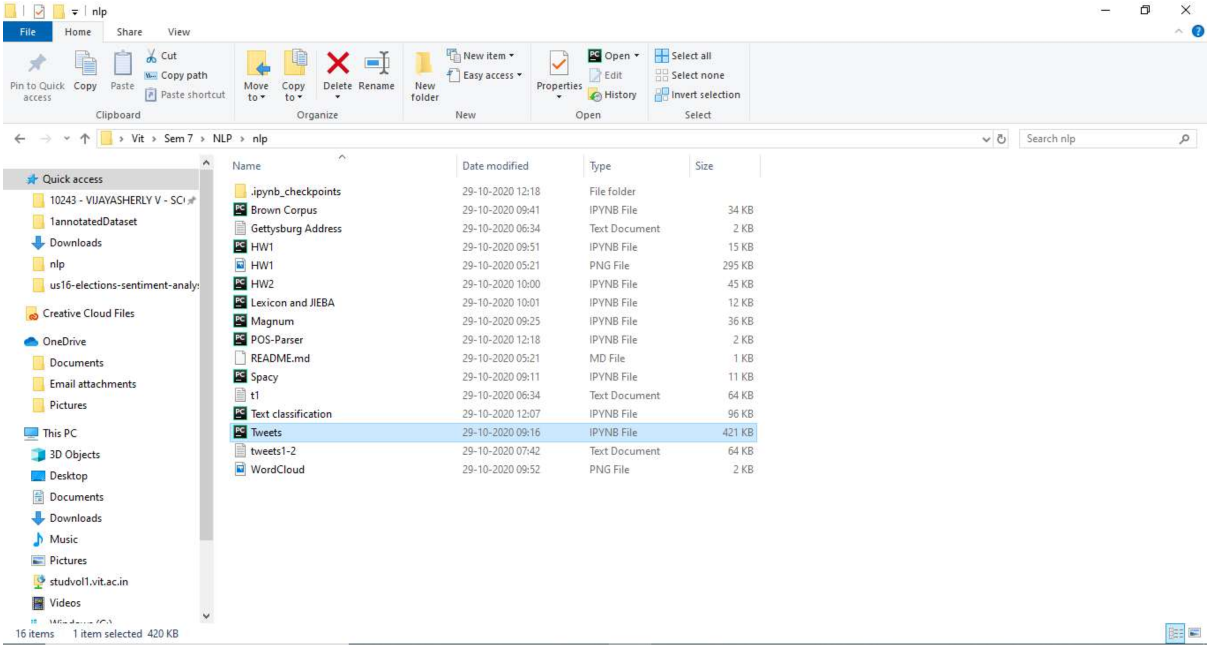
Github Repository Link of hands on-https://github.com/naman1107/17BCE0127_CSE4022

File Directory where the assignments were created

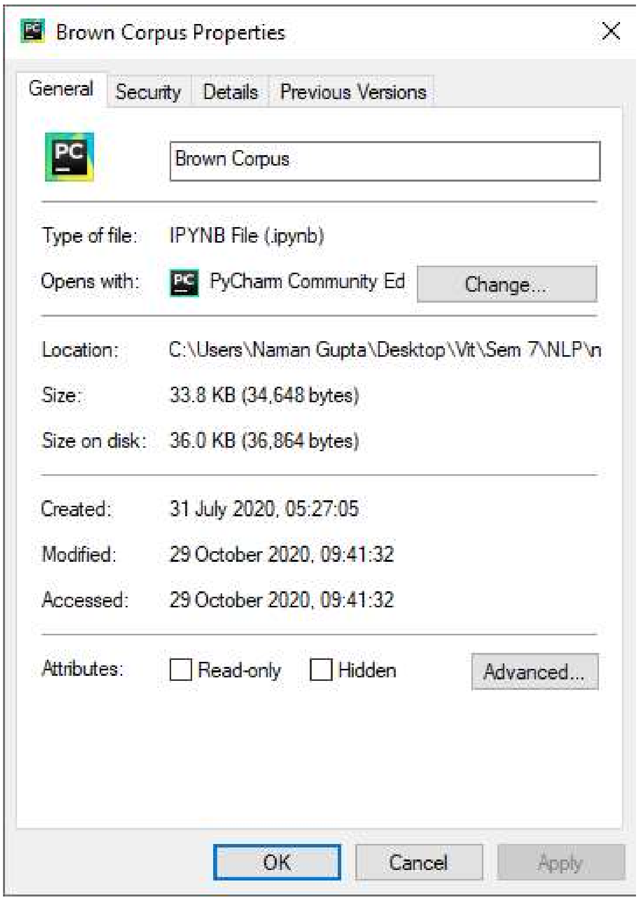


Vit › Sem 7 › NLP › nlp

Name	Date modified	Type	Size
.ipynb_checkpoints	29-10-2020 12:18	File folder	
Brown Corpus	29-10-2020 09:41	IPYNB File	34 KB
Gettysburg Address	29-10-2020 06:34	Text Document	2 KB
HW1	29-10-2020 09:51	IPYNB File	15 KB
HW1	29-10-2020 05:21	PNG File	295 KB
HW2	29-10-2020 10:00	IPYNB File	45 KB
Lexicon and JIEBA	29-10-2020 10:01	IPYNB File	12 KB
Magnum	29-10-2020 09:25	IPYNB File	36 KB
POS-Parser	29-10-2020 12:18	IPYNB File	2 KB
README.md	29-10-2020 05:21	MD File	1 KB
Spacy	29-10-2020 09:11	IPYNB File	11 KB
t1	29-10-2020 06:34	Text Document	64 KB
Text classification	29-10-2020 12:07	IPYNB File	96 KB
Tweets	29-10-2020 09:16	IPYNB File	421 KB
tweets1-2	29-10-2020 07:42	Text Document	64 KB
WordCloud	29-10-2020 09:52	PNG File	2 KB

16 items 1 item selected 420 KB

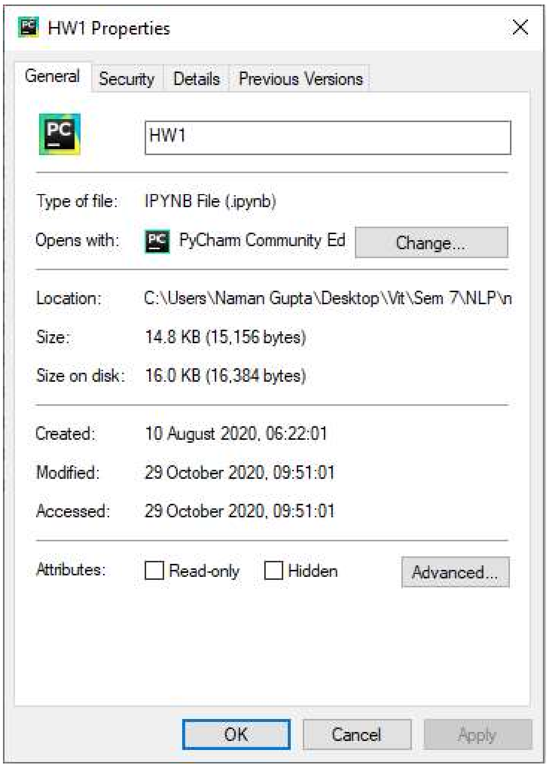
Creation date of Brown Corpus



Brown Corpus

Type of file:	IPYNB File (.ipynb)
Opens with:	PyCharm Community Ed
Location:	C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n
Size:	33.8 KB (34,648 bytes)
Size on disk:	36.0 KB (36,864 bytes)
Created:	31 July 2020, 05:27:05
Modified:	29 October 2020, 09:41:32
Accessed:	29 October 2020, 09:41:32
Attributes:	□ Read-only □ Hidden

Creation date of Homework1



HW1

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 14.8 KB (15,156 bytes)

Size on disk: 16.0 KB (16,384 bytes)

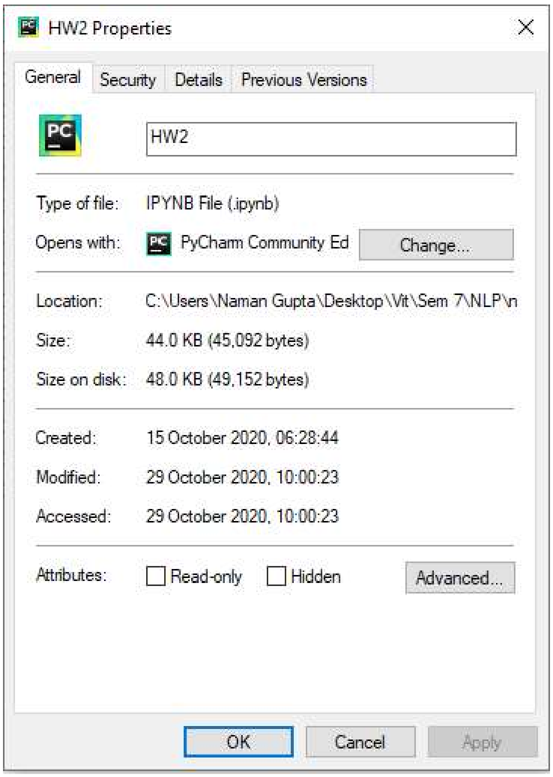
Created: 10 August 2020, 06:22:01

Modified: 29 October 2020, 09:51:01

Accessed: 29 October 2020, 09:51:01

Attributes: □ Read-only □ Hidden

Creation date of Homework 2



HW2

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 44.0 KB (45,092 bytes)

Size on disk: 48.0 KB (49,152 bytes)

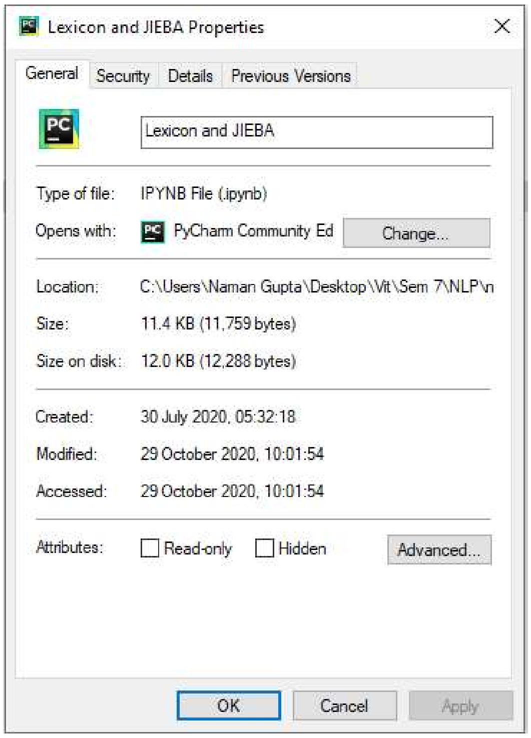
Created: 15 October 2020, 06:28:44

Modified: 29 October 2020, 10:00:23

Accessed: 29 October 2020, 10:00:23

Attributes: □ Read-only □ Hidden

Creation date of Lexicon And Jieba



Lexicon and JIEBA

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 11.4 KB (11,759 bytes)

Size on disk: 12.0 KB (12,288 bytes)

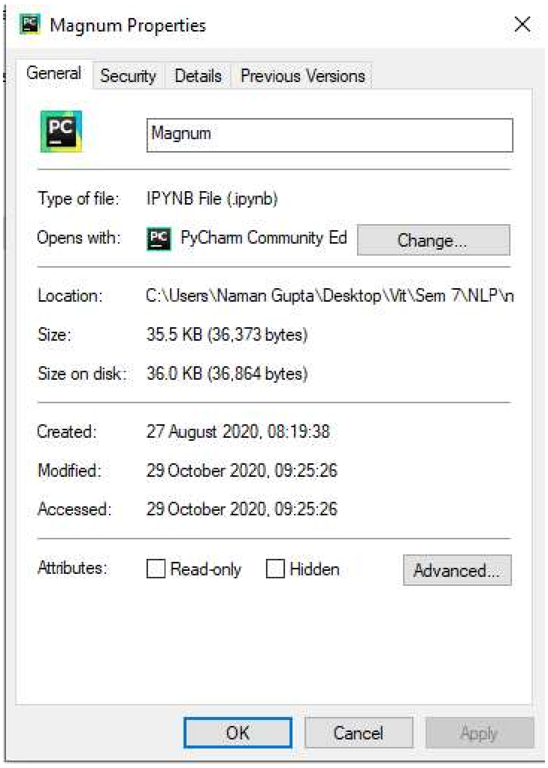
Created: 30 July 2020, 05:32:18

Modified: 29 October 2020, 10:01:54

Accessed: 29 October 2020, 10:01:54

Attributes: □ Read-only □ Hidden

Creation date of Magnum



Magnum

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 35.5 KB (36,373 bytes)

Size on disk: 36.0 KB (36,864 bytes)

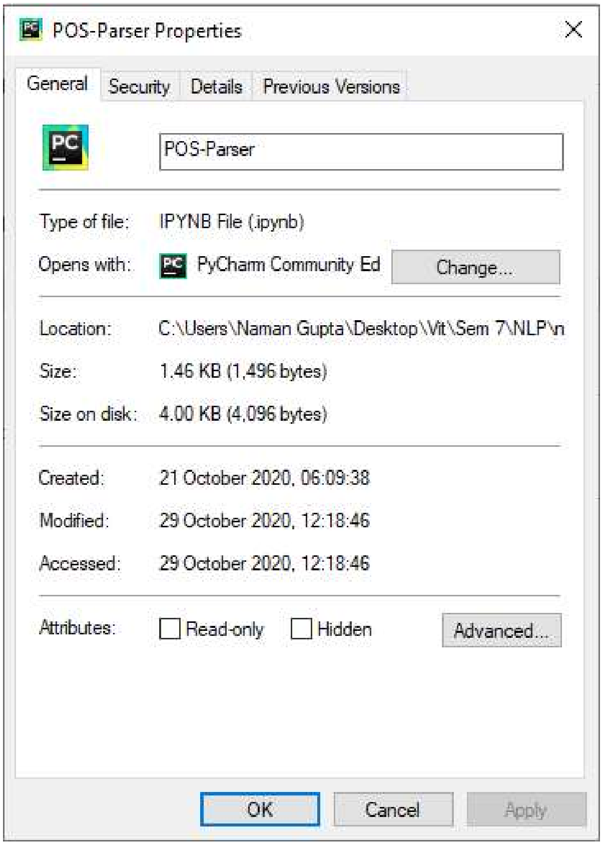
Created: 27 August 2020, 08:19:38

Modified: 29 October 2020, 09:25:26

Accessed: 29 October 2020, 09:25:26

Attributes: □ Read-only □ Hidden

Creation date of POS-Parser



POS-Parser

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 1.46 KB (1,496 bytes)

Size on disk: 4.00 KB (4,096 bytes)

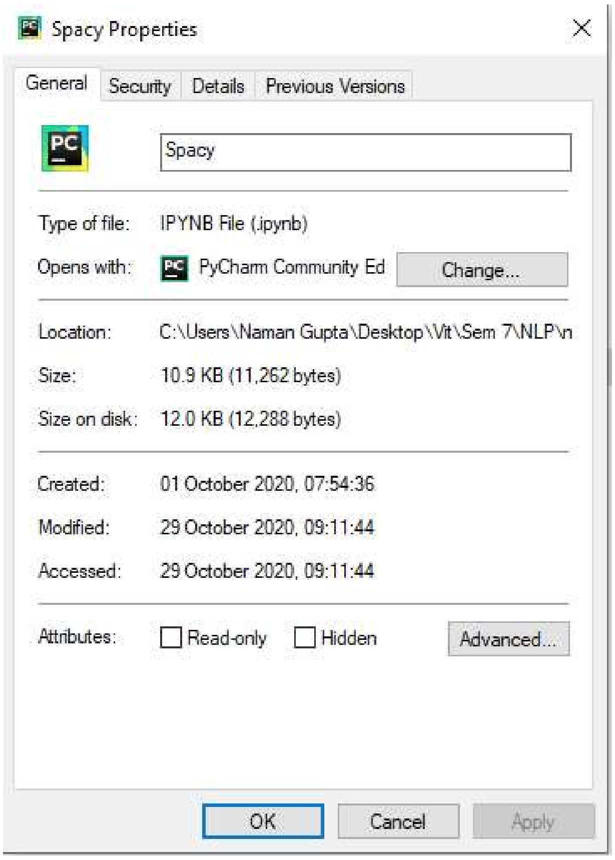
Created: 21 October 2020, 06:09:38

Modified: 29 October 2020, 12:18:46

Accessed: 29 October 2020, 12:18:46

Attributes: □ Read-only □ Hidden

Creation date of Spacy



Spacy

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 10.9 KB (11,262 bytes)

Size on disk: 12.0 KB (12,288 bytes)

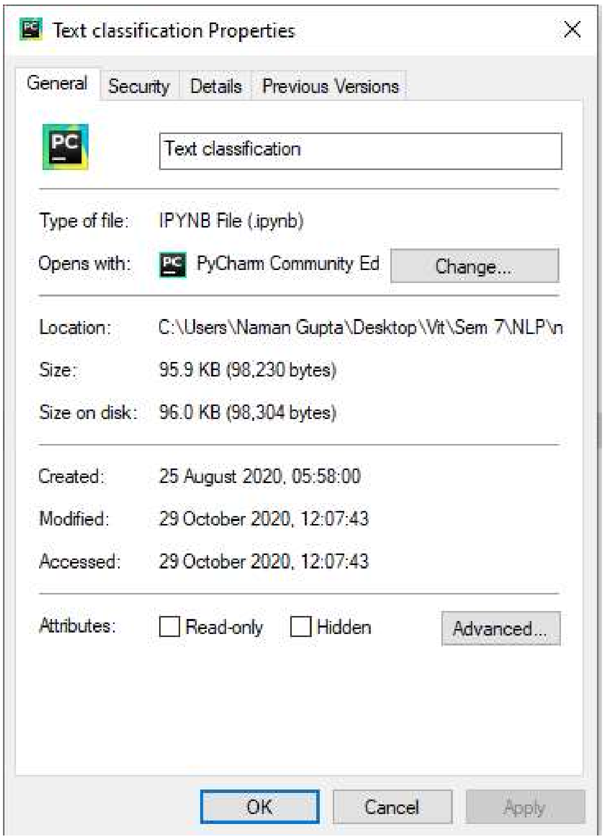
Created: 01 October 2020, 07:54:36

Modified: 29 October 2020, 09:11:44

Accessed: 29 October 2020, 09:11:44

Attributes: □ Read-only □ Hidden

Creation date of Text classification



Text classification

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 95.9 KB (98,230 bytes)

Size on disk: 96.0 KB (98,304 bytes)

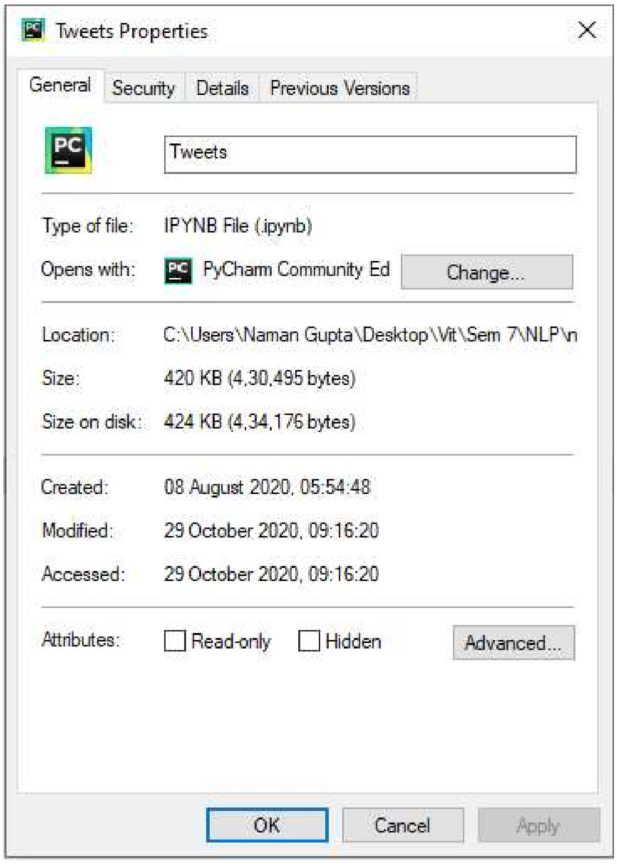
Created: 25 August 2020, 05:58:00

Modified: 29 October 2020, 12:07:43

Accessed: 29 October 2020, 12:07:43

Attributes: □ Read-only □ Hidden

Creation date of Tweets



Tweets

Type of file: IPYNB File (.ipynb)

Opens with: PyCharm Community Ed

Location: C:\Users\Naman Gupta\Desktop\Vit\Sem 7\NLP\n

Size: 420 KB (4,30,495 bytes)

Size on disk: 424 KB (4,34,176 bytes)

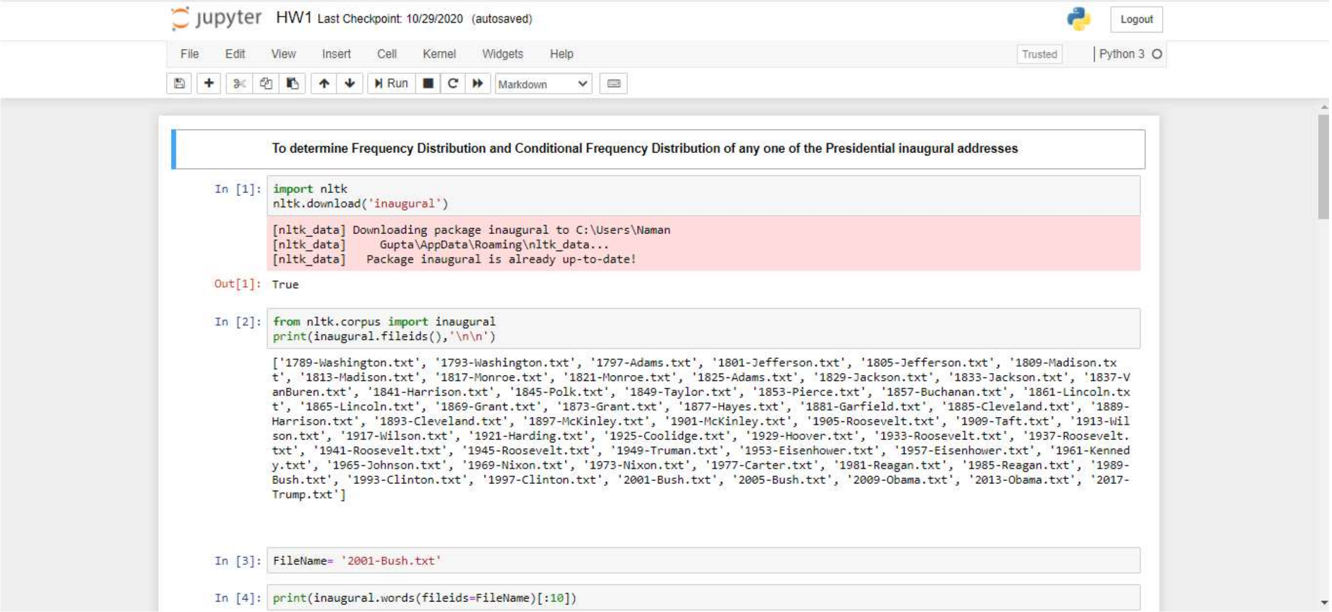
Created: 08 August 2020, 05:54:48

Modified: 29 October 2020, 09:16:20

Accessed: 29 October 2020, 09:16:20

Attributes: □ Read-only □ Hidden

Screenshot of Homework 1 File


jupyter HW1 Last Checkpoint: 10/29/2020 (autosaved)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3 ○
Run
Markdown

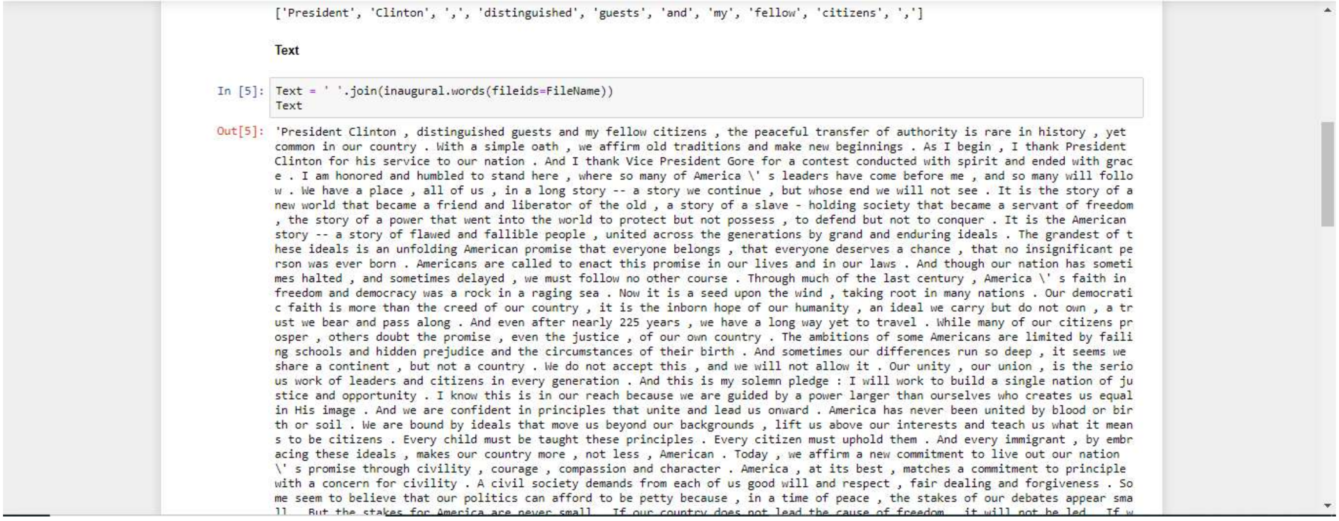
To determine Frequency Distribution and Conditional Frequency Distribution of any one of the Presidential inaugural addresses

```
In [1]: import nltk
        nltk.download('inaugural')

        [nltk_data] Downloading package inaugural to C:\Users\Naman
        [nltk_data]     Gupta\AppData\Roaming\nltk_data...
        [nltk_data]   Package inaugural is already up-to-date!

Out[1]: True
```

```
In [2]: from nltk.corpus import inaugural
        print(inaugural.fileids(),'\n\n')

        ['1789-Washington.txt', '1793-Washington.txt', '1797-Adams.txt', '1801-Jefferson.txt', '1805-Jefferson.txt', '1809-Madison.tx
        t', '1813-Madison.txt', '1817-Monroe.txt', '1821-Monroe.txt', '1825-Adams.txt', '1829-Jackson.txt', '1833-Jackson.txt', '1837-V
        anBuren.txt', '1841-Harrison.txt', '1845-Polk.txt', '1849-Taylor.txt', '1853-Pierce.txt', '1857-Buchanan.txt', '1861-Lincoln.tx
        t', '1865-Lincoln.txt', '1869-Grant.txt', '1873-Grant.txt', '1877-Hayes.txt', '1881-Garfield.txt', '1885-Cleveland.txt', '1889-
        Harrison.txt', '1893-Cleveland.txt', '1897-McKinley.txt', '1901-McKinley.txt', '1905-Roosevelt.txt', '1909-Taft.txt', '1913-Wil
        son.txt', '1917-Wilson.txt', '1921-Harding.txt', '1925-Coolidge.txt', '1929-Hoover.txt', '1933-Roosevelt.txt', '1937-Roosevelt.
        txt', '1941-Roosevelt.txt', '1945-Roosevelt.txt', '1949-Truman.txt', '1953-Eisenhower.txt', '1957-Eisenhower.txt', '1961-Kenned
        y.txt', '1965-Johnson.txt', '1969-Nixon.txt', '1973-Nixon.txt', '1977-Carter.txt', '1981-Reagan.txt', '1985-Reagan.txt', '1989-
        Bush.txt', '1993-Clinton.txt', '1997-Clinton.txt', '2001-Bush.txt', '2005-Bush.txt', '2009-Obama.txt', '2013-Obama.txt', '2017-
        Trump.txt']
```

```
In [3]: FileName= '2001-Bush.txt'
```

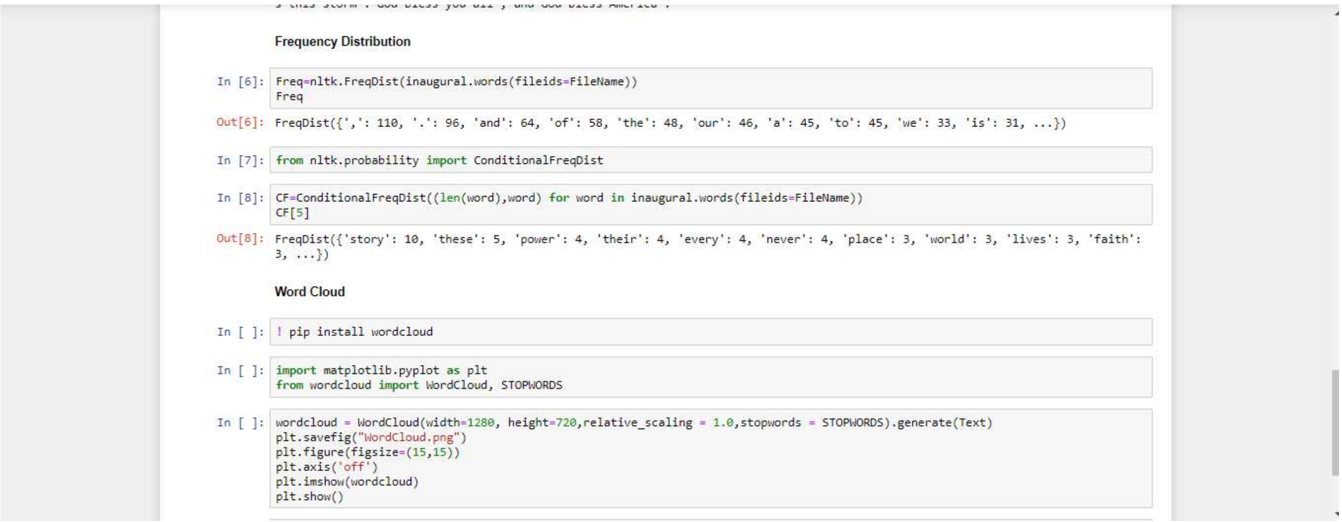
```
In [4]: print(inaugural.words(fileids=FileName)[:10])
```



```
        ['President', 'Clinton', ',', 'distinguished', 'guests', 'and', 'my', 'fellow', 'citizens', ',']
```

Text

```
In [5]: Text = ' '.join(inaugural.words(fileids=FileName))
        Text

Out[5]: 'President Clinton , distinguished guests and my fellow citizens , the peaceful transfer of authority is rare in history , yet
        common in our country . With a simple oath , we affirm old traditions and make new beginnings . As I begin , I thank President
        Clinton for his service to our nation . And I thank Vice President Gore for a contest conducted with spirit and ended with grac
        e . I am honored and humbled to stand here , where so many of America \' s leaders have come before me , and so many will follo
        w . We have a place , all of us , in a long story -- a story we continue , but whose end we will not see . It is the story of a
        new world that became a friend and liberator of the old , a story of a slave - holding society that became a servant of freedom
        , the story of a power that went into the world to protect but not possess , to defend but not to conquer . It is the American
        story -- a story of flawed and fallible people , united across the generations by grand and enduring ideals . The grandest of t
        hese ideals is an unfolding American promise that everyone belongs , that everyone deserves a chance , that no insignificant pe
        rson was ever born . Americans are called to enact this promise in our lives and in our laws . And though our nation has someti
        mes halted , and sometimes delayed , we must follow no other course . Through much of the last century , America \' s faith in
        freedom and democracy was a rock in a raging sea . Now it is a seed upon the wind , taking root in many nations . Our democrati
        c faith is more than the creed of our country , it is the inborn hope of our humanity , an ideal we carry but do not own , a tr
        ust we bear and pass along . And even after nearly 225 years , we have a long way yet to travel . While many of our citizens pr
        osper , others doubt the promise , even the justice , of our own country . The ambitions of some Americans are limited by faili
        ng schools and hidden prejudice and the circumstances of their birth . And sometimes our differences run so deep , it seems we
        share a continent , but not a country . We do not accept this , and we will not allow it . Our unity , our union , is the serio
        us work of leaders and citizens in every generation . And this is my solemn pledge : I will work to build a single nation of ju
        stice and opportunity . I know this is in our reach because we are guided by a power larger than ourselves who creates us equal
        in His image . And we are confident in principles that unite and lead us onward . America has never been united by blood or bir
        th or soil . We are bound by ideals that move us beyond our backgrounds , lift us above our interests and teach us what it mean
        s to be citizens . Every child must be taught these principles . Every citizen must uphold them . And every immigrant , by embr
        acing these ideals , makes our country more , not less , American . Today , we affirm a new commitment to live out our nation
        \' s promise through civility , courage , compassion and character . America , at its best , matches a commitment to principle
        with a concern for civility . A civil society demands from each of us good will and respect , fair dealing and forgiveness . So
        me seem to believe that our politics can afford to be petty because , in a time of peace , the stakes of our debates appear sma
        ll . But the stakes for America are never small . If our country does not lead the cause of freedom , it will not be led . If w
```



```
        s this storm . God bless you all , and God bless America .
```

Frequency Distribution

```
In [6]: Freq=nltk.FreqDist(inaugural.words(fileids=FileName))
        Freq

Out[6]: FreqDist({',': 110, '.': 96, 'and': 64, 'of': 58, 'the': 48, 'our': 46, 'a': 45, 'to': 45, 'we': 33, 'is': 31, ...})
```

```
In [7]: from nltk.probability import ConditionalFreqDist
```

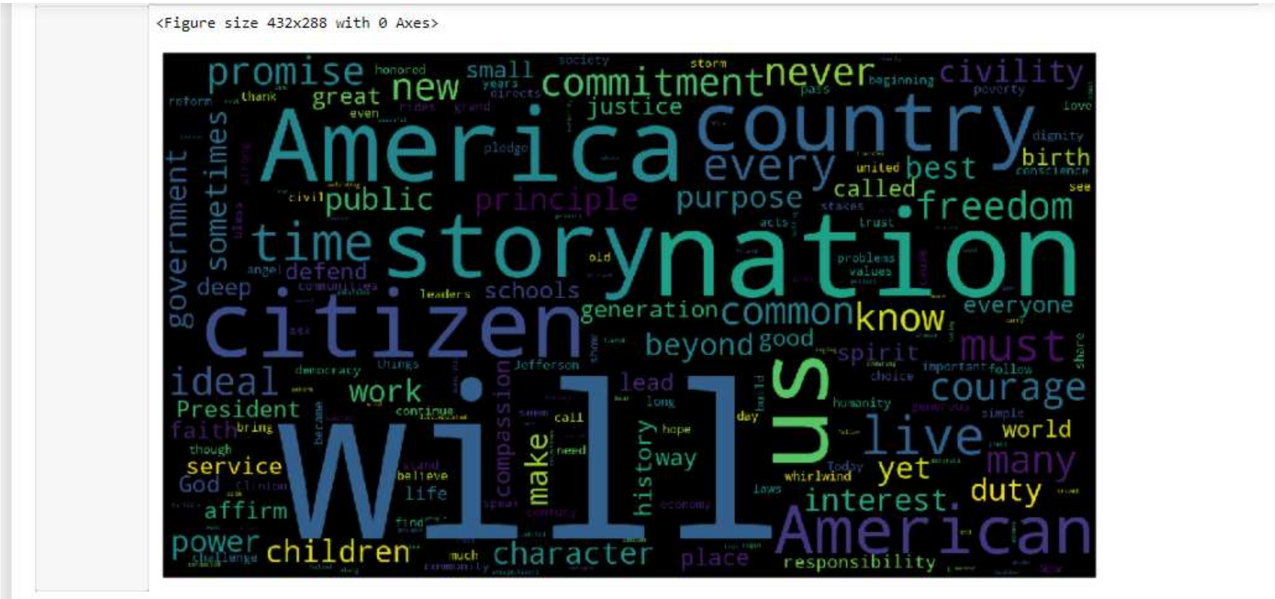
```
In [8]: CF=ConditionalFreqDist((len(word),word) for word in inaugural.words(fileids=FileName))
        CF[5]

Out[8]: FreqDist({'story': 10, 'these': 5, 'power': 4, 'their': 4, 'every': 4, 'never': 4, 'place': 3, 'world': 3, 'lives': 3, 'faith':
        3, ...})
```

Word Cloud

```
In [ ]: ! pip install wordcloud
```

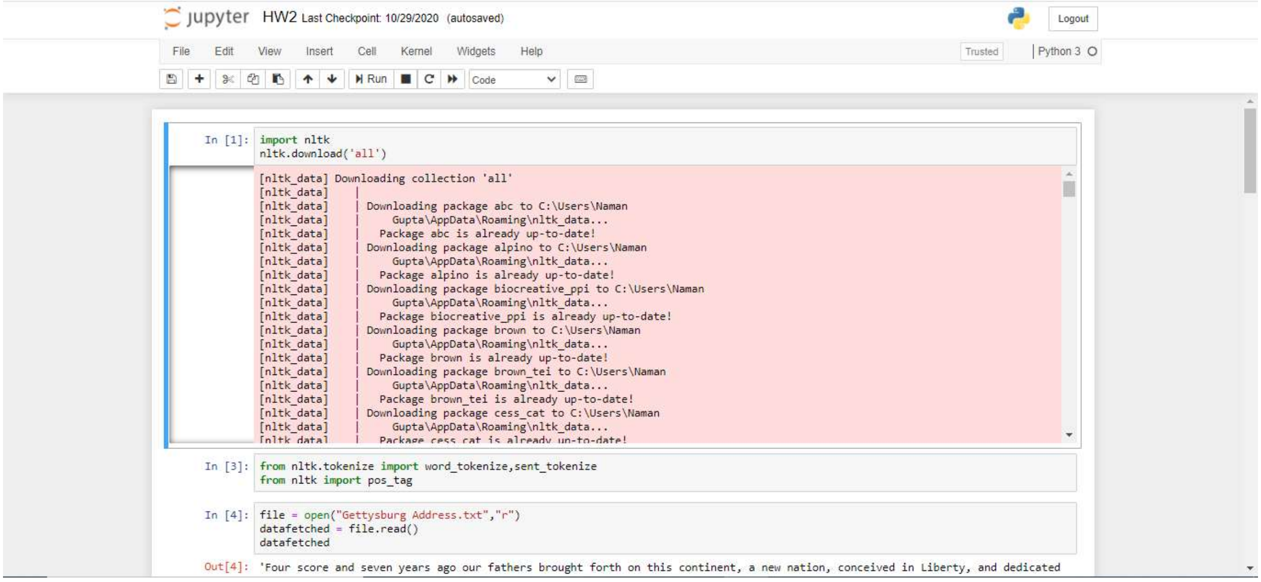
```
In [ ]: import matplotlib.pyplot as plt
        from wordcloud import WordCloud, STOPWORDS
```

```
In [ ]: wordcloud = WordCloud(width=1280, height=720,relative_scaling = 1.0,stopwords = STOPWORDS).generate(Text)
        plt.savefig("WordCloud.png")
        plt.figure(figsize=(15,15))
        plt.axis('off')
        plt.imshow(wordcloud)
        plt.show()
```

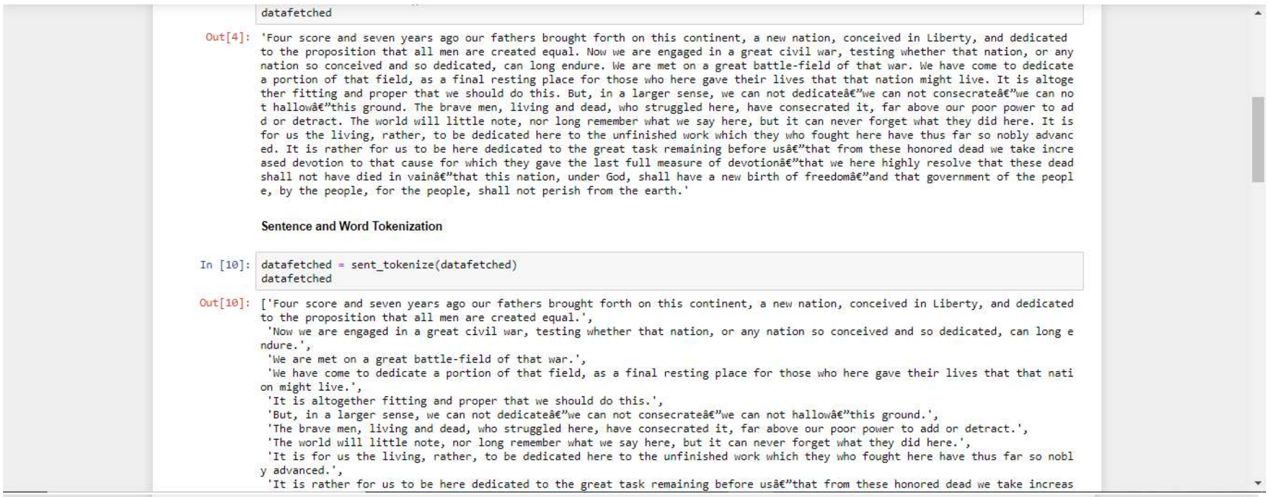


```
<Figure size 432x288 with 0 Axes>
```

Homework 2



```
In [1]: import nltk
        nltk.download('all')

[nltk_data] Downloading collection 'all'
[nltk_data]    |
[nltk_data]    | Downloading package abc to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package abc is already up-to-date!
[nltk_data]    | Downloading package alpino to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package alpino is already up-to-date!
[nltk_data]    | Downloading package biocreative_ppi to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package biocreative_ppi is already up-to-date!
[nltk_data]    | Downloading package brown to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package brown is already up-to-date!
[nltk_data]    | Downloading package brown_tei to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package brown_tei is already up-to-date!
[nltk_data]    | Downloading package cess_cat to C:\Users\Naman
[nltk_data]    |     Gupta\AppData\Roaming\nltk_data...
[nltk_data]    |   Package cess_cat is already up-to-date!

In [3]: from nltk.tokenize import word_tokenize,sent_tokenize
        from nltk import pos_tag

In [4]: file = open("Gettysburg Address.txt","r")
        datafetched = file.read()
        datafetched

Out[4]: 'Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated
```



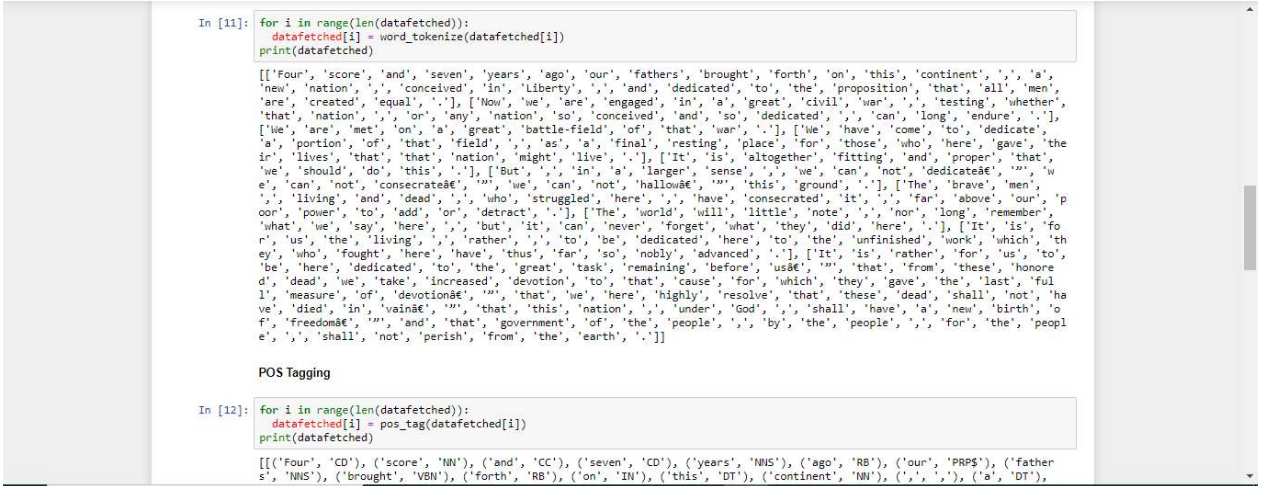
```
datafetched
```

```
Out[4]: 'Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated
to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any
nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate
a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altoge
ther fitting and proper that we should do this. But, in a larger sense, we can not dedicateâ€”we can not consecrateâ€”we can no
t hallowâ€”this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to ad
d or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is
for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanc
ed. It is rather for us to be here dedicated to the great task remaining before usâ€”that from these honored dead we take incre
ased devotion to that cause for which they gave the last full measure of devotionâ€”that we here highly resolve that these dead
shall not have died in vainâ€”that this nation, under God, shall have a new birth of freedomâ€”and that government of the peopl
e, by the people, for the people, shall not perish from the earth.'
```

Sentence and Word Tokenization

```
In [10]: datafetched = sent_tokenize(datafetched)
         datafetched
```

```
Out[10]: ['Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated
to the proposition that all men are created equal.',
 'Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long e
ndure.',
 'We are met on a great battle-field of that war.',
 'We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nati
on might live.',
 'It is altogether fitting and proper that we should do this.',
 'But, in a larger sense, we can not dedicateâ€”we can not consecrateâ€”we can not hallowâ€”this ground.',
 'The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract.',
 'The world will little note, nor long remember what we say here, but it can never forget what they did here.',
 'It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobl
y advanced.',
 'It is rather for us to be here dedicated to the great task remaining before usâ€”that from these honored dead we take increas
```



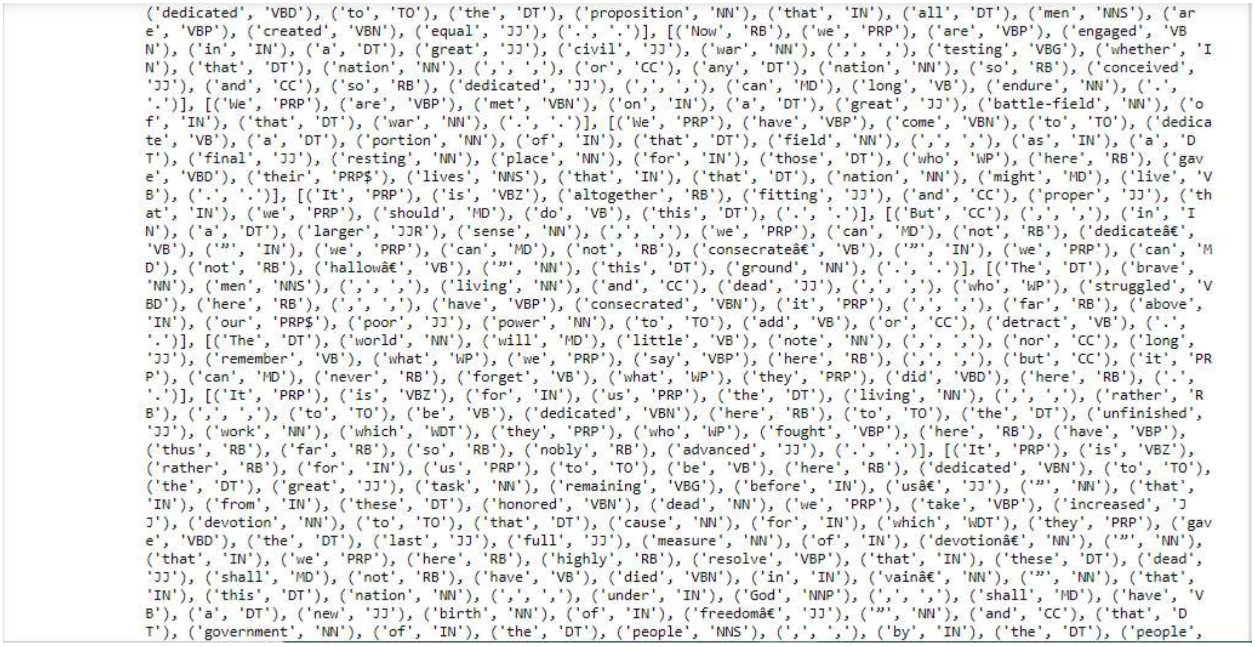
```
In [11]: for i in range(len(datafetched)):
           datafetched[i] = word_tokenize(datafetched[i])
         print(datafetched)
```

```
[['Four', 'score', 'and', 'seven', 'years', 'ago', 'our', 'fathers', 'brought', 'forth', 'on', 'this', 'continent', ',', 'a',
'new', 'nation', ',', 'conceived', 'in', 'Liberty', ',', 'and', 'dedicated', 'to', 'the', 'proposition', 'that', 'all', 'men',
'are', 'created', 'equal', '.'], ['Now', 'we', 'are', 'engaged', 'in', 'a', 'great', 'civil', 'war', ',', 'testing', 'whether',
'that', 'nation', ',', 'or', 'any', 'nation', 'so', 'conceived', 'and', 'so', 'dedicated', ',', 'can', 'long', 'endure', '.'],
['We', 'are', 'met', 'on', 'a', 'great', 'battle-field', 'of', 'that', 'war', '.'], ['We', 'have', 'come', 'to', 'dedicate',
'a', 'portion', 'of', 'that', 'field', ',', 'as', 'a', 'final', 'resting', 'place', 'for', 'those', 'who', 'here', 'gave', 'the
ir', 'lives', 'that', 'that', 'nation', 'might', 'live', '.'], ['It', 'is', 'altogether', 'fitting', 'and', 'proper', 'that',
'we', 'should', 'do', 'this', '.'], ['But', ',', 'in', 'a', 'larger', 'sense', ',', 'we', 'can', 'not', 'dedicateâ€', '”', 'w
e', 'can', 'not', 'consecrateâ€', '”', 'we', 'can', 'not', 'hallowâ€', '”', 'this', 'ground', '.'], ['The', 'brave', 'men',
',', 'living', 'and', 'dead', ',', 'who', 'struggled', 'here', ',', 'have', 'consecrated', 'it', ',', 'far', 'above', 'our', 'p
oor', 'power', 'to', 'add', 'or', 'detract', '.'], ['The', 'world', 'will', 'little', 'note', ',', 'nor', 'long', 'remember',
'what', 'we', 'say', 'here', ',', 'but', 'it', 'can', 'never', 'forget', 'what', 'they', 'did', 'here', '.'], ['It', 'is', 'fo
r', 'us', 'the', 'living', ',', 'rather', ',', 'to', 'be', 'dedicated', 'here', 'to', 'the', 'unfinished', 'work', 'which', 'th
ey', 'who', 'fought', 'here', 'have', 'thus', 'far', 'so', 'nobly', 'advanced', '.'], ['It', 'is', 'rather', 'for', 'us', 'to',
'be', 'here', 'dedicated', 'to', 'the', 'great', 'task', 'remaining', 'before', 'usâ€', '”', 'that', 'from', 'these', 'honore
d', 'dead', 'we', 'take', 'increased', 'devotion', 'to', 'that', 'cause', 'for', 'which', 'they', 'gave', 'the', 'last', 'ful
l', 'measure', 'of', 'devotionâ€', '”', 'that', 'we', 'here', 'highly', 'resolve', 'that', 'these', 'dead', 'shall', 'not', 'ha
ve', 'died', 'in', 'vainâ€', '”', 'that', 'this', 'nation', ',', 'under', 'God', ',', 'shall', 'have', 'a', 'new', 'birth', 'o
f', 'freedomâ€', '”', 'and', 'that', 'government', 'of', 'the', 'people', ',', 'by', 'the', 'people', ',', 'for', 'the', 'peopl
e', ',', 'shall', 'not', 'perish', 'from', 'the', 'earth', '.']]
```

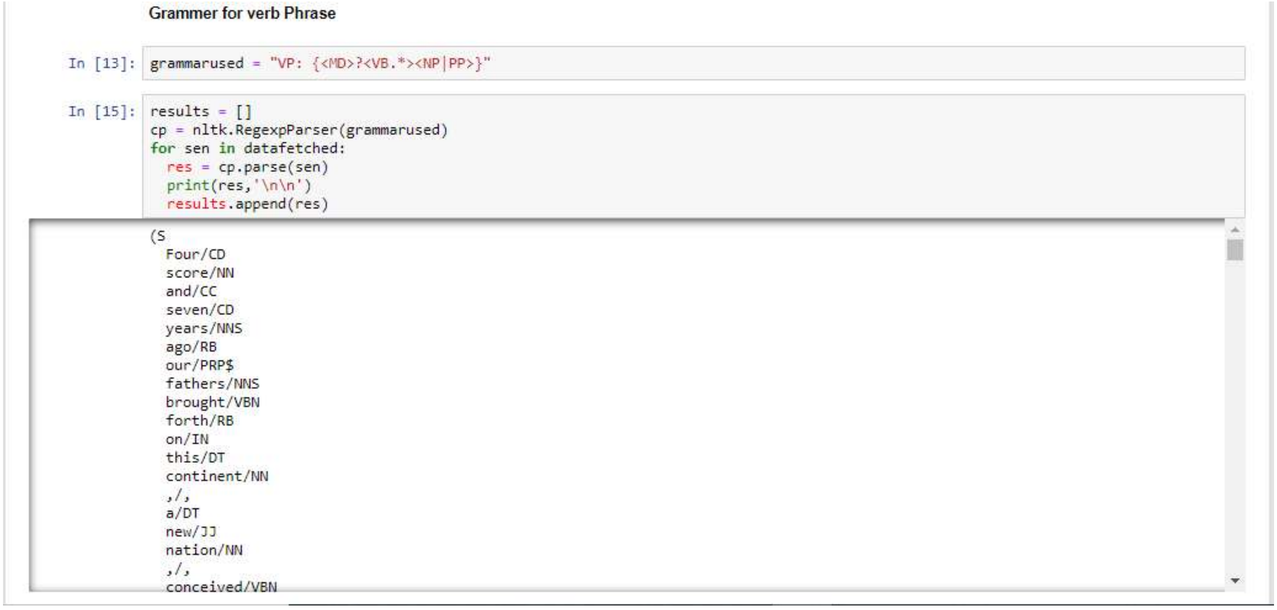
POS Tagging

```
In [12]: for i in range(len(datafetched)):
           datafetched[i] = pos_tag(datafetched[i])
         print(datafetched)
```

```
[[('Four', 'CD'), ('score', 'NN'), ('and', 'CC'), ('seven', 'CD'), ('years', 'NNS'), ('ago', 'RB'), ('our', 'PRP$'), ('father
s', 'NNS'), ('brought', 'VBN'), ('forth', 'RB'), ('on', 'IN'), ('this', 'DT'), ('continent', 'NN'), (',', ','), ('a', 'DT'),
```



```
('dedicated', 'VBD'), ('to', 'TO'), ('the', 'DT'), ('proposition', 'NN'), ('that', 'IN'), ('all', 'DT'), ('men', 'NNS'), ('ar
e', 'VBP'), ('created', 'VBN'), ('equal', 'JJ'), ('.', '.')], [('Now', 'RB'), ('we', 'PRP'), ('are', 'VBP'), ('engaged', 'VB
N'), ('in', 'IN'), ('a', 'DT'), ('great', 'JJ'), ('civil', 'JJ'), ('war', 'NN'), (',', ','), ('testing', 'VBG'), ('whether', 'I
N'), ('that', 'DT'), ('nation', 'NN'), (',', ','), ('or', 'CC'), ('any', 'DT'), ('nation', 'NN'), ('so', 'RB'), ('conceived',
'JJ'), ('and', 'CC'), ('so', 'RB'), ('dedicated', 'JJ'), (',', ','), ('can', 'MD'), ('long', 'VB'), ('endure', 'NN'), ('.',
'.')], [('We', 'PRP'), ('are', 'VBP'), ('met', 'VBN'), ('on', 'IN'), ('a', 'DT'), ('great', 'JJ'), ('battle-field', 'NN'), ('o
f', 'IN'), ('that', 'DT'), ('war', 'NN'), ('.', '.')], [('We', 'PRP'), ('have', 'VBP'), ('come', 'VBN'), ('to', 'TO'), ('dedica
te', 'VB'), ('a', 'DT'), ('portion', 'NN'), ('of', 'IN'), ('that', 'DT'), ('field', 'NN'), (',', ','), ('as', 'IN'), ('a', 'D
T'), ('final', 'JJ'), ('resting', 'NN'), ('place', 'NN'), ('for', 'IN'), ('those', 'DT'), ('who', 'WP'), ('here', 'RB'), ('gav
e', 'VBD'), ('their', 'PRP$'), ('lives', 'NNS'), ('that', 'IN'), ('that', 'DT'), ('nation', 'NN'), ('might', 'MD'), ('live', 'V
B'), ('.', '.')], [('It', 'PRP'), ('is', 'VBZ'), ('altogether', 'RB'), ('fitting', 'JJ'), ('and', 'CC'), ('proper', 'JJ'), ('th
at', 'IN'), ('we', 'PRP'), ('should', 'MD'), ('do', 'VB'), ('this', 'DT'), ('.', '.')], [('But', 'CC'), (',', ','), ('in', 'I
N'), ('a', 'DT'), ('larger', 'JJR'), ('sense', 'NN'), (',', ','), ('we', 'PRP'), ('can', 'MD'), ('not', 'RB'), ('dedicateâ€',
'VB'), ('”', 'IN'), ('we', 'PRP'), ('can', 'MD'), ('not', 'RB'), ('consecrateâ€', 'VB'), ('”', 'IN'), ('we', 'PRP'), ('can', 'M
D'), ('not', 'RB'), ('hallowâ€', 'VB'), ('”', 'NN'), ('this', 'DT'), ('ground', 'NN'), ('.', '.')], [('The', 'DT'), ('brave',
'NN'), ('men', 'NNS'), (',', ','), ('living', 'NN'), ('and', 'CC'), ('dead', 'JJ'), (',', ','), ('who', 'WP'), ('struggled', 'V
BD'), ('here', 'RB'), (',', ','), ('have', 'VBP'), ('consecrated', 'VBN'), ('it', 'PRP'), (',', ','), ('far', 'RB'), ('above',
'IN'), ('our', 'PRP$'), ('poor', 'JJ'), ('power', 'NN'), ('to', 'TO'), ('add', 'VB'), ('or', 'CC'), ('detract', 'VB'), ('.',
'.')], [('The', 'DT'), ('world', 'NN'), ('will', 'MD'), ('little', 'VB'), ('note', 'NN'), (',', ','), ('nor', 'CC'), ('long',
'JJ'), ('remember', 'VB'), ('what', 'WP'), ('we', 'PRP'), ('say', 'VBP'), ('here', 'RB'), (',', ','), ('but', 'CC'), ('it', 'PR
P'), ('can', 'MD'), ('never', 'RB'), ('forget', 'VB'), ('what', 'WP'), ('they', 'PRP'), ('did', 'VBD'), ('here', 'RB'), ('.',
'.')], [('It', 'PRP'), ('is', 'VBZ'), ('for', 'IN'), ('us', 'PRP'), ('the', 'DT'), ('living', 'NN'), (',', ','), ('rather', 'R
B'), (',', ','), ('to', 'TO'), ('be', 'VB'), ('dedicated', 'VBN'), ('here', 'RB'), ('to', 'TO'), ('the', 'DT'), ('unfinished',
'JJ'), ('work', 'NN'), ('which', 'WDT'), ('they', 'PRP'), ('who', 'WP'), ('fought', 'VBP'), ('here', 'RB'), ('have', 'VBP'),
('thus', 'RB'), ('far', 'RB'), ('so', 'RB'), ('nobly', 'RB'), ('advanced', 'JJ'), ('.', '.')], [('It', 'PRP'), ('is', 'VBZ'),
('rather', 'RB'), ('for', 'IN'), ('us', 'PRP'), ('to', 'TO'), ('be', 'VB'), ('here', 'RB'), ('dedicated', 'VBN'), ('to', 'TO'),
('the', 'DT'), ('great', 'JJ'), ('task', 'NN'), ('remaining', 'VBG'), ('before', 'IN'), ('usâ€', 'JJ'), ('”', 'NN'), ('that',
'IN'), ('from', 'IN'), ('these', 'DT'), ('honored', 'VBN'), ('dead', 'NN'), ('we', 'PRP'), ('take', 'VBP'), ('increased', 'J
J'), ('devotion', 'NN'), ('to', 'TO'), ('that', 'DT'), ('cause', 'NN'), ('for', 'IN'), ('which', 'WDT'), ('they', 'PRP'), ('gav
e', 'VBD'), ('the', 'DT'), ('last', 'JJ'), ('full', 'JJ'), ('measure', 'NN'), ('of', 'IN'), ('devotionâ€', 'NN'), ('”', 'NN'),
('that', 'IN'), ('we', 'PRP'), ('here', 'RB'), ('highly', 'RB'), ('resolve', 'VBP'), ('that', 'IN'), ('these', 'DT'), ('dead',
'JJ'), ('shall', 'MD'), ('not', 'RB'), ('have', 'VB'), ('died', 'VBN'), ('in', 'IN'), ('vainâ€', 'NN'), ('”', 'NN'), ('that',
'IN'), ('this', 'DT'), ('nation', 'NN'), (',', ','), ('under', 'IN'), ('God', 'NNP'), (',', ','), ('shall', 'MD'), ('have', 'V
B'), ('a', 'DT'), ('new', 'JJ'), ('birth', 'NN'), ('of', 'IN'), ('freedomâ€', 'JJ'), ('”', 'NN'), ('and', 'CC'), ('that', 'D
T'), ('government', 'NN'), ('of', 'IN'), ('the', 'DT'), ('people', 'NNS'), (',', ','), ('by', 'IN'), ('the', 'DT'), ('people',
```



Grammer for verb Phrase

```
In [13]: grammarused = "VP: {<MD>?<VB.*><NP|PP>}"
```

```
In [15]: results = []
         cp = nltk.RegexpParser(grammarused)
         for sen in datafetched:
           res = cp.parse(sen)
           print(res,'\n\n')
           results.append(res)
```

```
(S
  Four/CD
  score/NN
  and/CC
  seven/CD
  years/NNS
  ago/RB
  our/PRP$
  fathers/NNS
  brought/VBN
  forth/RB
  on/IN
  this/DT
  continent/NN
  ,/,
  a/DT
  new/JJ
  nation/NN
  ,/,
  conceived/VBN
```