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EXP 11

## Implementation of NLP – Tagging and Parts of Speech

### Working Principle

In natural language processing, human language is separated into fragments so that the grammatical structure of sentences and the meaning of words can be analyzed and understood in context.

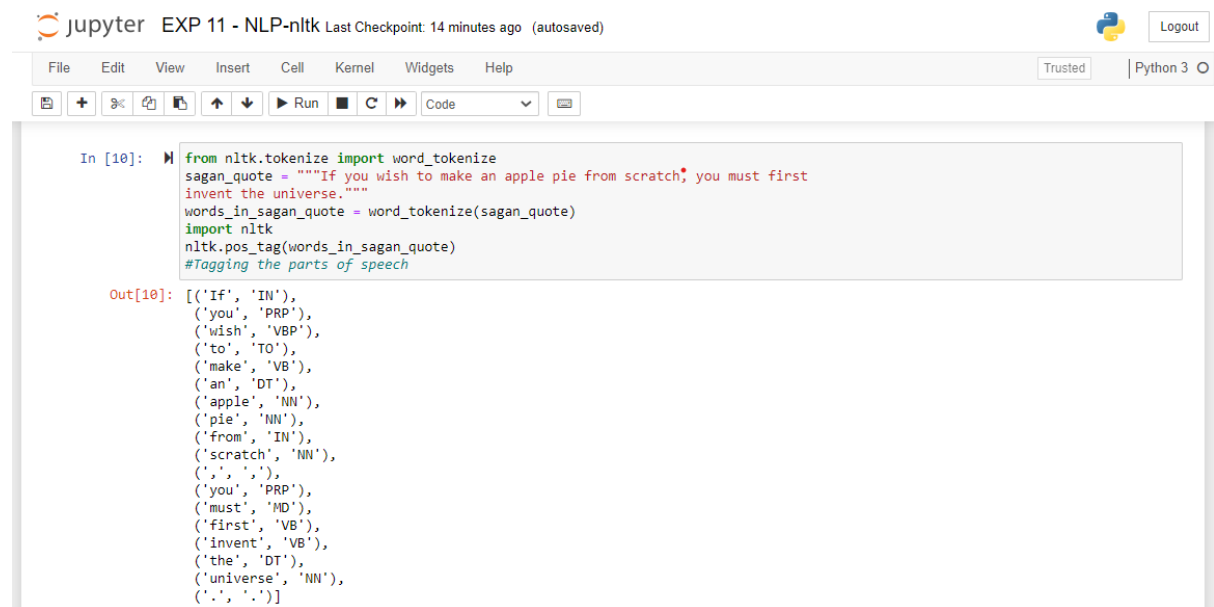
- Part-of-speech-tagging: marking up words as nouns, verbs, adjectives, adverbs, pronouns, etc

In python the availability of nltk makes the working of nlp very easy and efficient. The word tokeniser splits the given sentence into words and then the pos\_tag helps in identification of the the parts of speech and tag them accordingly.

### Source Code

```
from nltk.tokenize import word_tokenize  
  
sagan_quote = """If you wish to make an apple pie from scratch, you must first  
invent the universe."""  
  
words_in_sagan_quote = word_tokenize(sagan_quote)  
  
import nltk  
  
nltk.pos_tag(words_in_sagan_quote)  
  
#Tagging the parts of speech
```

## Output



The image shows a Jupyter Notebook interface. At the top, the title bar reads "jupyter EXP 11 - NLP-nltk Last Checkpoint: 14 minutes ago (autosaved)". On the right, there is a "Logout" button. Below the title bar is a menu bar with "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". Below the menu bar is a toolbar with icons for file operations, running, and code execution. The main area contains a code cell with the following Python code:

```
In [10]: from nltk.tokenize import word_tokenize
sagan_quote = """If you wish to make an apple pie from scratch, you must first
invent the universe."""
words_in_sagan_quote = word_tokenize(sagan_quote)
import nltk
nltk.pos_tag(words_in_sagan_quote)
#Tagging the parts of speech
```

Below the code cell is an output cell showing the result of the `nltk.pos_tag` function:

```
Out[10]: [('If', 'IN'),
('you', 'PRP'),
('wish', 'VBP'),
('to', 'TO'),
('make', 'VB'),
('an', 'DT'),
('apple', 'NN'),
('pie', 'NN'),
('from', 'IN'),
('scratch', 'NN'),
('.', '.'),
('you', 'PRP'),
('must', 'MD'),
('first', 'VB'),
('invent', 'VB'),
('the', 'DT'),
('universe', 'NN'),
('.', '.')]

```

## Result

Hence, the Implementation of NLP for tagging parts of speech is done successfully.