Lab 5-1 – Sentence Generator

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

Setup
- In PyCharm, create a new project or open an existing one (such as Labs)
- Create a new Python file using the following naming convention:
  ITP115_L5_1_*LastName_FirstName*
  (replace *LastName* with your last/family name and *FirstName* with your first name)
- Your new file must begin with comments in the following format (replace the name and email with your actual information):
  ```
  # Name, USC email
  # ITP 115, Spring 2020
  # Lab 5-1
  ```

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.). Add words into your lists so they aren't empty. Feel free to use the words shown in the sample output!
- 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
  - **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', 'frolicked']

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', 'frolicked']

        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

- Create a zip file containing your Python code. This cannot be done within PyCharm. Find the file or folder on your computer and compress it.
  a. Windows*:*
      1. Using File Explorer, select your lab file
      2. Right click
      3. Send to ->
      4. Compressed (zipped) folder
  b. Mac OSX:
      1. Using Finder, select your lab file
      2. Right click
      3. Compress "*FileName*"
- Upload the zip file to your Blackboard section:
  1. On Blackboard, click on the Labs item in the course menu on the left.
  2. Click on the specific item for this assignment (starts with L and a number).
  3. Click on the Browse My Computer button and select your zip file.
  4. Click the Submit button.