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EXPERIMENT NO: 11

IMPLEMENTATION OF NLP – TAGGING A  
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, adjective, adverbs, pronouns, etc

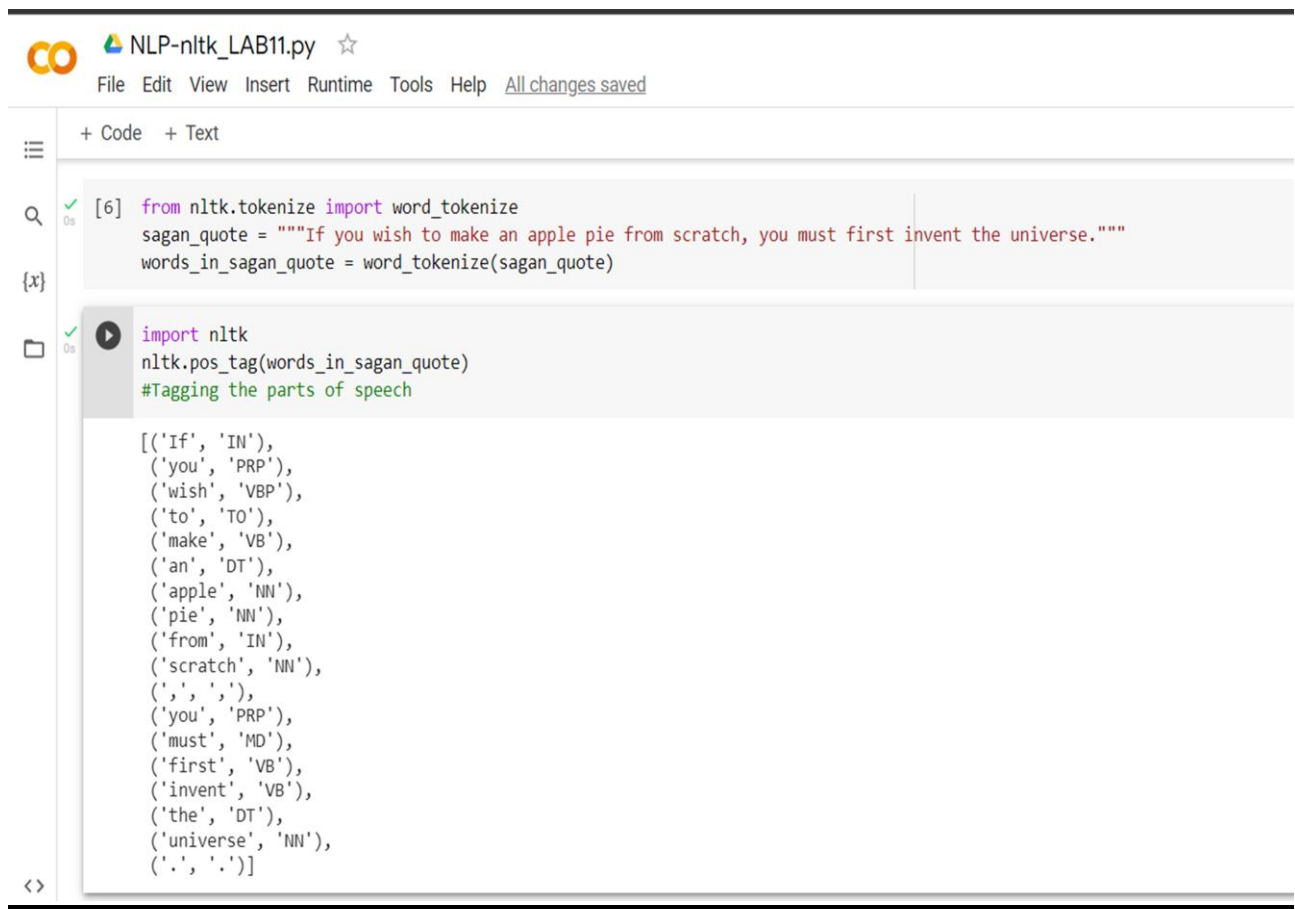
In python the availability of nltk makes the working of nlp very easy and efficient.

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 screenshot shows a Jupyter Notebook titled "NLP-nltk\_LAB11.py". The interface includes a menu bar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help", along with a status bar indicating "All changes saved". The notebook has two cells. The first cell contains code to tokenize a sentence: `from nltk.tokenize import word_tokenize`, `sagan_quote = ""If you wish to make an apple pie from scratch, you must first invent the universe.""`, and `words_in_sagan_quote = word_tokenize(sagan_quote)`. The second cell contains code to tag the parts of speech: `import nltk`, `nltk.pos_tag(words_in_sagan_quote)`, and a comment `#Tagging the parts of speech`. The output of the second cell is a list of tuples representing the words and their part-of-speech tags: `[('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'), ('.', '.')]`.

```
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

[('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.