

AMIT SRIVASTAV
RA1911003010633
ARTIFICIAL INTELLIGENCE LAB
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, adjectives, adverbs, pronouns, etc

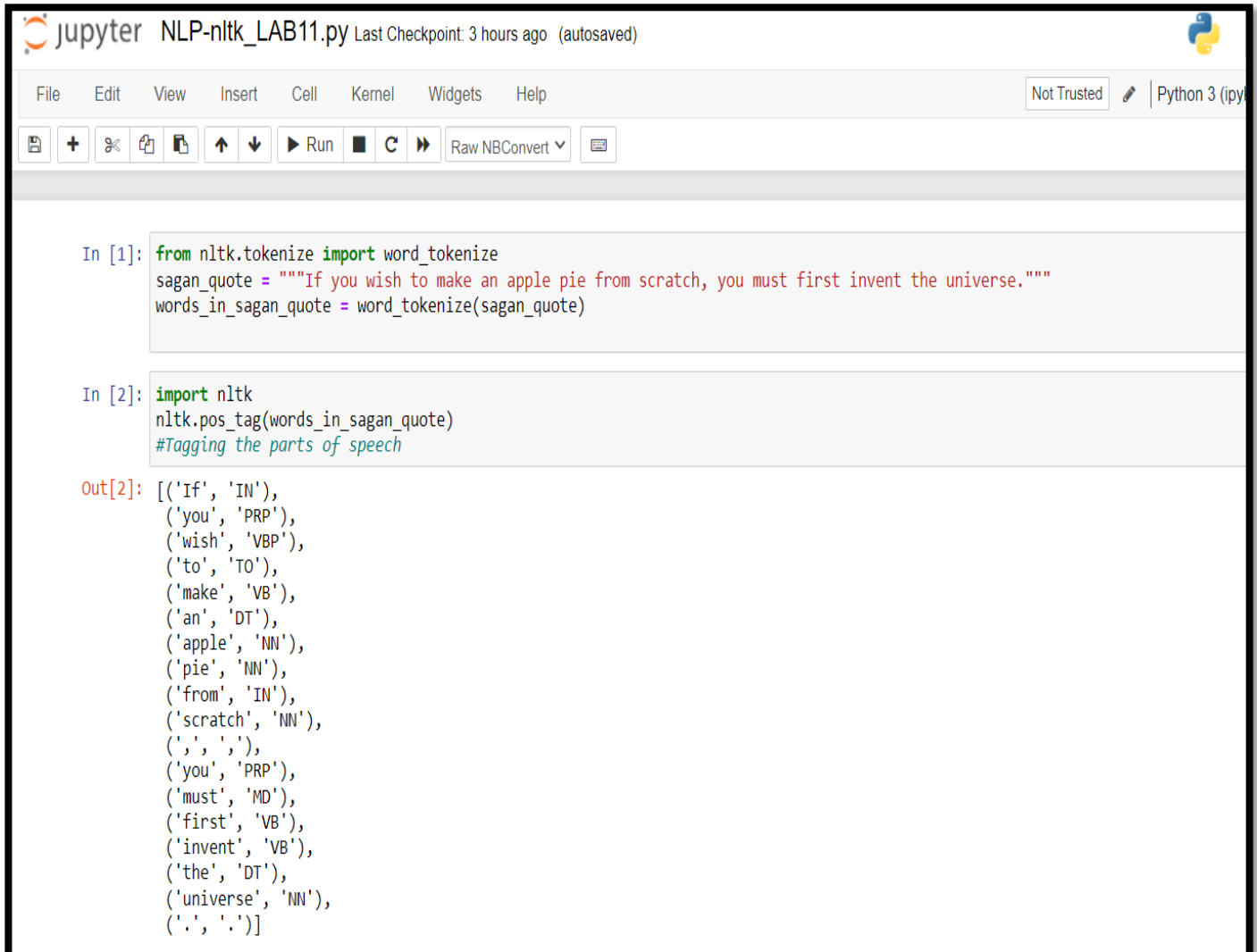
In python the availability of nltk makes the working of nlp very easy and efficient.

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 with the title 'NLP-nltk_LAB11.py' and a status bar indicating 'Last Checkpoint: 3 hours ago (autosaved)'. The interface includes a menu bar with 'File', 'Edit', 'View', 'Insert', 'Cell', 'Kernel', 'Widgets', and 'Help'. A toolbar below the menu contains icons for file operations, running, and other notebook functions. The main area displays two input cells and one output cell. The first input cell contains code to import 'word_tokenize' from 'nltk.tokenize' and tokenize a quote from Sagan. The second input cell imports 'nltk' and uses 'pos_tag' to tag the tokens. The output cell shows the resulting list of tuples, where each tuple contains a word and its corresponding part-of-speech tag.

```
In [1]: 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)

In [2]: import nltk
nltk.pos_tag(words_in_sagan_quote)
#Tagging the parts of speech

Out[2]: [('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.