Lab 5 – Sentence Generator

Goals

- Familiarity with lists and list manipulation
- Use of the random library

Setup

- Create a new PyCharm file in your desired directory
- When you name the code, use the following naming convention
  ITP115_l#_lastname_firstname
  (replace # with this lab number)
- Your new file must begin with comments in the following format (replace the name and email with your actual information):

```
# Name
# ITP 115, Spring 2052
# Lab L^ (replace ^ with this lab number)
# USC email
```

Requirements

Your program must perform the following:

- Write a program that will generate a sentence with the following format:
  <u>ARTICLE</u> <u>NOUN</u> <u>VERB</u> <u>ARTICLE</u> <u>NOUN</u>
- Use lists to store words of each type (i.e. have a list of articles, a list of nouns, etc.). The program will start with a few words in each list.
- Allow the user to select from 5 different options:
  1. View all words
  2. Add new words
  3. Delete old words
  4. Generate sentence
  5. Exit
- When the user selects from options 2 or 3, ask the user what type of word they would like to view, add, or delete.
- If the user enters an option other than 1-5, display an error message.
- Hints:
  - **numbers = [1, 3, 4]**
    num = random.choice(numbers)
    returns an element from numbers selected randomly

- o **`numbers.append(6)`**

  adds 6 to the list
- o **`numbers.remove(6)`**

  removes 6 from the list

  We will cover **remove** in more detail later. Note that in order to remove an item from a list, it must first already exist in the list.

Sample Output

Example 1:

```
Welcome to the Sentence Generator
Menu
1) View Words
2) Add Words
3) Remove Words
4) Generate Sentence
5) Exit

> 1
articles: ['a', 'the']
nouns: ['person', 'place', 'thing']
verbs: ['danced', 'ate', 'froliced']

Welcome to the Sentence Generator
Menu
1) View Words
2) Add Words
3) Remove Words
4) Generate Sentence
5) Exit

> 2
Enter 1) for nouns or 2) for verbs: 1
Enter the word: potato

Welcome to the Sentence Generator
Menu
1) View Words
2) Add Words
3) Remove Words
4) Generate Sentence
5) Exit
```

```
> 1
articles: ['a', 'the']
nouns: ['person', 'place', 'thing', 'potato']
verbs: ['danced', 'ate', 'froliced']

        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 17
Invalid choice.

        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 5
Program will exit
Have a great day!
```

Example 2:

```
        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 4
a thing danced the place

        Welcome to the Sentence Generator
        Menu
        1) View Words
```

```
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 3
Enter 1) for nouns or 2) for verbs: 2
Enter the word: jumped
word not in list

        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 3
Enter 1) for nouns or 2) for verbs: 2
Enter the word: danced

        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 4
the place ate the thing

        Welcome to the Sentence Generator
        Menu
        1) View Words
        2) Add Words
        3) Remove Words
        4) Generate Sentence
        5) Exit

> 5
Program will exit
Have a great day!
```

Deliverables and Submission Instructions

- A compressed folder (zip file) containing you Python code. This can be done by:
    a. Windows *(you must find the folder on your computer—this can't be done within PyCharm):*
        i. Select your lab file
        ii. Right click
        iii. Send to ->
        iv. Compressed (zipped) folder
        v. Rename this folder with the following name:
           ITP115_l#_lastname_firstname
           (replace # with this assignment number)
        vi. Submit this zipped folder through Blackboard
    b. OSX *(you must find the folder on your computer—this can't be done within PyCharm):*
        i. Select your lab file
        ii. Right click
        iii. Compress 1 item
        iv. Rename this folder with the following name:
           ITP115_l#_lastname_firstname
           (replace # with this assignment number)
        v. Submit this zipped folder through Blackboard