Assignment 3

Status: Completed
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Deadline: 24 Sep 2018, 23:55

Weekly assignment A3

Part 1

Answer the following questions

(Note that some of the topics can be found in the book and some were also given in the lecture.)

1. What are two major types of function?
2. What is difference between defining a function and calling a function?
3. What is difference between function parameters and function arguments?
4. Variables and parameters are said to be local to a function. Please explain.
5. What is difference between a function and a module.

Output and Debugging

Consider the following code

```
def b(z):
    prod = a(z, z)
    return prod

def a(x, y):
    x=x+1
    return x * y

def swap(a, b):
    c = a
    a = b
    b = c
```

```
def c():
    a = 1
    b = 2
    swap(a, b)
    print(a)
    print(b)
```

Given the above functions definitions, what will be the output of following function calls. Before you reach for the Python interpreter, try to execute the code in your head. Give a brief explanation.

1. `print(b(5))`
2. `print(a(9,7))`
3. `print(b('a'))`
4.
```
x = 1
y = 2
z = x
x = y
y = z
print(x,y)
```
5. `c()`

Part 2

Write Programs

1. Write a version of the sticks & triangles problem of last weeks assignment, where you use functions to organize your code. Write a) a function called `main`, that takes no arguments but contains the calls to the other functions and the *if*-statement with the calls to *print*, b) a function that asks for three inputs and returns three integers, c) a function that takes three integers and returns `True` or `False` depending on whether one of the sticks is longer than the two other combined. You run the whole programme by calling `main` in your script.

Hint! You can return multiple values in one go from a function by writing

```
def returns_three_things():
    # something defining a, b and c
    return a, b, c
```

You can then use a function like this by:

```
x, y, z = returns_three_things()
```

2. Write a python function to reverse a string which is passed to the function as a parameter. Do not use the built-in reversed function or .reverse method. A sample run is as:

```
>>>reverse("1234abcd")
'dcba4321'
```

Hint! Think about traversing a string character by character and how you would update the return value on each iteration to end up with the reversed string.

3. A sentence is said to be a pangram if it contains every letter of a given alphabet set at least once. For example the sentence ”We promptly judged antique ivory buckles for the next prize” is a pangram for the given alphabet. Write a python function to check whether a string is a pangram or not.

Hint! This can also be solved using the traversal template. Think about what you need to traverse!

Best of Luck!

Hemanth Kumar Battula , 24 Sep 2018 10:36

File name: Part1.txt (5,4 KB)

Status set to: To be marked

Hemanth Kumar Battula , 24 Sep 2018 10:37

File name: Part2_1.py (1,4 KB)

Status set to: To be marked

Hemanth Kumar Battula , 24 Sep 2018 10:37

File name: Part2_2.py (599 B)

Status set to: To be marked

Hemanth Kumar Battula , 24 Sep 2018 10:37

File name: Part2_3.py (870 B)

Status set to: To be marked

Yuri Bizzoni , 26 Sep 2018 15:43

Status set to: Completed

Comment: In Part 2_1, when defining the conditions for returning False, you are actually asking the same thing thrice:

"if val1> val2+val3 or val1> val2+val3 or val1> val2+val3"

These small slips of attention can happen, always test your algorithms before sending them in.

The rest is good.