Feedback — Lecture 5 Quiz

Help Center

Thank you. Your submission for this quiz was received.

You submitted this quiz on **Sun 13 Sep 2015 8:11 PM PDT**. You got a score of **10.00** out of **10.00**.

Question 1

A student writes several functions to swap the values of the two variables x and y, i.e. if x=1 and y=2, after calling the swap function x=2 and y=1. The different functions that the student writes are given below:

```
def swap1(x,y) :
    x=y
    y=x
    return(x,y)


def swap2(x,y) :
    return(y,x)


def swap3(x,y) :
    z=x
    x=y
    y=z
    return(x,y)


def swap4(x,y) :
    x,y=y,x
    return(x,y)
```

Which of the functions swap1, swap2, swap3, and swap4 is correct?

Your Answer	Score	Explanation

Functions swap1, and swap4 only		
Functions swap2, and swap3 only		
Functions swap2, swap3, and swap4 only	✔	1.00
Functions swap1, swap2, and swap3 only		
Total		1.00 / 1.00

Question 2

Consider the following two functions:

```
def f1(x):
    if (x > 0):
        x = 3*x
        x = x / 2
    return x


def f2(x):
    if (x > 0):
        x = 3*x
    x = x / 2
    return x
```

For what values of x will f1 and f2 return the same value?

Your Answer		Score	Explanation
When x is zero or positive	✔	1.00	
Any value of x			
For negative values of x only			
For x			
Total		1.00 / 1.00	

Question 3

A recursive function in programming is a function that calls itself during its execution. The following two functions are examples of recursive functions:

```
def function1(length):
    if length > 0:
        print(length)
        function1(length - 1)

def function2(length):
    while length > 0:
        print(length)
        function2(length - 1)
```

What can you say about the output of function1(3) and function2(3)?

Your Answer		Score	Explanation
(•) function1 produces the output: 3 2 1 and function2 runs infinitely.	✔	1.00	
( ) The two functions produce the same output 3 2 1.			
( ) The two functions produce the same output: 3 2 1			
( ) function1 produces the output: 3 2 1 and function2 runs infinitely.			
Total		1.00 / 1.00	

Question 4

The following recursive function takes three positive integer arguments:

```
def compute(n,x,y)
    if n==0 : return x
    return compute(n-1,x+y,y)
```

What is the value returned by the compute function?

Your Answer		Score	Explanation
◉ x+n*y	✔	1.00	
○ x			
○ n*(x+y)			
○ n*x+y			
Total		1.00 / 1.00	

Question 5

What will the returned value be for the compute function defined in Question 4 if the argument n is negative?

Your Answer		Score	Explanation
◉ The function will never return a value.	✔	1.00	
○ x			
○ x-n*y			
○ x+n*y			
Total		1.00 / 1.00	

Question 6

The following functions are all intended to check whether a string representing a dna sequence contains any characters that are not 'a','c','g','t', 'A', 'C', 'G', or 'T'. At least some of these functions are wrong. Which ones are correct?

```
def valid_dna1(dna):
    for c in dna:
        if c in 'acgtACGT':
            return True
        else:
            return False
```

```
def valid_dna2(dna):
    for c in dna:
       if 'c' in 'acgtACGT':
            return 'True'
        else:
            return 'False'
```

```
def valid_dna3(dna):
    for c in dna:
        flag = c in 'acgtACGT'
    return flag
```

```
def valid_dna4(dna):
    for c in dna:
        if not c in 'acgtACGT':
            return False
    return True
```

Your Answer		Score	Explanation
(•) valid_dna4 only	✔	1.00	
( ) valid_dna2, valid_dna3, and valid_dna4 only			
( ) valid_dna1 only			
( ) valid_dna1, valid_dna2, and valid_dna4 only			

Total	1.00 / 1.00

Question 7

What is the type of variable L3 and what is its value if L1 and L2 are lists?

L3 = [i for i in set(L1) if i in L2]

Your Answer		Score	Explanation
○ L3 is a list with all the elements in L1 and L2			
○ L3 is a set with elements common between the lists L2 and L3.			
○ L3 is a tuple with elements that are both in L1 and L2			
◉ L3 is a list that contains only the elements that are common between the lists (without duplicates).	✔	1.00	
Total		1.00 / 1.00	

Question 8

What will be printed after executing the following code?

```
>>>def f(mystring):
        print(message)
        print(mystring)
        message="Inside function now!"
        print(message)
>>>message="Outside function!"
>>>f("Test function:")
```

Your Answer	Score	Explanation
○ Outside function! Test function: Inside function now!		

Test function: Inside function now!		
An error message.	✔	1.00
Outside function!		
Total		1.00 / 1.00

Question 9

Which statement below is true about a function:

Your Answer		Score	Explanation
must have at least one parameter			
its arguments always appear within brackets			
must always have a return statement			
may have no parameters	✔	1.00	
Total		1.00 / 1.00	

Question 10

Which of the following function headers is correct?

A. def afunction(a1 = 1, a2):

B. def afunction(a1 = 1, a2, a3 = 3):

C. def afunction(a1 = 1, a2 = 2, a3 = 3):

Your Answer		Score	Explanation
C	✔	1.00	
A,C			
A,B,C			

○ None is correct.	
Total	1.00 / 1.00