CS 115 - Introduction to Programming in Python

Lab Guide 06

Lab Objectives: Two-dimensional lists, numpy, arrays.

1. Complete the following, Lab06_Q1:
   a. Write a function, max_chars() that takes a 2D list of strings as a parameter and returns a list containing the ***maximum*** length of the strings in **each** column.
   b. Write a function, read_words() that takes the number of rows and the number of columns in a 2D list as parameters, and fills and returns a new 2D list of strings with words input from the user.
   c. Write a program that inputs words into a list and display the maximum length of words in each column. See sample run below.

   Sample Data (`sentences` may change):

```
sentences = [['lion', 'house', 'car'],
             ['cat', 'dog', 'car'],
            ['cat', 'house', 'dragon']]

max_chars(sentences) returns [4, 5, 6]
```

   Sample Run:

```
Enter word: Lion
Enter word: cat
Enter word: house
Enter word: at
Enter word: car
Enter word: star
Enter word: is
Enter word: big
Enter word: the
Enter word: dragon
Enter word: at
Enter word: hat

Words: [['Lion', 'cat', 'house', 'at'], ['car', 'star', 'is',
'big'], ['the', 'dragon', 'at', 'hat']]

Max Length of words in each column: [4, 6, 5, 3]
```

2. Download the file, **`Lab06Q2.ipynb`**, and complete the question given in the notebook.