:[13] In

```
import nltk
from nltk.stem import PorterStemmer
Stemmerporter = PorterStemmer()
Stemmerporter.stem("dimonstration")
```

Out[13]:

```
'dimonstr'
```

Exercise 2: Assume you have a list of words that you want to get their stem, write python script that find stem of .each word in the list

:[19] In

```
l_words = ['dogs', 'programming', 'programs', 'programmed', 'cakes', 'indices', 'matrices']
for word in l_words:
    print(f'{word} \t -> {porter.stem(word)}'.expandtabs(15))
```

```
dogs            -> dog
programming     -> program
programs        -> program
programmed      -> program
cakes           -> cake
indices         -> indic
matrices        -> matric
```

:Exercise 3: Now, apply Poster Stemmer on the following sentence

:[26] In

```
from nltk.tokenize import sent_tokenize, word_tokenize
sentence = "A stemmer for English operating on the stem cat should identify such strings as
tokenized_words = word_tokenize(sentence)
tokenized_sentence = []
for word in tokenized_words:
    tokenized_sentence.append(porter.stem(word))
tokenized_sentence = " ".join(tokenized_sentence)
tokenized_sentence
```

Out[26]:

```
A stemmer for english oper on the stem cat should identifi such string as c'
 at , catlik , and catti . A stem algorithm might also reduc the word fish ,
'fish , and fisher to the stem fish
```

In [34]:

```
##Exercise 3: Repeat the task presented in exercise 2. Then,compare outputs! Do you find a
from nltk.stem import LancasterStemmer
StemmerLancaster = LancasterStemmer()
StemmerLancaster.stem("dimonstration")
```

Out[34]:

```
'dimonst'
```

In [ ]:

```

```

In [37]:

```
from nltk.stem.isri import ISRIStemmer
st = ISRIStemmer()
w='حركات'
print(st.stem(w))
```

```
حرك
```

In [47]:

```
file=open("D:\\file1.txt")
Sentences= file.read()
def stemSentence(sentence):
 token_words=word_tokenize(sentence)
 token_words
 stem_sentence=[]
 for word in token_words:
        stem_sentence.append(porter.stem(word))
 stem_sentence.append(" ")
 return "".join(stem_sentence)
print(Sentences)
print("Stemmed sentence")
x=stemSentence(Sentences)
print(x)
```

```
 wolcame my teacher
Stemmed sentence
 wolcammyteacher
```

In [54]:

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

```
nltk_data] Downloading package wordnet to]
...nltk_data]     C:\Users\USER\AppData\Roaming\nltk_data]
!nltk_data]   Package wordnet is already up-to-date]
```

Out[54]:

```
True
```

:[56] In

```
from nltk.stem import WordNetLemmatizer
wordnet_lemmatizer = WordNetLemmatizer()
sentence = "He was running and eating at same time. He has bad habit of swimming after play
punctuations="?:!.,;"
sentence_words = nltk.word_tokenize(sentence)
for word in sentence_words:
    if word in punctuations:
     sentence_words.remove(word)
sentence_words
print("{0:20}{1:20}".format("Word","Lemma"))
for word in sentence_words:
 print ("{0:20}{1:20}".format(word,wordnet_lemmatizer.lemmatize(word)))
```

```
Word                Lemma
He                  He
was                 wa
running             running
and                 and
eating              eating
at                  at
same                same
time                time
He                  He
has                 ha
bad                 bad
habit               habit
of                  of
swimming            swimming
after               after
playing             playing
long                long
hours               hour
in                  in
the                 the
Sun                 Sun
```

:[57] In

```
for word in sentence_words:
 print ("{0:20}{1:20}".format(word,wordnet_lemmatizer.lemmatize(word, pos="v")))
```

```
He                   He
was                  be
running              run
and                  and
eating               eat
at                   at
same                 same
time                 time
He                   He
has                  have
bad                  bad
habit                habit
of                   of
swimming             swim
after                after
playing              play
long                 long
hours                hours
in                   in
the                  the
Sun                  Sun
```

:[ ] In

```

```