

Lei-Ann Edang

2ECE-A

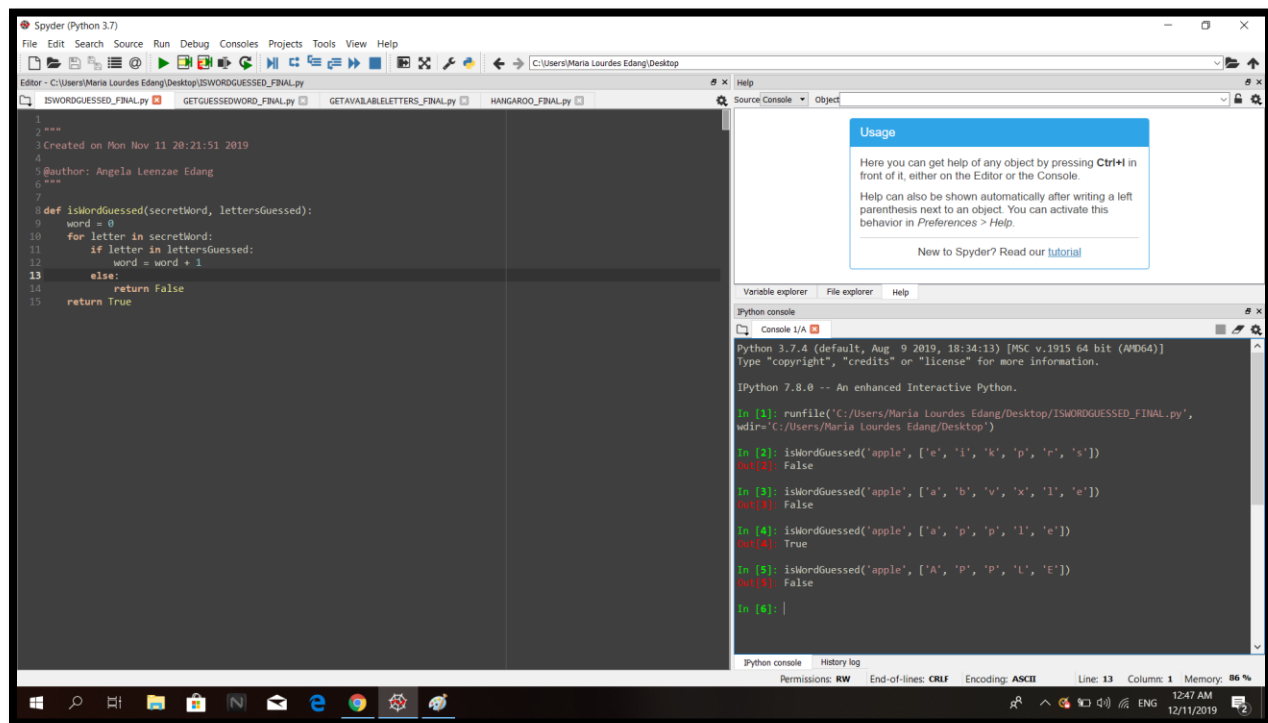
November 11, 2019

Programming Assignment

## EXPERIMENT 6

### BASE PYTHON FOR SCIENTIFIC COMPUTING

Problem A: *isWordGuessed*



The screenshot shows the Spyder Python IDE interface. The main editor window displays the following Python code:

```
1 """
2 Created on Mon Nov 11 20:21:51 2019
3
4
5 @author: Angela Leenzae Edang
6 """
7
8 def isWordGuessed(secretWord, lettersGuessed):
9     word = 0
10    for letter in secretWord:
11        if letter in lettersGuessed:
12            word = word + 1
13    else:
14        return False
15    return True
```

The right-hand pane shows the IPython console with the following output:

```
Python 3.7.4 (default, Aug 9 2019, 18:34:13) [MSC v.1915 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.8.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/Maria Lourdes Edang/Desktop/ISWORDGUESSED_FINAL.py',
Out[1]: False
In [2]: isWordGuessed('apple', ['e', 'l', 'k', 'p', 'n', 's'])
Out[2]: False
In [3]: isWordGuessed('apple', ['a', 'b', 'v', 'x', 'l', 'e'])
Out[3]: False
In [4]: isWordGuessed('apple', ['a', 'p', 'p', 'l', 'e'])
Out[4]: True
In [5]: isWordGuessed('apple', ['A', 'P', 'P', 'L', 'E'])
Out[5]: False
In [6]:
```

The bottom status bar indicates: Permissions: RW, End-of-lines: CRLF, Encoding: ASCII, Line: 13, Column: 1, Memory: 86 %.

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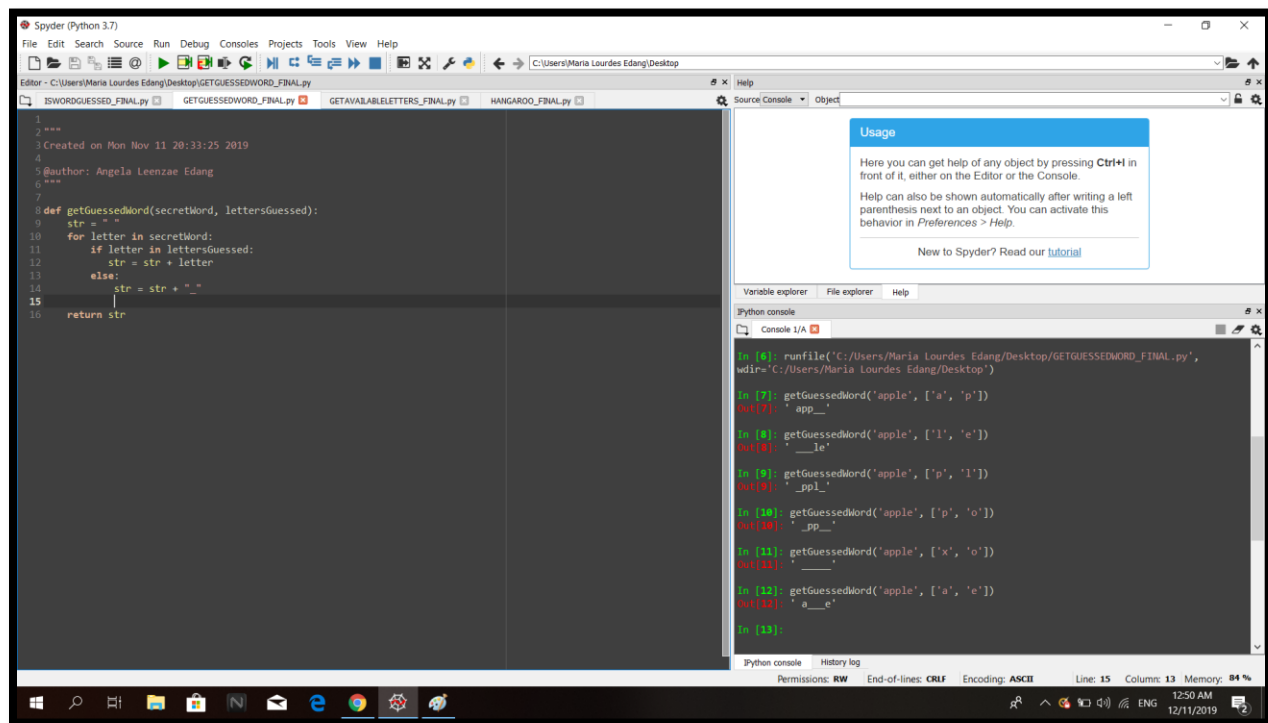
November 11, 2019

Programming Assignment

## EXPERIMENT 6

### BASE PYTHON FOR SCIENTIFIC COMPUTING

Problem B: *getGuessedWord*



The screenshot displays the Spyder Python IDE interface. The main editor window shows the following Python code for the `getGuessedWord` function:

```
1 """
2 Created on Mon Nov 11 20:33:25 2019
3
4
5 @author: Angela Leenzae Edang
6 """
7
8 def getGuessedWord(secretWord, lettersGuessed):
9     str = ""
10    for letter in secretWord:
11        if letter in lettersGuessed:
12            str = str + letter
13        else:
14            str = str + "_"
15    return str
```

The right-hand pane contains the 'Python console' with the following interactive session:

```
In [6]: runfile('C:/Users/Maria Lourdes Edang/Desktop/GETGUESSEDDWORD_FINAL.py',
Out[6]: 'C:/Users/Maria Lourdes Edang/Desktop')
In [7]: getGuessedWord('apple', ['a', 'p'])
Out[7]: 'app__'
In [8]: getGuessedWord('apple', ['l', 'e'])
Out[8]: '_le'
In [9]: getGuessedWord('apple', ['p', 'l'])
Out[9]: '_ppl_'
In [10]: getGuessedWord('apple', ['p', 'o'])
Out[10]: '_pp__'
In [11]: getGuessedWord('apple', ['x', 'o'])
Out[11]: '___'
In [12]: getGuessedWord('apple', ['a', 'e'])
Out[12]: 'a__e'
In [13]:
```

The bottom status bar indicates the file permissions (RW), end-of-line (CRLF), encoding (ASCII), and current position (Line: 15, Column: 13, Memory: 84 %).

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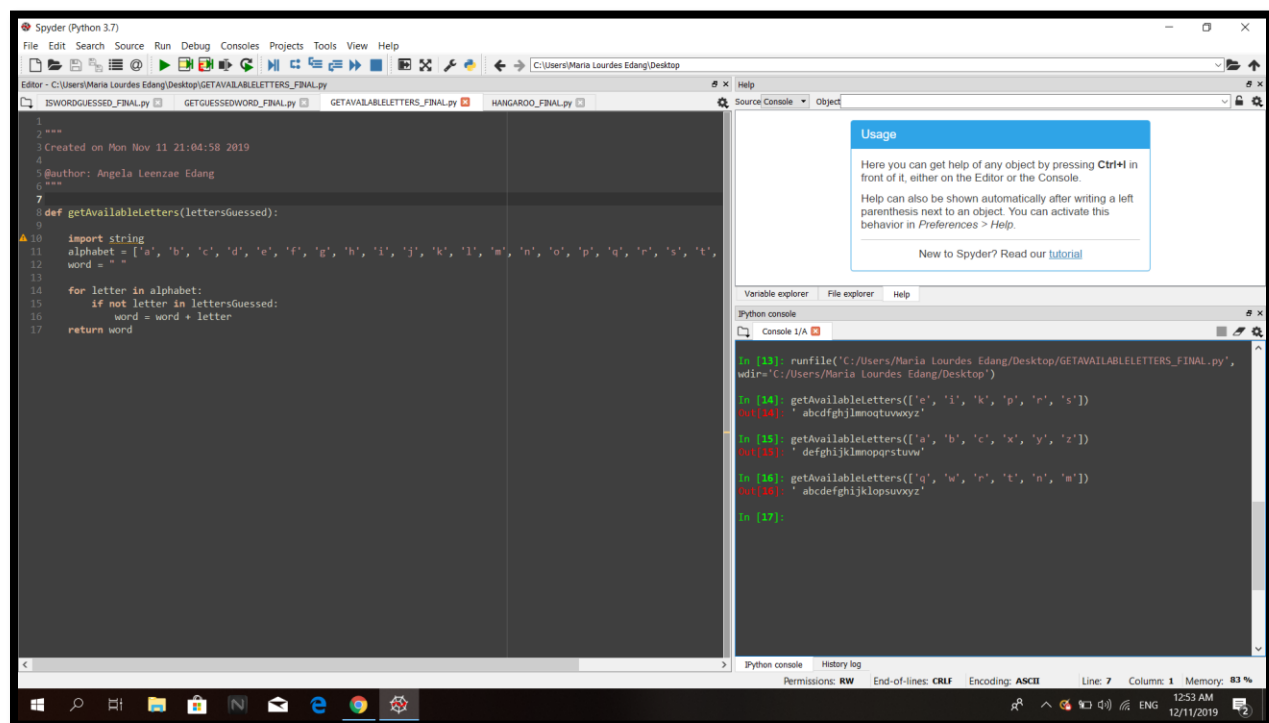
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Programming Assignment

## EXPERIMENT 6

### BASE PYTHON FOR SCIENTIFIC COMPUTING

Problem C: *getAvailableLetters*



The screenshot displays the Spyder Python IDE interface. The main editor window shows a Python script for the `getAvailableLetters` function. The function takes a list of guessed letters and returns a string of available letters from the alphabet. The script includes a docstring, a comment about the creation date and author, and a loop that iterates through the alphabet to build the available letters string.

```
1 """
2 Created on Mon Nov 11 21:04:58 2019
3
4
5 @author: Angela Leenzae Edang
6 """
7
8 def getAvailableLetters(lettersGuessed):
9
10     import string
11     alphabet = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't',
12
13
14     for letter in alphabet:
15         if not letter in lettersGuessed:
16             word = word + letter
17     return word
```

The Python console on the right shows the execution of the function with various inputs and the corresponding outputs:

```
In [15]: runfile('C:/Users/Maria Lourdes Edang/Desktop/GETAVAILABLELETTERS_FINAL.py',
Out[15]: 'abcdefghijklmnopqrstuvwxyz'

In [16]: getAvailableLetters(['e', 'i', 'k', 'p', 'n', 's'])
Out[16]: 'abcdefghijklmnopqrstuvwxyz'

In [17]: getAvailableLetters(['a', 'b', 'c', 'x', 'y', 'z'])
Out[17]: 'defghijklmnopqrstuvw'

In [18]: getAvailableLetters(['q', 'w', 'n', 't', 'n', 'm'])
Out[18]: 'abcdefghijklmnopqrstuvwxyz'
```

The bottom status bar indicates the file permissions (RW), end-of-line (CR LF), encoding (ASCII), and the current line and column (Line: 7, Column: 1). The memory usage is shown as 83%.

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Programming Assignment

## EXPERIMENT 6

### BASE PYTHON FOR SCIENTIFIC COMPUTING

Problem D: *Hangaroo*

```
1 """
2 Created on Mon Nov 11 22:11:31 2019
3
4
5 @author: Angela Leenza Edang
6 """
7
8 def Hangaroo(secretWord):
9
10     lettersGuessed = []
11     Guesses = 5
12
13     print("You are now playing Hangman!")
14     #print("The secret word is ", secretWord)
15     print("I am thinking of a word that is ", len(secretWord), "letters long.")
16
17
18     while Guesses > 0:
19         print("You only have ", Guesses, " guesses remaining.")
20         print("Available Letters: ", getAvailableLetters(lettersGuessed))
21
22         guessInput = input("Guess a letter: ")
23
24         if (guessInput not in secretWord):
25             print("Whoops! That letter is not in my word. ", getGuessedWord(secretWord, lettersGuessed))
26             Guesses = Guesses - 1
27         elif (guessInput in lettersGuessed):
28             print("You already guessed that letter. Try again!", getGuessedWord(secretWord, lettersGuessed))
29         else:
30             print("Wow! That letter is in my word. ", getGuessedWord(secretWord, lettersGuessed))
31             lettersGuessed.append(guessInput)
32
33         if (isWordGuessed(secretWord, lettersGuessed) == True):
34             print("Congratulations! You won the game!")
35             print("The word was ", secretWord)
36             return
37
38     if (Guesses == 0):
39         print("Sorry, you ran out of guesses! The word was ", secretWord)
40         print("Game Over!")
41         return
```

Python console

```
In [21]: runfile('C:/Users/Maria Lourdes Edang/Desktop/HANGAROO_FINAL.py', wdir='C:/Users/Maria Lourdes Edang/Desktop')
In [22]: Hangaroo('apple')
You are now playing Hangman!
I am thinking of a word that is 5 letters long.
You only have 5 guesses remaining.
Available Letters: abcdefghijklmnopqrstuvwxyz
Guess a letter: e
Wow! That letter is in my word. _ _ _ _ e
You only have 5 guesses remaining.
Available Letters: abcd fghijklmnopqrstuvwxyz
Guess a letter: p
Wow! That letter is in my word. _ _ _ _ p _ e
You only have 5 guesses remaining.
Available Letters: abcd fghijklmnopqrstuvwxyz
Guess a letter: a
Wow! That letter is in my word. _ _ p _ _ e
You only have 5 guesses remaining.
Available Letters: bcd fghijklmnopqrstuvwxyz
Guess a letter: l
Wow! That letter is in my word. _ _ p _ _ l _ e
Congratulations! You won the game!
The word was apple
```

Python console | History log | Permissions: RW | End-of-lines: CRLF | Encoding: UTF-8 | Line: 1 | Column: 1 | Memory: 82 %