```
!pip install nltk
```

```
Requirement already satisfied: nltk in /usr/local/lib/python3.10/dist-packages (3.8.1)
Requirement already satisfied: click in /usr/local/lib/python3.10/dist-packages (from nltk) (8.1.7)
Requirement already satisfied: joblib in /usr/local/lib/python3.10/dist-packages (from nltk) (1.3.2)
Requirement already satisfied: regex>=2021.8.3 in /usr/local/lib/python3.10/dist-packages (from nltk) (2023.6.3)
Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages (from nltk) (4.66.1)
```

```
text = 'One day, a fox became very hungry. He went out to search for some food. He searched high and low but couldn’t find anything to ea
```

```
text
```

```
'One day, a fox became very hungry. He went out to search for some food. He searched
high and low but couldn’t find anything to eat. Finally, as his stomach rumbled, he
stumbled upon a farmer’s wall. At the top of the wall, he saw the biggest, juiciest
grapes he’d ever seen. They were a rich purple, telling the fox they were ready to b
```

```
import nltk
```

```
nltk.download('stopwords')
```

```
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data]   Unzipping corpora/stopwords.zip.
True
```

```
stop_words = stopwords.words('english')
```

```
nltk.download('punkt')
```

```
[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data]   Unzipping tokenizers/punkt.zip.
True
```

```
from nltk.tokenize import word_tokenize
words = word_tokenize(text)
```

```
holder = list()
for w in words:
    if w not in set(stop_words):
        holder.append(w)
```

```
holder
```

```
['One',
 'day',
 ',',
 'fox',
 'became',
 'hungry',
 '.',
 'He',
 'went',
 'search',
 'food',
 '.',
 'He',
 'searched',
 'high',
 'low',
 'n',
 't',
 'find',
 'anything',
 'eat',
 '.',
 'Finally',
 ',',
 'stomach',
 'rumbled',
 ',',
 'stumbled',
 'upon',
 'farmer',
 's',
 'wall',
 '.',
 'At',
 'top',
 'wall',
```

```
        ',',
        'saw',
        'biggest',
        ',',
        'juiciest',
        'grapes',
        '’',
        'ever',
        'seen',
        '.',
        'They',
        'rich',
        'purple',
        ',',
        'telling',
        'fox',
        'ready',
        'eaten',
        '.']
```

```
holder = [w for w in words if w not in set(stop_words)]
print(holder)
```

```
['One', 'day', ',', 'fox', 'became', 'hungry', '.', 'He', 'went', 'search', 'food', '.', 'He', 'searched', 'high', 'low', '’', 'fin
```

```
from nltk.stem import PorterStemmer, SnowballStemmer, LancasterStemmer


porter = PorterStemmer()
snow = SnowballStemmer(language = 'english')
lancaster = LancasterStemmer()


words = ['play', 'plays', 'played', 'playing', 'player']


porter_stemmed = list()
for w in words:
    stemmed_words = porter.stem(w)
    porter_stemmed.append(stemmed_words)


porter_stemmed
```

```
['play', 'play', 'play', 'play', 'player']
```

```
porter_stemmed = [porter.stem(x) for x in words]
print (porter_stemmed)
```

```
['play', 'play', 'play', 'play', 'player']
```

```
snow_stemmed = list()
for w in words:
    stemmed_words = snow.stem(w)
    snow_stemmed.append(stemmed_words)


snow_stemmed
```

```
['play', 'play', 'play', 'play', 'player']
```

```
snow_stemmed = [snow.stem(x) for x in words]
print (snow_stemmed)
```

```
['play', 'play', 'play', 'play', 'player']
```

```
lancaster_stemmed = list()
for w in words:
    stemmed_words = lancaster.stem(w)
    lancaster_stemmed.append(stemmed_words)


lancaster_stemmed
```

```
['play', 'play', 'play', 'play', 'play']
```

```
lancaster_stemmed = [lancaster.stem(x) for x in words]
print (lancaster_stemmed)
```

```
['play', 'play', 'play', 'play', 'play']
```

```
from nltk.stem import WordNetLemmatizer
wordnet = WordNetLemmatizer()
```

```
nltk.download('wordnet')
```

```
[nltk_data] Downloading package wordnet to /root/nltk_data...
True
```

```
lemmatized = [wordnet.lemmatize(x) for x in words]
```

```
lemmatized
```

```
['play', 'play', 'played', 'playing', 'player']
```