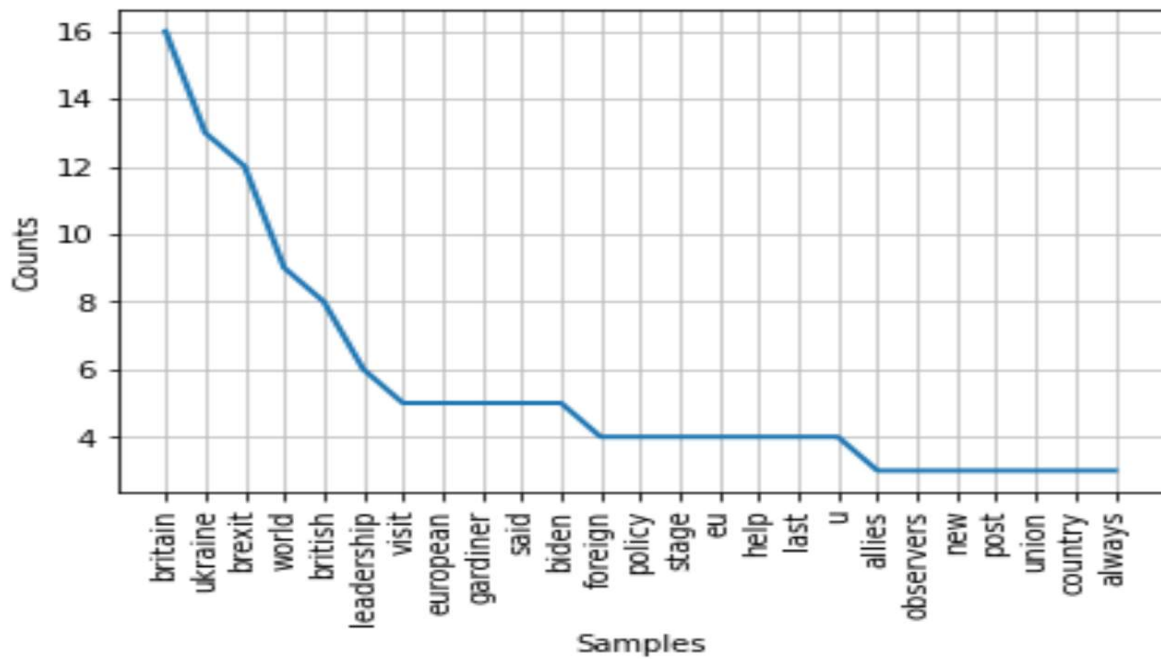
### Output

```
In [4]: tokens_foxnews = [token for token in tokens_foxnews if
token not in stopwords.words('english')]
...: print(tokens_foxnews)
['british', 'prime', 'minister', 'boris', 'johnsonâ', 'historic',
'visit', 'war', 'torn', 'kyiv', 'ukraine', 'saturday', 'showed',
'growing', 'foreign', 'policy', 'confidence', 'world', 'stage',
'one', 'united', 'statesâ', 'closest', 'allies', 'observers',
'note', 'new', 'swagger', 'comes', 'post', 'brexit', 'britain',
'leadership', 'rallying', 'world', 'behind', 'ukraine', 'stood',
'brexit', 'name', 'given', 'movement', 'inspired', 'electorate',
'vote', 'leave', 'european', 'union', 'eu', '2016', 'referendum',
'voters', 'fed', 'endless', 'bureaucratic', 'demands', 'placed',
'country', 'felt', 'rules', 'chipping', 'away', 'british',
'sovereignty', 'britain', 'always', 'control', 'foreign', 'policy',
'observers', 'note', 'difference', 'since', 'leaving', 'eu',
'nile', 'gardiner', 'director', 'heritage', 'foundationâ',
'margaret', 'thatcher', 'center', 'freedom', 'told', 'fox', 'news',
'digital', 'british', 'foreign', 'policy', 'focused', 'post',
'brexit', 'era', 'fact', 'great', 'britain', 'longer', 'shackled',
'european', 'union', 'means', 'british', 'government', 'able',
'operate', 'far', 'effectively', 'would', 'done', 'part',
'supranational', 'european', 'union', 'gardiner', 'says',
'example', 'new', 'confidence', 'could', 'witnessed', 'role',
'leading', 'world', 'supporting', 'ukraine', 'britain', 'country',
'world', 'forefront', 'supporting', 'ukrainian', 'people', 'face',
```

## Displaying the Graph, Word Frequency and Few Specific Words for Fox News Text File

```
30 # display and graph the word frequencies, plus a few specific words for the Fox News article
31 freq_dist = nltk.FreqDist(tokens_foxnews)
32 freq_dist
33 freq_dist['Brexit']
34 freq_dist['Ukraine']
35
36 print(freq_dist)
37 print(freq_dist.most_common(25))
38 freq_dist.plot(25)
```

### Output





```
In [5]: freq_dist = nltk.FreqDist(tokens_foxnews)
....: freq_dist
....: freq_dist['Brexit']
....: freq_dist['Ukraine']
....:
....: print(freq_dist)
....: print(freq_dist.most_common(25))
....: freq_dist.plot(25)
<FreqDist with 321 samples and 519 outcomes>
[('britain', 16), ('ukraine', 13), ('brexit', 12), ('world', 9),
 ('british', 8), ('leadership', 6), ('visit', 5), ('european', 5),
 ('gardiner', 5), ('said', 5), ('biden', 5), ('foreign', 4),
 ('policy', 4), ('stage', 4), ('eu', 4), ('help', 4), ('last', 4),
 ('u', 4), ('allies', 3), ('observers', 3), ('new', 3), ('post', 3),
 ('union', 3), ('country', 3), ('always', 3)]
```

## Opening, Reading and Displaying The Independent News Input File

```
14 # open, read, and display the input file for The Independent News Article
15 textfile_theindependent = open('Brexit_theindependent.txt', mode='r', encoding='utf-8')
16 allwords_theindependent = textfile_theindependent.read()
17 print(allwords_theindependent)
18
```

## Output

```
In [9]:
....: textfile_theindependent = open('Brexit_theindependent.txt',
mode='r', encoding='utf-8')
....: allwords_theindependent = textfile_theindependent.read()
....: print(allwords_theindependent)
Boris Johnson has compared Ukrainian resistance to Russia to
Britain voting to leave the European Union, in highly controversial
comments at the Conservative spring conference. The prime minister
also became the latest in a string of ministers to suggest that the
seriousness of the situation in Ukraine should bring a halt to
debates in Britain over supposedly “woke” issues like preferred
pronouns and the removal of statues linked to slavery. Mr Johnson
told activists in Blackpool that Vladimir Putin’s invasion of
Ukraine was motivated by a fear that the example of freedom and
democracy in a neighbouring country would inspire Russians to
revolt against his rule. And, speaking to an audience which
included Ukrainian ambassador Vadym Prystaiko, he tried to draw a
parallel with the UK vote to leave the EU in 2016, as well as the
enthusiastic take-up of vaccines against Covid-19. “I know that
it’s the instinct of the people of this country, like the people of
Ukraine, to choose freedom every time,” said Mr Johnson. “I can
```

## Extracting the Words and Converting all To Lower Case for The Independent News File

```
19 # extract the words, convert all to lower case for The Independent News Article
20 tokenizer = RegexpTokenizer(r'\w+')
21 tokens_theindependent = tokenizer.tokenize(allwords_theindependent.lower())
22 print(tokens_theindependent)
23
```

### Output

```
In [10]: tokenizer = RegexpTokenizer(r'\w+')
...: tokens_theindependent =
tokenizer.tokenize(allwords_theindependent.lower())
...: print(tokens_theindependent)
['boris', 'johnson', 'has', 'compared', 'ukrainian', 'resistance',
'to', 'russia', 'to', 'britain', 'voting', 'to', 'leave', 'the',
'european', 'union', 'in', 'highly', 'controversial', 'comments',
'at', 'the', 'conservative', 'spring', 'conference', 'the',
'prime', 'minister', 'also', 'became', 'the', 'latest', 'in', 'a',
'string', 'of', 'ministers', 'to', 'suggest', 'that', 'the',
'seriousness', 'of', 'the', 'situation', 'in', 'ukraine', 'should',
'bring', 'a', 'halt', 'to', 'debates', 'in', 'britain', 'over',
'supposedly', 'woke', 'issues', 'like', 'preferred', 'pronouns',
'and', 'the', 'removal', 'of', 'statues', 'linked', 'to',
'slavery', 'mr', 'johnson', 'told', 'activists', 'in', 'blackpool',
'that', 'vladimir', 'putin', 's', 'invasion', 'of', 'ukraine',
'was', 'motivated', 'by', 'a', 'fear', 'that', 'the', 'example',
'of', 'freedom', 'and', 'democracy', 'in', 'a', 'neighbouring',
'country', 'would', 'inspire', 'russians', 'to', 'revolt',
'against', 'his', 'rule', 'and', 'speaking', 'to', 'an',
'audience', 'which', 'included', 'ukrainian', 'ambassador',
'vadym', 'prystaiko', 'he', 'tried', 'to', 'draw', 'a', 'parallel',
'with', 'the', 'uk', 'vote', 'to', 'leave', 'the', 'eu', 'in',
```



## Recreating Token List Without Stop Words for The Independent News Text File

```
25 # recreate token list without stopwords for The Independent News Article
26 tokens_theindependent = [token for token in tokens_theindependent if token not in stopwords.]
27 print(tokens_theindependent)
28
```

### Output

```
In [11]: tokens_theindependent = [token for token in
tokens_theindependent if token not in stopwords.words('english')]
...: print(tokens_theindependent)
['boris', 'johnson', 'compared', 'ukrainian', 'resistance',
'russia', 'britain', 'voting', 'leave', 'european', 'union',
'highly', 'controversial', 'comments', 'conservative', 'spring',
'conference', 'prime', 'minister', 'also', 'became', 'latest',
'string', 'ministers', 'suggest', 'seriousness', 'situation',
'ukraine', 'bring', 'halt', 'debates', 'britain', 'supposedly',
'woke', 'issues', 'like', 'preferred', 'pronouns', 'removal',
'statues', 'linked', 'slavery', 'mr', 'johnson', 'told',
'activists', 'blackpool', 'vladimir', 'putin', 'invasion',
'ukraine', 'motivated', 'fear', 'example', 'freedom', 'democracy',
'neighbouring', 'country', 'would', 'inspire', 'russians',
'revolt', 'rule', 'speaking', 'audience', 'included', 'ukrainian',
'ambassador', 'vadym', 'prystaiko', 'tried', 'draw', 'parallel',
'uk', 'vote', 'leave', 'eu', '2016', 'well', 'enthusiastic',
'take', 'vaccines', 'covid', '19', 'know', 'instinct', 'people',
'country', 'like', 'people', 'ukraine', 'choose', 'freedom',
'every', 'time', 'said', 'mr', 'johnson', 'give', 'couple',
'famous', 'recent', 'examples', 'british', 'people', 'voted',
'brexit', 'large', 'numbers', 'believe', 'remotely', 'hostile',
```

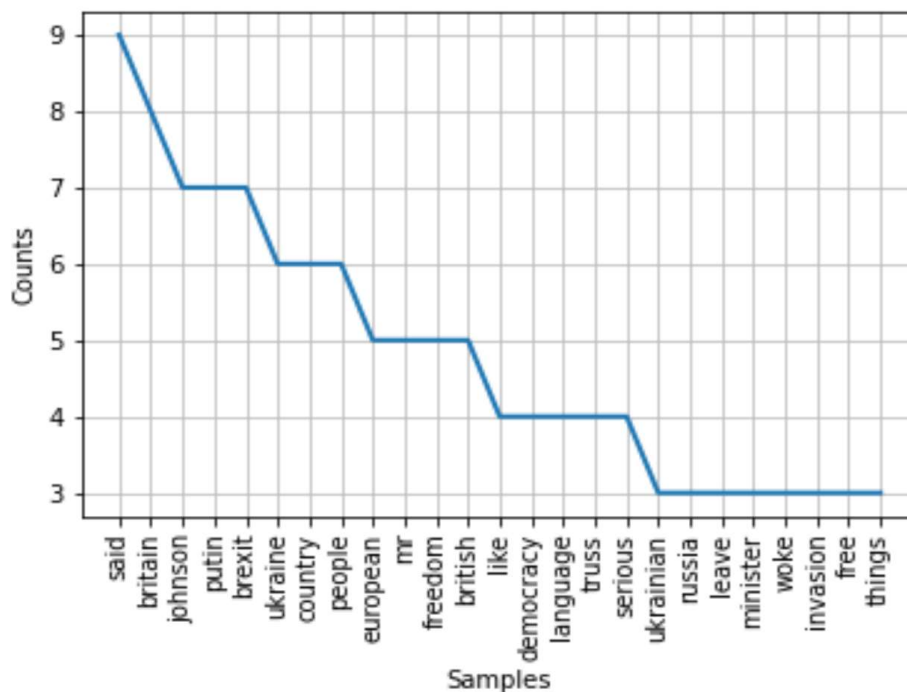


## Displaying the Graph, Word Frequency and Few Specific Words for Fox News Text File

```
# display and graph the word frequencies, plus a few specific words for The Independent News
freq_dist = nltk.FreqDist(tokens_theindependent)
freq_dist
freq_dist['Brexit']
freq_dist['Ukraine']

print(freq_dist)
print(freq_dist.most_common(25))
freq_dist.plot(25)
```

### Output



```
In [12]: freq_dist = nltk.FreqDist(tokens_theindependent)
...: freq_dist
...: freq_dist['Brexit']
...: freq_dist['Ukraine']
...:
...: print(freq_dist)
...: print(freq_dist.most_common(25))
...: freq_dist.plot(25)
<FreqDist with 374 samples and 540 outcomes>
[('said', 9), ('britain', 8), ('johnson', 7), ('putin', 7),
 ('brexit', 7), ('ukraine', 6), ('country', 6), ('people', 6),
 ('european', 5), ('mr', 5), ('freedom', 5), ('british', 5),
 ('like', 4), ('democracy', 4), ('language', 4), ('truss', 4),
 ('serious', 4), ('ukrainian', 3), ('russia', 3), ('leave', 3),
 ('minister', 3), ('woke', 3), ('invasion', 3), ('free', 3),
 ('things', 3)]
```

## **Difference between the two articles**

While both the articles discuss how Brexit correlates with the war in Ukraine, there are a couple of difference in the content of the two articles. There were 410 stop words in the Fox news article as compared to 515 stop words in The Independent news article.

Britain and Ukraine are the two most frequently used words in the Fox news article (16 times and 13 times respectively) indicating that the article was highly focused around the impact of Ukraine war on Brexit. The Independent article, however, primarily focused on the U.K internal politics more in comparison to the conflict in Ukraine. This is evident from the fact that the articles most frequent words include Said (9 times), Britain (8 times), and Johnson (7 times). Ukraine was used 6 times hinting that it was a subtopic of the discussion contrary to the article heading. The word 'said' shows up as the most frequently used word because the article references a lot of quotes.



## References

- Evansky, B. (2022, April 11). Brexit passes first major test in Ukraine War, observers say. Fox News. Retrieved April 12, 2022, from <https://www.foxnews.com/world/brexit-foreign-policy-ukraine-war-russia-major-test>
- Independent Digital News and Media. (2022, March 19). Boris Johnson compares Ukrainian resistance to invasion to UK vote for Brexit. The Independent. Retrieved April 12, 2022, from <https://www.independent.co.uk/news/uk/politics/boris-johnson-ukraine-russia-brexit-b2039615.html>