

Yash Verma  
CSE-AI & ML  
3RD YEAR  
500069950  
ROLL NO.110  
B2 BATCH  
LAB-4 ASSIGNMENT  
COMPUTATIONAL LINGUISTICS AND NLP LAB

```
# -*- coding: utf-8 -*-  
"""Untitled
```

Automatically generated by Colaboratory.

Original file is located at  
[https://colab.research.google.com/drive/1srYG8ANNRY6yedp87v1P9aP\\_4vO1zNdc](https://colab.research.google.com/drive/1srYG8ANNRY6yedp87v1P9aP_4vO1zNdc)

```
Importing NLTK  
"""
```

```
import nltk
```

```
text= ('I must be honest with you. I was about to go to sleep before I opened  
my mail and read your letter. Now I am wide awake, sitting upright, because  
you made me question my preferences between shoes and slippers.Be patient  
with me. I need proper peaceful sleep and let's sort this out.I am a shoe  
person. Correction: I am a person obsessed with dry, dust-free feet. Whatever  
helps me keep a grip on my walk and posture in spite of my profusely sweaty  
feet, I am that person. Whatever keeps the grainy, pokey sensation of soil or  
sand in parts of my skin away, I am that person. I guess, I am a shoe person  
because it is loyal to my whole feet. Not making parts of it lying exposed  
and parts of it covered, without any symmetry. I am also cotton sock person,  
preferably red. Sometimes, I am a clean matte (anti-slippery) floor person.  
Basically, I am a person with issues.I really liked your host-guest theory of  
travelling, how we do not just get out of home when we travel, the home  
expands when we step foot at a place engulfing it into our comfort zone. But  
the thing is I wear socks all the time in my house, and open them when I go  
to bed, replacing the sock with a comforter. I guess I need that comfort zone  
close and maybe, mine is restricted to my own skin. So much so, that it  
doesn't even include my own home. When I travel, I like wearing shoes, with a  
firm grip on myself, dust free, protected. When I face situations where I  
have to open them and I don't want to, I usually wrinkle my nose. It doesn't  
get better that I can't wear those shoes again with a dirty feet. I take a  
handkerchief.Imagine my situation at the beach or in a hill stream, when the  
water feels soothing to my sweaty feet and removes the dust, only to attract  
more of it when I walk on the sand. I let it irritate me those times, because  
I always have the ocean and the river on my side. I like my bare feet  
drowning with no air bubbles left. I don't like it when droplets of water  
make only a part of my feet wet, only to let me realise and miss the comfort  
of dry skin and scowl at the linger of irritation due to a little dampness. I  
don't like it when I have to keep on brushing my left leg against my right to  
flatten the spheres of water. And repeat it with the right. I just realised  
why I don't like drizzling rains.Eventually, when I have to get out of the  
water, I give up my fight with the dirt and wear those damn shoes with muddy  
feet. Those are the times I miss my slippery slippers. Don't let my socks or  
shoes hear me say that. They do not know that sometimes I keep a back-up pair  
of red flip-flops for such scenarios. Does this make me a slipper person? I  
guess I am a slipper person when my feet are ankle deep in mud, so that there  
is no place for me to complain. No alternative. No uneasy half-done feeling.  
Otherwise, not much of a slipper person.I am a person who likes symmetry. All  
in or none at all. It's difficult being me in this world with its shades of  
grey. But then, my favourite colour is red and thankfully it covers the  
entire spectrum. All I need is an emotion, and the rest is taken care  
of.Thank you for being the listener you are. This has been a selfish post. I  
used your letter for my sense of clarity. You always make me reflect and dig  
deep. I can finally sleep now. Goodnight.'
```

```
nltk.download('punkt')
from nltk.tokenize import sent_tokenize
```

```
"""**Tokenization**
```

Tokenization is the first step in text analytics. The process of breaking down a text paragraph into smaller chunks such as words or sentence is called Tokenization. Token is a single entity that is building blocks for sentence or paragraph.

```
**Sentence Tokenization**
```

Sentence tokenizer breaks text paragraph into sentences.

```
"""
```

```
sent_tokenize(text)
```

```
['I must be honest with you.',
 'I was about to go to sleep before I opened my mail and read your letter.',
 'Now I am wide awake, sitting upright, because you made me question my preferences between shoes and slippers.',
 'Be patient with me.',
 'I need proper peaceful sleep and let's sort this out.I am a shoe person.',
 'Correction: I am a person obsessed with dry, dust-free feet.',
 'Whatever helps me keep a grip on my walk and posture in spite of my profusely sweaty feet, I am that person.',
 'Whatever keeps the grainy, pokey sensation of soil or sand in parts of my skin away, I am that person.',
 'I guess, I am a shoe person because it is loyal to my whole feet.',
 'Not making parts of it lying exposed and parts of it covered, without any symmetry.',
 'I am also cotton sock person, preferably red.',
 'Sometimes, I am a clean matte (anti-slippery) floor person.',
 'Basically, I am a person with issues.I really liked your host-guest theory of travelling, how we do not just get out of home when we travel, the home expands when we step foot at a place engulfing it into our comfort zone.',
 'But the thing is I wear socks all the time in my house, and open them when I go to bed, replacing the sock with a comforter.',
 'I guess I need that comfort zone close and maybe, mine is restricted to my own skin.',
 'So much so, that it doesn't even include my own home.',
 'When I travel, I like wearing shoes, with a firm grip on myself, dust free, protected.',
 'When I face situations where I have to open them and I don't want to, I usually wrinkle my nose.',
 'It doesn't get better that I can't wear those shoes again with a dirty feet.',
 'I take a handkerchief.Imagine my situation at the beach or in a hill stream, when the water feels soothing to my sweaty feet and removes the dust, only to attract more of it when I walk on the sand.',
 'I let it irritate me those times, because I always have the ocean and the river on my side.',
 'I like my bare feet drowning with no air bubbles left.',
 'I don't like it when droplets of water make only a part of my feet wet, only to let me realise and miss the comfort of dry skin and scowl at the linger of irritation due to a little dampness.',
 'I don't like it when I have to keep on brushing my left leg against my right to flatten the spheres of water.',
 'And repeat it with the right.',
```

```

'I just realised why I don't like drizzling rains.Eventually, when I have to get out
of the water, I give up my fight with the dirt and wear those damn shoes with muddy
feet.',
'Those are the times I miss my slippery slippers.',
'Don't let my socks or shoes hear me say that.',
'They do not know that sometimes I keep a back-up pair of red flip-flops for such
scenarios.',
'Does this make me a slipper person?',
'I guess I am a slipper person when my feet are ankle deep in mud, so that there is
no place for me to complain.',
'No alternative.',
'No uneasy half-done feeling.',
'Otherwise, not much of a slipper person.I am a person who likes symmetry.',
'All in or none at all.',
'It's difficult being me in this world with its shades of grey.',
'But then, my favourite colour is red and thankfully it covers the entire spectrum.',
'All I need is an emotion, and the rest is taken care of.Thank you for being the
listener you are.',
'This has been a selfish post.',
'I used your letter for my sense of clarity.',
'You always make me reflect and dig deep.',
'I can finally sleep now.',
'Goodnight.'

```

\*\*\*\*\*Word Tokenization\*\*

Breaks sentence into words  
 """

```

import regex
regex.split("[\s\.\,]",text)

```

```

['I', 'must', 'be', 'honest', 'with', 'you', '', 'I', 'was', 'about', 'to', 'go',
'to', 'sleep', 'before', 'I', 'opened', 'my', 'mail', 'and', 'read', 'your', 'letter',
'', 'Now', 'I', 'am', 'wide', 'awake', '', 'sitting', 'upright', '', 'because', 'you',
'made', 'me', 'question', 'my', 'preferences', 'between', 'shoes', 'and', 'slippers',
'', 'Be', 'patient', 'with', 'me', '', 'I', 'need', 'proper', 'peaceful', 'sleep',
'and', 'let's', 'sort', 'this', 'out', 'I', 'am', 'a', 'shoe', 'person', '',
'Correction:', 'I', 'am', 'a', 'person', 'obsessed', 'with', 'dry', '', 'dust-free',
'feet', '', 'Whatever', 'helps', 'me', 'keep', 'a', 'grip', 'on', 'my', 'walk', 'and',
'posture', 'in', 'spite', 'of', 'my', 'profusely', 'sweaty', 'feet', '', 'I', 'am',
'that', 'person', '', 'Whatever', 'keeps', 'the', 'grainy', '', 'pokey', 'sensation',
'of', 'soil', 'or', 'sand', 'in', 'parts', 'of', 'my', 'skin', 'away', '', 'I', 'am',
'that', 'person', '', 'I', 'guess', '', 'I', 'am', 'a', 'shoe', 'person', 'because',
'it', 'is', 'loyal', 'to', 'my', 'whole', 'feet', '', 'Not', 'making', 'parts', 'of',
'it', 'lying', 'exposed', 'and', 'parts', 'of', 'it', 'covered', '', 'without', 'any',
'symmetry', '', 'I', 'am', 'also', 'cotton', 'sock', 'person', '', 'preferably',
'red', '', 'Sometimes', '', 'I', 'am', 'a', 'clean', 'matte', '(anti-slippery)',
'floor', 'person', '', 'Basically', '', 'I', 'am', 'a', 'person', 'with', 'issues',
'I', 'really', 'liked', 'your', 'host-guest', 'theory', 'of', 'travelling', '', 'how',
'we', 'do', 'not', 'just', 'get', 'out', 'of', 'home', 'when', 'we', 'travel', '',
'the', 'home', 'expands', 'when', 'we', 'step', 'foot', 'at', 'a', 'place',
'engulfing', 'it', 'into', 'our', 'comfort', 'zone', '', 'But', 'the', 'thing', 'is',
'I', 'wear', 'socks', 'all', 'the', 'time', 'in', 'my', 'house', '', 'and', 'open',
'them', 'when', 'I', 'go', 'to', 'bed', '', 'replacing', 'the', 'sock', 'with', 'a',

```

'comforter', '', 'I', 'guess', 'I', 'need', 'that', 'comfort', 'zone', 'close', 'and', 'maybe', '', 'mine', 'is', 'restricted', 'to', 'my', 'own', 'skin', '', 'So', 'much', 'so', '', 'that', 'it', 'doesn't', 'even', 'include', 'my', 'own', 'home', '', 'When', 'I', 'travel', '', 'I', 'like', 'wearing', 'shoes', '', 'with', 'a', 'firm', 'grip', 'on', 'myself', '', 'dust', 'free', '', 'protected', '', 'When', 'I', 'face', 'situations', 'where', 'I', 'have', 'to', 'open', 'them', 'and', 'I', 'don't', 'want', 'to', '', 'I', 'usually', 'wrinkle', 'my', 'nose', '', 'It', 'doesn't', 'get', 'better', 'that', 'I', 'can't', 'wear', 'those', 'shoes', 'again', 'with', 'a', 'dirty', 'feet', '', 'I', 'take', 'a', 'handkerchief', 'Imagine', 'my', 'situation', 'at', 'the', 'beach', 'or', 'in', 'a', 'hill', 'stream', '', 'when', 'the', 'water', 'feels', 'soothing', 'to', 'my', 'sweaty', 'feet', 'and', 'removes', 'the', 'dust', '', 'only', 'to', 'attract', 'more', 'of', 'it', 'when', 'I', 'walk', 'on', 'the', 'sand', '', 'I', 'let', 'it', 'irritate', 'me', 'those', 'times', '', 'because', 'I', 'always', 'have', 'the', 'ocean', 'and', 'the', 'river', 'on', 'my', 'side', '', 'I', 'like', 'my', 'bare', 'feet', 'drowning', 'with', 'no', 'air', 'bubbles', 'left', '', 'I', 'don't', 'like', 'it', 'when', 'droplets', 'of', 'water', 'make', 'only', 'a', 'part', 'of', 'my', 'feet', 'wet', '', 'only', 'to', 'let', 'me', 'realise', 'and', 'miss', 'the', 'comfort', 'of', 'dry', 'skin', 'and', 'scowl', 'at', 'the', 'linger', 'of', 'irritation', 'due', 'to', 'a', 'little', 'dampness', '', 'I', 'don't', 'like', 'it', 'when', 'I', 'have', 'to', 'keep', 'on', 'brushing', 'my', 'left', 'leg', 'against', 'my', 'right', 'to', 'flatten', 'the', 'spheres', 'of', 'water', '', 'And', 'repeat', 'it', 'with', 'the', 'right', '', 'I', 'just', 'realised', 'why', 'I', 'don't', 'like', 'drizzling', 'rains', 'Eventually', '', 'when', 'I', 'have', 'to', 'get', 'out', 'of', 'the', 'water', '', 'I', 'give', 'up', 'my', 'fight', 'with', 'the', 'dirt', 'and', 'wear', 'those', 'damn', 'shoes', 'with', 'muddy', 'feet', '', 'Those', 'are', 'the', 'times', 'I', 'miss', 'my', 'slippery', 'slippers', '', 'Don't', 'let', 'my', 'socks', 'or', 'shoes', 'hear', 'me', 'say', 'that', '', 'They', 'do', 'not', 'know', 'that', 'sometimes', 'I', 'keep', 'a', 'back-up', 'pair', 'of', 'red', 'flip-flops', 'for', 'such', 'scenarios', '', 'Does', 'this', 'make', 'me', 'a', 'slipper', 'person?', 'I', 'guess', 'I', 'am', 'a', 'slipper', 'person', 'when', 'my', 'feet', 'are', 'ankle', 'deep', 'in', 'mud', '', 'so', 'that', 'there', 'is', 'no', 'place', 'for', 'me', 'to', 'complain', '', 'No', 'alternative', '', 'No', 'uneasy', 'half-done', 'feeling', '', 'Otherwise', '', 'not', 'much', 'of', 'a', 'slipper', 'person', 'I', 'am', 'a', 'person', 'who', 'likes', 'symmetry', '', 'All', 'in', 'or', 'none', 'at', 'all', '', 'It's', 'difficult', 'being', 'me', 'in', 'this', 'world', 'with', 'its', 'shades', 'of', 'grey', '', 'But', 'then', '', 'my', 'favourite', 'colour', 'is', 'red', 'and', 'thankfully', 'it', 'covers', 'the', 'entire', 'spectrum', '', 'All', 'I', 'need', 'is', 'an', 'emotion', '', 'and', 'the', 'rest', 'is', 'taken', 'care', 'of', 'Thank', 'you', 'for', 'being', 'the', 'listener', 'you', 'are', '', 'This', 'has', 'been', 'a', 'selfish', 'post', '', 'I', 'used', 'your', 'letter', 'for', 'my', 'sense', 'of', 'clarity', '', 'You', 'always', 'make', 'me', 'reflect', 'and', 'dig', 'deep', '', 'I', 'can', 'finally', 'sleep', 'now', '', 'Goodnight', '']

```
from nltk.tokenize import WordPunctTokenizer
tokenizer = WordPunctTokenizer()
u = tokenizer.tokenize(text)
print(u)
```

['I', 'must', 'be', 'honest', 'with', 'you', '.', 'I', 'was', 'about', 'to', 'go', 'to', 'sleep', 'before', 'I', 'opened', 'my', 'mail', 'and', 'read', 'your', 'letter', '.', 'Now', 'I', 'am', 'wide', 'awake', '', 'sitting', 'upright', 'so', 'because', 'you', 'made', 'me', 'question', 'my', 'preferences', 'between', 'shoes', 'and', 'slippers', '.', 'Be', 'patient', 'with', 'me', '.', 'I', 'need', 'proper', 'peaceful', 'sleep', 'and', 'let', '', 's', 'sort', 'this', 'out', '.', 'I', 'am', 'a', 'shoe', 'person', '.', 'Correction', ':', 'I', 'am', 'a', 'person', 'obsessed', 'with', 'dry', '', 'dust', '-', 'free', 'feet', '.', 'Whatever', 'helps', 'me',

'keep', 'a', 'grip', 'on', 'my', 'walk', 'and', 'posture', 'in', 'spite', 'of', 'my',  
'profusely', 'sweaty', 'feet', ' ', 'I', 'am', 'that', 'person', '.', 'Whatever',  
'keeps', 'the', 'grainy', ' ', 'pokey', 'sensation', 'of', 'soil', 'or', 'sand', 'in',  
'parts', 'of', 'my', 'skin', 'away', ' ', 'I', 'am', 'that', 'person', '.', 'I',  
'guess', ' ', 'I', 'am', 'a', 'shoe', 'person', 'because', 'it', 'is', 'loyal', 'to',  
'my', 'whole', 'feet', ' ', 'Not', 'making', 'parts', 'of', 'it', 'lying', 'exposed',  
'and', 'parts', 'of', 'it', 'covered', ' ', 'without', 'any', 'symmetry', '.', 'I',  
'am', 'also', 'cotton', 'sock', 'person', ' ', 'preferably', 'red', '.', 'Sometimes',  
' ', 'I', 'am', 'a', 'clean', 'matte', '(', 'anti', '-', 'slippery', ')', 'floor',  
'person', '.', 'Basically', ' ', 'I', 'am', 'a', 'person', 'with', 'issues', '.', 'I',  
'really', 'liked', 'your', 'host', '-', 'guest', 'theory', 'of', 'travelling', ' ',  
'how', 'we', 'do', 'not', 'just', 'get', 'out', 'of', 'home', 'when', 'we', 'travel',  
' ', 'the', 'home', 'expands', 'when', 'we', 'step', 'foot', 'at', 'a', 'place',  
'engulfing', 'it', 'into', 'our', 'comfort', 'zone', '.', 'But', 'the', 'thing', 'is',  
'I', 'wear', 'socks', 'all', 'the', 'time', 'in', 'my', 'house', ' ', 'and', 'open',  
'them', 'when', 'I', 'go', 'to', 'bed', ' ', 'replacing', 'the', 'sock', 'with', 'a',  
'comforter', '.', 'I', 'guess', 'I', 'need', 'that', 'comfort', 'zone', 'close',  
'and', 'maybe', ' ', 'mine', 'is', 'restricted', 'to', 'my', 'own', 'skin', '.', 'So',  
'much', 'so', ' ', 'that', 'it', 'doesn', ' ', 't', 'even', 'include', 'my', 'own',  
'home', '.', 'When', 'I', 'travel', ' ', 'I', 'like', 'wearing', 'shoes', ' ', 'with',  
'a', 'firm', 'grip', 'on', 'myself', ' ', 'dust', 'free', ' ', 'protected', '.',  
'When', 'I', 'face', 'situations', 'where', 'I', 'have', 'to', 'open', 'them', 'and',  
'I', 'don', ' ', 't', 'want', 'to', ' ', 'I', 'usually', 'wrinkle', 'my', 'nose', '.',  
'It', 'doesn', ' ', 't', 'get', 'better', 'that', 'I', 'can', ' ', 't', 'wear',  
'those', 'shoes', 'again', 'with', 'a', 'dirty', 'feet', ' ', 'I', 'take', 'a',  
'handkerchief', '.', 'Imagine', 'my', 'situation', 'at', 'the', 'beach', 'or', 'in',  
'a', 'hill', 'stream', ' ', 'when', 'the', 'water', 'feels', 'soothing', 'to', 'my',  
'sweaty', 'feet', 'and', 'removes', 'the', 'dust', ' ', 'only', 'to', 'attract',  
'more', 'of', 'it', 'when', 'I', 'walk', 'on', 'the', 'sand', '.', 'I', 'let', 'it',  
'irritate', 'me', 'those', 'times', ' ', 'because', 'I', 'always', 'have', 'the',  
'ocean', 'and', 'the', 'river', 'on', 'my', 'side', '.', 'I', 'like', 'my', 'bare',  
'feet', 'drowning', 'with', 'no', 'air', 'bubbles', 'left', '.', 'I', 'don', ' ', 't',  
'like', 'it', 'when', 'droplets', 'of', 'water', 'make', 'only', 'a', 'part', 'of',  
'my', 'feet', 'wet', ' ', 'only', 'to', 'let', 'me', 'realise', 'and', 'miss', 'the',  
'comfort', 'of', 'dry', 'skin', 'and', 'scowl', 'at', 'the', 'linger', 'of',  
'irritation', 'due', 'to', 'a', 'little', 'dampness', '.', 'I', 'don', ' ', 't',  
'like', 'it', 'when', 'I', 'have', 'to', 'keep', 'on', 'brushing', 'my', 'left',  
'leg', 'against', 'my', 'right', 'to', 'flatten', 'the', 'spheres', 'of', 'water',  
' ', 'And', 'repeat', 'it', 'with', 'the', 'right', ' ', 'I', 'just', 'realised',  
'why', 'I', 'don', ' ', 't', 'like', 'drizzling', 'rains', '.', 'Eventually', ' ',  
'when', 'I', 'have', 'to', 'get', 'out', 'of', 'the', 'water', ' ', 'I', 'give', 'up',  
'my', 'fight', 'with', 'the', 'dirt', 'and', 'wear', 'those', 'damn', 'shoes', 'with',  
'muddy', 'feet', '.', 'Those', 'are', 'the', 'times', 'I', 'miss', 'my', 'slippery',  
'slippers', '.', 'Don', ' ', 't', 'let', 'my', 'socks', 'or', 'shoes', 'hear', 'me',  
'say', 'that', '.', 'They', 'do', 'not', 'know', 'that', 'sometimes', 'I', 'keep',  
'a', 'back', '-', 'up', 'pair', 'of', 'red', 'flip', '-', 'flops', 'for', 'such',  
'scenarios', '.', 'Does', 'this', 'make', 'me', 'a', 'slipper', 'person', '?', 'I',  
'guess', 'I', 'am', 'a', 'slipper', 'person', 'when', 'my', 'feet', 'are', 'ankle',  
'deep', 'in', 'mud', ' ', 'so', 'that', 'there', 'is', 'no', 'place', 'for', 'me',  
'to', 'complain', '.', 'No', 'alternative', '.', 'No', 'uneasy', 'half', '-', 'done',  
'feeling', '.', 'Otherwise', ' ', 'not', 'much', 'of', 'a', 'slipper', 'person', '.',  
'I', 'am', 'a', 'person', 'who', 'likes', 'symmetry', '.', 'All', 'in', 'or', 'none',  
'at', 'all', ' ', 'It', ' ', 's', 'difficult', 'being', 'me', 'in', 'this', 'world',  
'with', 'its', 'shades', 'of', 'grey', '.', 'But', 'then', ' ', 'my', 'favourite',  
'colour', 'is', 'red', 'and', 'thankfully', 'it', 'covers', 'the', 'entire',  
'spectrum', '.', 'All', 'I', 'need', 'is', 'an', 'emotion', ' ', 'and', 'the', 'rest',  
'is', 'taken', 'care', 'of', ' ', 'Thank', 'you', 'for', 'being', 'the', 'listener',  
'you', 'are', ' ', 'This', 'has', 'been', 'a', 'selfish', 'post', '.', 'I', 'used',  
'your', 'letter', 'for', 'my', 'sense', 'of', 'clarity', '.', 'You', 'always', 'make',  
'me', 'reflect', 'and', 'dig', 'deep', '.', 'I', 'can', 'finally', 'sleep', 'now',  
' ', 'Goodnight', ' ']

```
"""**Stemming**
```

is the process of reducing a word to its word stem that affixes to suffixes and prefixes or to the roots of words known as a lemma. Stemming is important in natural language understanding (NLU) and obviously in natural language processing (NLP) as well.

It is a process of linguistic normalization, which reduces words to their word root word or chops off the derivational affixes. For example, connection, connected, connecting word reduce to a common word "connect".

```
"""
```

```
from nltk.stem import PorterStemmer
stemmer= PorterStemmer()
for word in u:
    print (f"{word}>>>{stemmer.stem(word)}")
```

```
I>>>I
must>>>must
be>>>be
honest>>>honest
with>>>with
you>>>you
.>>>.
I>>>I
was>>>wa
about>>>about
to>>>to
go>>>go
to>>>to
sleep>>>sleep
before>>>befor
I>>>I
opened>>>open
my>>>my
mail>>>mail
and>>>and
read>>>read
your>>>your
letter>>>letter
.>>>.
Now>>>now
I>>>I
am>>>am
wide>>>wide
awake>>>awak
,>>>,
sitting>>>sit
upright>>>upright
,>>>,
because>>>becaus
you>>>you
made>>>made
me>>>me
question>>>question
my>>>my
preferences>>>prefer
```

between>>>between  
shoes>>>shoe  
and>>>and  
slippers>>>slipper  
.>>>.  
Be>>>Be  
patient>>>patient  
with>>>with  
me>>>me  
.>>>.  
I>>>I  
need>>>need  
proper>>>proper  
peaceful>>>peac  
sleep>>>sleep  
and>>>and  
let>>>let  
'>>>'  
s>>>s  
sort>>>sort  
this>>>thi  
out>>>out  
.>>>.  
I>>>I  
am>>>am  
a>>>a  
shoe>>>shoe  
person>>>person  
.>>>.  
Correction>>>correct  
:>>>:  
I>>>I  
am>>>am  
a>>>a  
person>>>person  
obsessed>>>obsess  
with>>>with  
dry>>>dri  
,>>>,  
dust>>>dust  
->>>-  
free>>>free  
feet>>>feet  
.>>>.  
Whatever>>>whatev  
helps>>>help  
me>>>me  
keep>>>keep  
a>>>a  
grip>>>grip  
on>>>on  
my>>>my  
walk>>>walk  
and>>>and  
posture>>>postur  
in>>>in  
spite>>>spite  
of>>>of  
my>>>my  
profusely>>>profus  
sweaty>>>sweati  
feet>>>feet  
,>>>,



I>>>I  
am>>>am  
that>>>that  
person>>>person  
.>>>.  
Whatever>>>whatev  
keeps>>>keep  
the>>>the  
grainy>>>graini  
,>>>,  
pokey>>>pokey  
sensation>>>sensat  
of>>>of  
soil>>>soil  
or>>>or  
sand>>>sand  
in>>>in  
parts>>>part  
of>>>of  
my>>>my  
skin>>>skin  
away>>>away  
,>>>,  
I>>>I  
am>>>am  
that>>>that  
person>>>person  
.>>>.  
I>>>I  
guess>>>guess  
,>>>,  
I>>>I  
am>>>am  
a>>>a  
shoe>>>shoe  
person>>>person  
because>>>becaus  
it>>>it  
is>>>is  
loyal>>>loyal  
to>>>to  
my>>>my  
whole>>>whole  
feet>>>feet  
.>>>.  
Not>>>not  
making>>>make  
parts>>>part  
of>>>of  
it>>>it  
lying>>>lie  
exposed>>>expos  
and>>>and  
parts>>>part  
of>>>of  
it>>>it  
covered>>>cover  
,>>>,  
without>>>without  
any>>>ani  
symmetry>>>symmetri  
.>>>.  
I>>>I

am>>>am  
also>>>also  
cotton>>>cotton  
sock>>>sock  
person>>>person  
,>>>,  
preferably>>>prefer  
red>>>red  
.>>>.  
Sometimes>>>sometim  
,>>>,  
I>>>I  
am>>>am  
a>>>a  
clean>>>clean  
matte>>>matt  
(>>>(   
anti>>>anti  
->>>-  
slippery>>>slipperi  
floor>>>floor  
person>>>person  
.>>>.  
Basically>>>basic  
,>>>,  
I>>>I  
am>>>am  
a>>>a  
person>>>person  
with>>>with  
issues>>>issu  
.>>>.  
I>>>I  
really>>>realli  
liked>>>like  
your>>>your  
host>>>host  
->>>-  
guest>>>guest  
theory>>>theori  
of>>>of  
travelling>>>travel  
,>>>,  
how>>>how  
we>>>we  
do>>>do  
not>>>not  
just>>>just  
get>>>get  
out>>>out  
of>>>of  
home>>>home  
when>>>when  
we>>>we  
travel>>>travel  
,>>>,  
the>>>the  
home>>>home  
expands>>>expand  
when>>>when  
we>>>we  
step>>>step

foot>>>foot  
at>>>at  
a>>>a  
place>>>place  
engulfing>>>engulf  
it>>>it  
into>>>into  
our>>>our  
comfort>>>comfort  
zone>>>zone  
.>>>.  
But>>>but  
the>>>the  
thing>>>thing  
is>>>is  
I>>>I  
wear>>>wear  
socks>>>sock  
all>>>all  
the>>>the  
time>>>time  
in>>>in  
my>>>my  
house>>>hous  
,>>>,  
and>>>and  
open>>>open  
them>>>them  
when>>>when  
I>>>I  
go>>>go  
to>>>to  
bed>>>bed  
,>>>,  
replacing>>>replac  
the>>>the  
sock>>>sock  
with>>>with  
a>>>a  
comforter>>>comfort  
.>>>.  
I>>>I  
guess>>>guess  
I>>>I  
need>>>need  
that>>>that  
comfort>>>comfort  
zone>>>zone  
close>>>close  
and>>>and  
maybe>>>mayb  
,>>>,  
mine>>>mine  
is>>>is  
restricted>>>restrict  
to>>>to  
my>>>my  
own>>>own  
skin>>>skin  
.>>>.  
So>>>So  
much>>>much  
so>>>so

,>>>,  
that>>>that  
it>>>it  
doesn>>>doesn  
'>>>'  
t>>>t  
even>>>even  
include>>>includ  
my>>>my  
own>>>own  
home>>>home  
.>>>.  
When>>>when  
I>>>I  
travel>>>travel  
,>>>,  
I>>>I  
like>>>like  
wearing>>>wear  
shoes>>>shoe  
,>>>,  
with>>>with  
a>>>a  
firm>>>firm  
grip>>>grip  
on>>>on  
myself>>>myself  
,>>>,  
dust>>>dust  
free>>>free  
,>>>,  
protected>>>protect  
.>>>.  
When>>>when  
I>>>I  
face>>>face  
situations>>>situat  
where>>>where  
I>>>I  
have>>>have  
to>>>to  
open>>>open  
them>>>them  
and>>>and  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
want>>>want  
to>>>to  
,>>>,  
I>>>I  
usually>>>usual  
wrinkle>>>wrinkl  
my>>>my  
nose>>>nose  
.>>>.  
It>>>It  
doesn>>>doesn  
'>>>'  
t>>>t  
get>>>get  
better>>>better

that>>>that  
I>>>I  
can>>>can  
'>>>'  
t>>>t  
wear>>>wear  
those>>>those  
shoes>>>shoe  
again>>>again  
with>>>with  
a>>>a  
dirty>>>dirty  
feet>>>feet  
.>>>.  
I>>>I  
take>>>take  
a>>>a  
handkerchief>>>handkerchief  
.>>>.  
Imagine>>>imagin  
my>>>my  
situation>>>situat  
at>>>at  
the>>>the  
beach>>>beach  
or>>>or  
in>>>in  
a>>>a  
hill>>>hill  
stream>>>stream  
,>>>,  
when>>>when  
the>>>the  
water>>>water  
feels>>>feel  
soothing>>>sooth  
to>>>to  
my>>>my  
sweaty>>>sweati  
feet>>>feet  
and>>>and  
removes>>>remov  
the>>>the  
dust>>>dust  
,>>>,  
only>>>onli  
to>>>to  
attract>>>attract  
more>>>more  
of>>>of  
it>>>it  
when>>>when  
I>>>I  
walk>>>walk  
on>>>on  
the>>>the  
sand>>>sand  
.>>>.  
I>>>I  
let>>>let  
it>>>it  
irritate>>>irrit  
me>>>me

those>>>those  
times>>>time  
,>>>,  
because>>>becaus  
I>>>I  
always>>>alway  
have>>>have  
the>>>the  
ocean>>>ocean  
and>>>and  
the>>>the  
river>>>river  
on>>>on  
my>>>my  
side>>>side  
.>>>.  
I>>>I  
like>>>like  
my>>>my  
bare>>>bare  
feet>>>feet  
drowning>>>drown  
with>>>with  
no>>>no  
air>>>air  
bubbles>>>bubbl  
left>>>left  
.>>>.  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
it>>>it  
when>>>when  
droplets>>>droplet  
of>>>of  
water>>>water  
make>>>make  
only>>>onli  
a>>>a  
part>>>part  
of>>>of  
my>>>my  
feet>>>feet  
wet>>>wet  
,>>>,  
only>>>onli  
to>>>to  
let>>>let  
me>>>me  
realise>>>realis  
and>>>and  
miss>>>miss  
the>>>the  
comfort>>>comfort  
of>>>of  
dry>>>dri  
skin>>>skin  
and>>>and  
scowl>>>scowl  
at>>>at  
the>>>the

linger>>>linger  
of>>>of  
irritation>>>irrit  
due>>>due  
to>>>to  
a>>>a  
little>>>littl  
dampness>>>damp  
.>>>.  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
it>>>it  
when>>>when  
I>>>I  
have>>>have  
to>>>to  
keep>>>keep  
on>>>on  
brushing>>>brush  
my>>>my  
left>>>left  
leg>>>leg  
against>>>against  
my>>>my  
right>>>right  
to>>>to  
flatten>>>flatten  
the>>>the  
spheres>>>sphere  
of>>>of  
water>>>water  
.>>>.  
And>>>and  
repeat>>>repeat  
it>>>it  
with>>>with  
the>>>the  
right>>>right  
.>>>.  
I>>>I  
just>>>just  
realised>>>realis  
why>>>whi  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
drizzling>>>drizzl  
rains>>>rain  
.>>>.  
Eventually>>>eventu  
,>>>,  
when>>>when  
I>>>I  
have>>>have  
to>>>to  
get>>>get  
out>>>out  
of>>>of

the>>>the  
water>>>water  
,>>>,  
I>>>I  
give>>>give  
up>>>up  
my>>>my  
fight>>>fight  
with>>>with  
the>>>the  
dirt>>>dirt  
and>>>and  
wear>>>wear  
those>>>those  
damn>>>damn  
shoes>>>shoe  
with>>>with  
muddy>>>muddi  
feet>>>feet  
.>>>.  
Those>>>those  
are>>>are  
the>>>the  
times>>>time  
I>>>I  
miss>>>miss  
my>>>my  
slippery>>>slipperi  
slippers>>>slipper  
.>>>.  
Don>>>don  
'>>>'  
t>>>t  
let>>>let  
my>>>my  
socks>>>sock  
or>>>or  
shoes>>>shoe  
hear>>>hear  
me>>>me  
say>>>say  
that>>>that  
.>>>.  
They>>>they  
do>>>do  
not>>>not  
know>>>know  
that>>>that  
sometimes>>>sometim  
I>>>I  
keep>>>keep  
a>>>a  
back>>>back  
->>>-  
up>>>up  
pair>>>pair  
of>>>of  
red>>>red  
flip>>>flip  
->>>-  
flops>>>flop  
for>>>for  
such>>>such



scenarios>>>scenario  
.>>>.  
Does>>>doe  
this>>>thi  
make>>>make  
me>>>me  
a>>>a  
slipper>>>slipper  
person>>>person  
?>>>?  
I>>>I  
guess>>>guess  
I>>>I  
am>>>am  
a>>>a  
slipper>>>slipper  
person>>>person  
when>>>when  
my>>>my  
feet>>>feet  
are>>>are  
ankle>>>ankl  
deep>>>deep  
in>>>in  
mud>>>mud  
,>>>,  
so>>>so  
that>>>that  
there>>>there  
is>>>is  
no>>>no  
place>>>place  
for>>>for  
me>>>me  
to>>>to  
complain>>>complain  
.>>>.  
No>>>No  
alternative>>>altern  
.>>>.  
No>>>No  
uneasy>>>uneasi  
half>>>half  
->>>-  
done>>>done  
feeling>>>feel  
.>>>.  
Otherwise>>>otherwis  
,>>>,  
not>>>not  
much>>>much  
of>>>of  
a>>>a  
slipper>>>slipper  
person>>>person  
.>>>.  
I>>>I  
am>>>am  
a>>>a  
person>>>person  
who>>>who  
likes>>>like  
symmetry>>>symmetri

.>>>.
All>>>all
in>>>in
or>>>or
none>>>none
at>>>at
all>>>all
.>>>.
It>>>It
'>>>'
s>>>s
difficult>>>difficult
being>>>be
me>>>me
in>>>in
this>>>thi
world>>>world
with>>>with
its>>>it
shades>>>shade
of>>>of
grey>>>grey
.>>>.
But>>>but
then>>>then
,>>>,
my>>>my
favourite>>>favourit
colour>>>colour
is>>>is
red>>>red
and>>>and
thankfully>>>thank
it>>>it
covers>>>cover
the>>>the
entire>>>entir
spectrum>>>spectrum
.>>>.
All>>>all
I>>>I
need>>>need
is>>>is
an>>>an
emotion>>>emot
,>>>,
and>>>and
the>>>the
rest>>>rest
is>>>is
taken>>>taken
care>>>care
of>>>of
.>>>.
Thank>>>thank
you>>>you
for>>>for
being>>>be
the>>>the
listener>>>listen
you>>>you
are>>>are
.>>>.

```

This>>>thi
has>>>ha
been>>>been
a>>>a
selfish>>>selfish
post>>>post
.>>>.
I>>>I
used>>>use
your>>>your
letter>>>letter
for>>>for
my>>>my
sense>>>sens
of>>>of
clarity>>>clariti
.>>>.
You>>>you
always>>>alway
make>>>make
me>>>me
reflect>>>reflect
and>>>and
dig>>>dig
deep>>>deep
.>>>.
I>>>I
can>>>can
finally>>>final
sleep>>>sleep
now>>>now
.>>>.
Goodnight>>>goodnight
.>>>.

```

"""\*\*Lemmatization\*\*:

retrieving the source of the word Lemmatization reduces words to their base word, which is linguistically correct lemmas. It transforms root word with the use of vocabulary and morphological analysis. Lemmatization is usually more sophisticated than stemming. Stemmer works on an individual word without knowledge of the context. For example, The word "better" has "good" as its lemma. This thing will miss by stemming because it requires a dictionary look-up.

"""

```

from nltk.stem import WordNetLemmatizer
lemmatizer= WordNetLemmatizer()
import nltk
nltk.download('wordnet')
for word in u:
    print(f"{word}>>>{lemmatizer.lemmatize(word)}")

```

```

[nltk_data] Downloading package wordnet to /root/nltk_data...
[nltk_data]   Unzipping corpora/wordnet.zip.
I>>>I
must>>>must
be>>>be
honest>>>honest
with>>>with

```

you>>>you  
.>>>.  
I>>>I  
was>>>wa  
about>>>about  
to>>>to  
go>>>go  
to>>>to  
sleep>>>sleep  
before>>>before  
I>>>I  
opened>>>opened  
my>>>my  
mail>>>mail  
and>>>and  
read>>>read  
your>>>your  
letter>>>letter  
.>>>.  
Now>>>Now  
I>>>I  
am>>>am  
wide>>>wide  
awake>>>awake  
,>>>,  
sitting>>>sitting  
upright>>>upright  
,>>>,  
because>>>because  
you>>>you  
made>>>made  
me>>>me  
question>>>question  
my>>>my  
preferences>>>preference  
between>>>between  
shoes>>>shoe  
and>>>and  
slippers>>>slipper  
.>>>.  
Be>>>Be  
patient>>>patient  
with>>>with  
me>>>me  
.>>>.  
I>>>I  
need>>>need  
proper>>>proper  
peaceful>>>peaceful  
sleep>>>sleep  
and>>>and  
let>>>let  
'>>>'  
s>>>s  
sort>>>sort  
this>>>this  
out>>>out  
.>>>.  
I>>>I  
am>>>am  
a>>>a  
shoe>>>shoe  
person>>>person

.>>>.  
Correction>>>Correction  
:>>>:  
I>>>I  
am>>>am  
a>>>a  
person>>>person  
obsessed>>>obsessed  
with>>>with  
dry>>>dry  
,>>>,  
dust>>>dust  
->>>-  
free>>>free  
feet>>>foot  
.>>>.  
Whatever>>>Whatever  
helps>>>help  
me>>>me  
keep>>>keep  
a>>>a  
grip>>>grip  
on>>>on  
my>>>my  
walk>>>walk  
and>>>and  
posture>>>posture  
in>>>in  
spite>>>spite  
of>>>of  
my>>>my  
profusely>>>profusely  
sweaty>>>sweaty  
feet>>>foot  
,>>>,  
I>>>I  
am>>>am  
that>>>that  
person>>>person  
.>>>.  
Whatever>>>Whatever  
keeps>>>keep  
the>>>the  
grainy>>>grainy  
,>>>,  
pokey>>>pokey  
sensation>>>sensation  
of>>>of  
soil>>>soil  
or>>>or  
sand>>>sand  
in>>>in  
parts>>>part  
of>>>of  
my>>>my  
skin>>>skin  
away>>>away  
,>>>,  
I>>>I  
am>>>am  
that>>>that  
person>>>person  
.>>>.

I>>>I  
guess>>>guess  
,>>>,  
I>>>I  
am>>>am  
a>>>a  
shoe>>>shoe  
person>>>person  
because>>>because  
it>>>it  
is>>>is  
loyal>>>loyal  
to>>>to  
my>>>my  
whole>>>whole  
feet>>>foot  
.>>>.  
Not>>>Not  
making>>>making  
parts>>>part  
of>>>of  
it>>>it  
lying>>>lying  
exposed>>>exposed  
and>>>and  
parts>>>part  
of>>>of  
it>>>it  
covered>>>covered  
,>>>,  
without>>>without  
any>>>any  
symmetry>>>symmetry  
.>>>.  
I>>>I  
am>>>am  
also>>>also  
cotton>>>cotton  
sock>>>sock  
person>>>person  
,>>>,  
preferably>>>preferably  
red>>>red  
.>>>.  
Sometimes>>>Sometimes  
,>>>,  
I>>>I  
am>>>am  
a>>>a  
clean>>>clean  
matte>>>matte  
(>>>(  
anti>>>anti  
->>>-  
slippery>>>slippery  
floor>>>floor  
person>>>person  
.>>>.  
Basically>>>Basically  
,>>>,  
I>>>I  
am>>>am

a>>>a  
person>>>person  
with>>>with  
issues>>>issue  
.>>>.  
I>>>I  
really>>>really  
liked>>>liked  
your>>>your  
host>>>host  
->>>-  
guest>>>guest  
theory>>>theory  
of>>>of  
travelling>>>travelling  
,>>>,  
how>>>how  
we>>>we  
do>>>do  
not>>>not  
just>>>just  
get>>>get  
out>>>out  
of>>>of  
home>>>home  
when>>>when  
we>>>we  
travel>>>travel  
,>>>,  
the>>>the  
home>>>home  
expands>>>expands  
when>>>when  
we>>>we  
step>>>step  
foot>>>foot  
at>>>at  
a>>>a  
place>>>place  
engulfing>>>engulfing  
it>>>it  
into>>>into  
our>>>our  
comfort>>>comfort  
zone>>>zone  
.>>>.  
But>>>But  
the>>>the  
thing>>>thing  
is>>>is  
I>>>I  
wear>>>wear  
socks>>>sock  
all>>>all  
the>>>the  
time>>>time  
in>>>in  
my>>>my  
house>>>house  
,>>>,  
and>>>and  
open>>>open  
them>>>them

when>>>when  
I>>>I  
go>>>go  
to>>>to  
bed>>>bed  
,>>>,  
replacing>>>replacing  
the>>>the  
sock>>>sock  
with>>>with  
a>>>a  
comforter>>>comforter  
.>>>.  
I>>>I  
guess>>>guess  
I>>>I  
need>>>need  
that>>>that  
comfort>>>comfort  
zone>>>zone  
close>>>close  
and>>>and  
maybe>>>maybe  
,>>>,  
mine>>>mine  
is>>>is  
restricted>>>restricted  
to>>>to  
my>>>my  
own>>>own  
skin>>>skin  
.>>>.  
So>>>So  
much>>>much  
so>>>so  
,>>>,  
that>>>that  
it>>>it  
doesn't>>>doesn't  
'>>>'  
t>>>t  
even>>>even  
include>>>include  
my>>>my  
own>>>own  
home>>>home  
.>>>.  
When>>>When  
I>>>I  
travel>>>travel  
,>>>,  
I>>>I  
like>>>like  
wearing>>>wearing  
shoes>>>shoe  
,>>>,  
with>>>with  
a>>>a  
firm>>>firm  
grip>>>grip  
on>>>on  
myself>>>myself  
,>>>,



dust>>>dust  
free>>>free  
,>>>,  
protected>>>protected  
.>>>.  
When>>>When  
I>>>I  
face>>>face  
situations>>>situation  
where>>>where  
I>>>I  
have>>>have  
to>>>to  
open>>>open  
them>>>them  
and>>>and  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
want>>>want  
to>>>to  
,>>>,  
I>>>I  
usually>>>usually  
wrinkle>>>wrinkle  
my>>>my  
nose>>>nose  
.>>>.  
It>>>It  
doesn>>>doesn  
'>>>'  
t>>>t  
get>>>get  
better>>>better  
that>>>that  
I>>>I  
can>>>can  
'>>>'  
t>>>t  
wear>>>wear  
those>>>those  
shoes>>>shoe  
again>>>again  
with>>>with  
a>>>a  
dirty>>>dirty  
feet>>>foot  
.>>>.  
I>>>I  
take>>>take  
a>>>a  
handkerchief>>>handkerchief  
.>>>.  
Imagine>>>Imagine  
my>>>my  
situation>>>situation  
at>>>at  
the>>>the  
beach>>>beach  
or>>>or  
in>>>in  
a>>>a

hill>>>hill  
stream>>>stream  
,>>>,  
when>>>when  
the>>>the  
water>>>water  
feels>>>feel  
soothing>>>soothing  
to>>>to  
my>>>my  
sweaty>>>sweaty  
feet>>>foot  
and>>>and  
removes>>>remove  
the>>>the  
dust>>>dust  
,>>>,  
only>>>only  
to>>>to  
attract>>>attract  
more>>>more  
of>>>of  
it>>>it  
when>>>when  
I>>>I  
walk>>>walk  
on>>>on  
the>>>the  
sand>>>sand  
.>>>.  
I>>>I  
let>>>let  
it>>>it  
irritate>>>irritate  
me>>>me  
those>>>those  
times>>>time  
,>>>,  
because>>>because  
I>>>I  
always>>>always  
have>>>have  
the>>>the  
ocean>>>ocean  
and>>>and  
the>>>the  
river>>>river  
on>>>on  
my>>>my  
side>>>side  
.>>>.  
I>>>I  
like>>>like  
my>>>my  
bare>>>bare  
feet>>>foot  
drowning>>>drowning  
with>>>with  
no>>>no  
air>>>air  
bubbles>>>bubble  
left>>>left  
.>>>.

I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
it>>>it  
when>>>when  
droplets>>>droplet  
of>>>of  
water>>>water  
make>>>make  
only>>>only  
a>>>a  
part>>>part  
of>>>of  
my>>>my  
feet>>>foot  
wet>>>wet  
,>>>,  
only>>>only  
to>>>to  
let>>>let  
me>>>me  
realise>>>realise  
and>>>and  
miss>>>miss  
the>>>the  
comfort>>>comfort  
of>>>of  
dry>>>dry  
skin>>>skin  
and>>>and  
scowl>>>scowl  
at>>>at  
the>>>the  
linger>>>linger  
of>>>of  
irritation>>>irritation  
due>>>due  
to>>>to  
a>>>a  
little>>>little  
dampness>>>dampness  
.>>>.  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
it>>>it  
when>>>when  
I>>>I  
have>>>have  
to>>>to  
keep>>>keep  
on>>>on  
brushing>>>brushing  
my>>>my  
left>>>left  
leg>>>leg  
against>>>against  
my>>>my  
right>>>right

to>>>to  
flatten>>>flatten  
the>>>the  
spheres>>>sphere  
of>>>of  
water>>>water  
.>>>.  
And>>>And  
repeat>>>repeat  
it>>>it  
with>>>with  
the>>>the  
right>>>right  
.>>>.  
I>>>I  
just>>>just  
realised>>>realised  
why>>>why  
I>>>I  
don>>>don  
'>>>'  
t>>>t  
like>>>like  
drizzling>>>drizzling  
rains>>>rain  
.>>>.  
Eventually>>>Eventually  
,>>>,  
when>>>when  
I>>>I  
have>>>have  
to>>>to  
get>>>get  
out>>>out  
of>>>of  
the>>>the  
water>>>water  
,>>>,  
I>>>I  
give>>>give  
up>>>up  
my>>>my  
fight>>>fight  
with>>>with  
the>>>the  
dirt>>>dirt  
and>>>and  
wear>>>wear  
those>>>those  
damn>>>damn  
shoes>>>shoe  
with>>>with  
muddy>>>muddy  
feet>>>foot  
.>>>.  
Those>>>Those  
are>>>are  
the>>>the  
times>>>time  
I>>>I  
miss>>>miss  
my>>>my  
slippery>>>slippery

slippers>>>slipper  
.>>>.  
Don>>>Don  
'>>>'  
t>>>t  
let>>>let  
my>>>my  
socks>>>sock  
or>>>or  
shoes>>>shoe  
hear>>>hear  
me>>>me  
say>>>say  
that>>>that  
.>>>.  
They>>>They  
do>>>do  
not>>>not  
know>>>know  
that>>>that  
sometimes>>>sometimes  
I>>>I  
keep>>>keep  
a>>>a  
back>>>back  
->>>-  
up>>>up  
pair>>>pair  
of>>>of  
red>>>red  
flip>>>flip  
->>>-  
flops>>>flop  
for>>>for  
such>>>such  
scenarios>>>scenario  
.>>>.  
Does>>>Does  
this>>>this  
make>>>make  
me>>>me  
a>>>a  
slipper>>>slipper  
person>>>person  
?>>>?  
I>>>I  
guess>>>guess  
I>>>I  
am>>>am  
a>>>a  
slipper>>>slipper  
person>>>person  
when>>>when  
my>>>my  
feet>>>foot  
are>>>are  
ankle>>>ankle  
deep>>>deep  
in>>>in  
mud>>>mud  
,>>>,  
so>>>so  
that>>>that

there>>>there  
is>>>is  
no>>>no  
place>>>place  
for>>>for  
me>>>me  
to>>>to  
complain>>>complain  
.>>>.  
No>>>No  
alternative>>>alternative  
.>>>.  
No>>>No  
uneasy>>>uneasy  
half>>>half  
->>>-  
done>>>done  
feeling>>>feeling  
.>>>.  
Otherwise>>>Otherwise  
,>>>,  
not>>>not  
much>>>much  
of>>>of  
a>>>a  
slipper>>>slipper  
person>>>person  
.>>>.  
I>>>I  
am>>>am  
a>>>a  
person>>>person  
who>>>who  
likes>>>like  
symmetry>>>symmetry  
.>>>.  
All>>>All  
in>>>in  
or>>>or  
none>>>none  
at>>>at  
all>>>all  
.>>>.  
It>>>It  
'>>>'  
s>>>s  
difficult>>>difficult  
being>>>being  
me>>>me  
in>>>in  
this>>>this  
world>>>world  
with>>>with  
its>>>it  
shades>>>shade  
of>>>of  
grey>>>grey  
.>>>.  
But>>>But  
then>>>then  
,>>>,  
my>>>my  
favourite>>>favourite

colour>>>colour  
is>>>is  
red>>>red  
and>>>and  
thankfully>>>thankfully  
it>>>it  
covers>>>cover  
the>>>the  
entire>>>entire  
spectrum>>>spectrum  
.>>>.  
All>>>All  
I>>>I  
need>>>need  
is>>>is  
an>>>an  
emotion>>>emotion  
,>>>,  
and>>>and  
the>>>the  
rest>>>rest  
is>>>is  
taken>>>taken  
care>>>care  
of>>>of  
.>>>.  
Thank>>>Thank  
you>>>you  
for>>>for  
being>>>being  
the>>>the  
listener>>>listener  
you>>>you  
are>>>are  
.>>>.  
This>>>This  
has>>>ha  
been>>>been  
a>>>a  
selfish>>>selfish  
post>>>post  
.>>>.  
I>>>I  
used>>>used  
your>>>your  
letter>>>letter  
for>>>for  
my>>>my  
sense>>>sense  
of>>>of  
clarity>>>clarity  
.>>>.  
You>>>You  
always>>>always  
make>>>make  
me>>>me  
reflect>>>reflect  
and>>>and  
dig>>>dig  
deep>>>deep  
.>>>.  
I>>>I  
can>>>can

```

finally>>>finally
sleep>>>sleep
now>>>now
.>>>.
Goodnight>>>Goodnight
.>>>.

```

```

from nltk.tokenize import word_tokenize
tokenized_word=word_tokenize(text)
from nltk.probability import FreqDist
fdist = FreqDist(tokenized_word)
print(fdist)

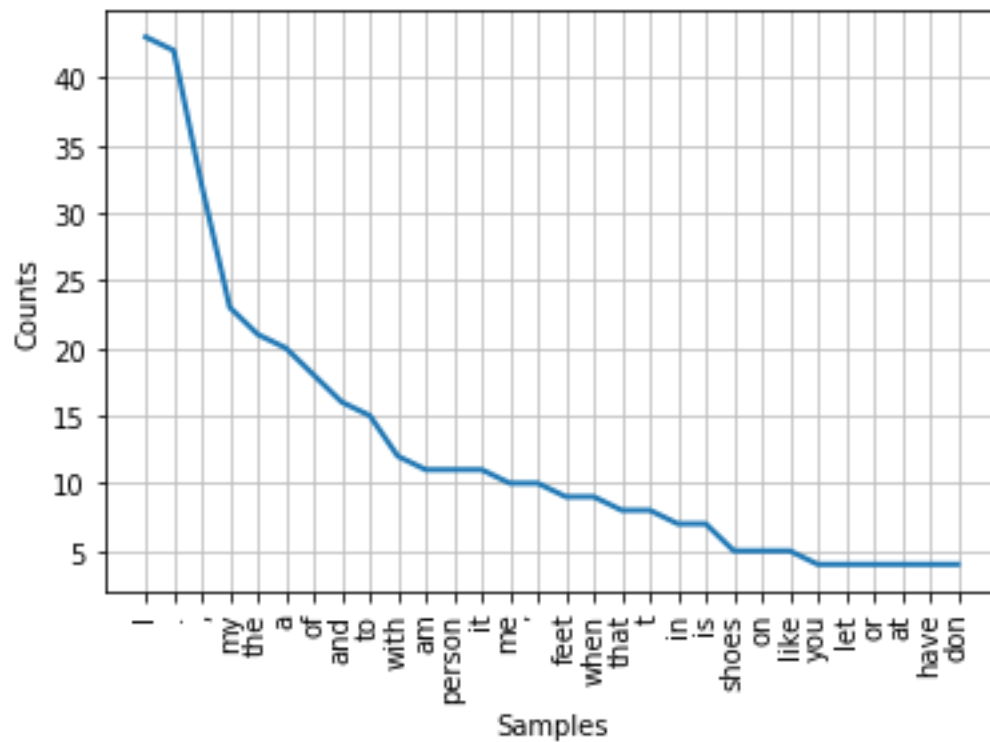
```

```
<FreqDist with 301 samples and 743 outcomes>
```

```

fdist.most_common(2)
[('is', 3), (',', 2)]
# Frequency Distribution Plot
import matplotlib.pyplot as plt
fdist.plot(30,cumulative=False)
plt.show()

```





```
"""**Sentence segmentation using nltk**"""
```

```
sent_tokenize(text)
```

```
['I must be honest with you.',  
'I was about to go to sleep before I opened my mail and read your letter.',  
'Now I am wide awake, sitting upright, because you made me question my preferences  
between shoes and slippers.',  
'Be patient with me.',  
'I need proper peaceful sleep and let's sort this out.I am a shoe person.',  
'Correction: I am a person obsessed with dry, dust-free feet.',  
'Whatever helps me keep a grip on my walk and posture in spite of my profusely sweaty  
feet, I am that person.',  
'Whatever keeps the grainy, pokey sensation of soil or sand in parts of my skin away,  
I am that person.',  
'I guess, I am a shoe person because it is loyal to my whole feet.',  
'Not making parts of it lying exposed and parts of it covered, without any  
symmetry.',  
'I am also cotton sock person, preferably red.',  
'Sometimes, I am a clean matte (anti-slippery) floor person.',  
'Basically, I am a person with issues.I really liked your host-guest theory of  
travelling, how we do not just get out of home when we travel, the home expands when  
we step foot at a place engulfing it into our comfort zone.',  
'But the thing is I wear socks all the time in my house, and open them when I go to  
bed, replacing the sock with a comforter.',  
'I guess I need that comfort zone close and maybe, mine is restricted to my own  
skin.',  
'So much so, that it doesn't even include my own home.',  
'When I travel, I like wearing shoes, with a firm grip on myself, dust free,  
protected.',  
'When I face situations where I have to open them and I don't want to, I usually  
wrinkle my nose.',  
'It doesn't get better that I can't wear those shoes again with a dirty feet.',  
'I take a handkerchief.Imagine my situation at the beach or in a hill stream, when  
the water feels soothing to my sweaty feet and removes the dust, only to attract more  
of it when I walk on the sand.',  
'I let it irritate me those times, because I always have the ocean and the river on  
my side.',  
'I like my bare feet drowning with no air bubbles left.',  
'I don't like it when droplets of water make only a part of my feet wet, only to let  
me realise and miss the comfort of dry skin and scowl at the linger of irritation due  
to a little dampness.',  
'I don't like it when I have to keep on brushing my left leg against my right to  
flatten the spheres of water.',  
'And repeat it with the right.',  
'I just realised why I don't like drizzling rains.Eventually, when I have to get out  
of the water, I give up my fight with the dirt and wear those damn shoes with muddy  
feet.',  
'Those are the times I miss my slippery slippers.',  
'Don't let my socks or shoes hear me say that.',  
'They do not know that sometimes I keep a back-up pair of red flip-flops for such  
scenarios.',  
'Does this make me a slipper person?',  
'I guess I am a slipper person when my feet are ankle deep in mud, so that there is  
no place for me to complain.',
```

```
'No alternative.',
'No uneasy half-done feeling.',
'Otherwise, not much of a slipper person.I am a person who likes symmetry.',
'All in or none at all.',
'It's difficult being me in this world with its shades of grey.',
'But then, my favourite colour is red and thankfully it covers the entire spectrum.',
'All I need is an emotion, and the rest is taken care of.Thank you for being the
listener you are.',
'This has been a selfish post.',
'I used your letter for my sense of clarity.',
'You always make me reflect and dig deep.',
'I can finally sleep now.',
'Goodnight.']
```

```
"""**from scratch using for loop**
```

```
**Stopwords**
```

Stopwords considered as noise in the text. Text may contain stop words such as is, am, are, this, a, an, the, etc.

In NLTK for removing stopwords, you need to create a list of stopwords and filter out your list of tokens from these words.

```
"""
```

```
x = word_tokenize(text)
stopwords = [';', ':', ',', '.', '!', '?']
new = []
storey = ""
for i in x:
    if i in stopwords:
        storey = storey + i
        new.append(storey)
        storey = " "
    else:
        storey= storey + " " + i
print(new)
```

```
[' I must be honest with you.', ' I was about to go to sleep before I opened my mail
and read your letter.', ' Now I am wide awake,', ' sitting upright,', ' because you
made me question my preferences between shoes and slippers.', ' Be patient with me.',
' I need proper peaceful sleep and let ' s sort this out.I am a shoe person.', '
Correction:', ' I am a person obsessed with dry,', ' dust-free feet.', ' Whatever
helps me keep a grip on my walk and posture in spite of my profusely sweaty feet,', '
I am that person.', ' Whatever keeps the grainy,', ' pokey sensation of soil or sand
in parts of my skin away,', ' I am that person.', ' I guess,', ' I am a shoe person
because it is loyal to my whole feet.', ' Not making parts of it lying exposed and
parts of it covered,', ' without any symmetry.', ' I am also cotton sock person,', '
preferably red.', ' Sometimes,', ' I am a clean matte ( anti-slippery ) floor
person.', ' Basically,', ' I am a person with issues.I really liked your host-guest
theory of travelling,', ' how we do not just get out of home when we travel,', ' the
home expands when we step foot at a place engulfing it into our comfort zone.', ' But
the thing is I wear socks all the time in my house,', ' and open them when I go to
```

bed,', ' replacing the sock with a comforter.', ' I guess I need that comfort zone close and maybe,', ' mine is restricted to my own skin.', ' So much so,', ' that it doesn ' t even include my own home.', ' When I travel,', ' I like wearing shoes,', ' with a firm grip on myself,', ' dust free,', ' protected.', ' When I face situations where I have to open them and I don ' t want to,', ' I usually wrinkle my nose.', ' It doesn ' t get better that I can ' t wear those shoes again with a dirty feet.', ' I take a handkerchief.Imagine my situation at the beach or in a hill stream,', ' when the water feels soothing to my sweaty feet and removes the dust,', ' only to attract more of it when I walk on the sand.', ' I let it irritate me those times,', ' because I always have the ocean and the river on my side.', ' I like my bare feet drowning with no air bubbles left.', ' I don ' t like it when droplets of water make only a part of my feet wet,', ' only to let me realise and miss the comfort of dry skin and scowl at the linger of irritation due to a little dampness.', ' I don ' t like it when I have to keep on brushing my left leg against my right to flatten the spheres of water.', ' And repeat it with the right.', ' I just realised why I don ' t like drizzling rains.Eventually,', ' when I have to get out of the water,', ' I give up my fight with the dirt and wear those damn shoes with muddy feet.', ' Those are the times I miss my slippery slippers.', ' Don ' t let my socks or shoes hear me say that.', ' They do not know that sometimes I keep a back-up pair of red flip-flops for such scenarios.', ' Does this make me a slipper person?', ' I guess I am a slipper person when my feet are ankle deep in mud,', ' so that there is no place for me to complain.', ' No alternative.', ' No uneasy half-done feeling.', ' Otherwise,', ' not much of a slipper person.I am a person who likes symmetry.', ' All in or none at all.', ' It ' s difficult being me in this world with its shades of grey.', ' But then,', ' my favourite colour is red and thankfully it covers the entire spectrum.', ' All I need is an emotion,', ' and the rest is taken care of.Thank you for being the listener you are.', ' This has been a selfish post.', ' I used your letter for my sense of clarity.', ' You always make me reflect and dig deep.', ' I can finally sleep now.', ' Goodnight.']