

Feedback — Quiz 4a

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You submitted this quiz on **Mon 13 Oct 2014 4:30 PM WEST**. You got a score of **100.00** out of **100.00**.

Question 1

What built-in function will add all the numbers in a list of numbers? Just give the function name, without any parentheses or argument.

You can find it in the [documentation](#).

You entered:

Your Answer		Score	Explanation
sum	✓	10.00	
Total		10.00 / 10.00	

Question 2

Let `my_list` be the list `["This", "course", "is", "great"]`.

- What is `len(my_list)`?
- What non-negative number is the index of `"great"`? I.e., how would you replace the question marks in `my_list[??]` so that the result is `"great"`?

Submit two numbers, one for each of these two questions, separated by spaces.

You entered:

4 3

Your Answer		Score	Explanation
4	✓	5.00	
3	✓	5.00	
Total		10.00 / 10.00	

Question 3

Let `my_list` be the list `["This", "course", "is", "great"]`.

We can use Python's slice notation to get part of this list. What non-negative numbers can be used to get the slice `["course", "is"]`? I.e., what two non-negative numbers should we put in `my_list[??? : ???]` to get that result?

Submit the two numbers in order, separated only by spaces.

You entered:

1 3

Your Answer		Score	Explanation
1	✓	5.00	
3	✓	5.00	
Total		10.00 / 10.00	

Question 4

If we want to split a list `my_list` into two halves, which of the following uses slices to do so correctly?

More precisely, if the length of `my_list` is $2n$, i.e., even, then the two parts should each have length n . If its length is $2n+1$, i.e., odd, then the two parts should have lengths n and $n+1$.

Your Answer	Score	Explanation
<input type="checkbox"/> <code>my_list[0 : len(my_list) // 2 - 1]</code> and <code>my_list[len(my_list) // 2 : len(my_list)]</code>	✓ 1.00	No, the list element at index <code>len(my_list) // 2 - 1</code> is not in either part.
<input type="checkbox"/> <code>my_list[: len(my_list) // 2 - 1]</code> and <code>my_list[len(my_list) // 2 :]</code>	✓ 1.00	No, the list element at index <code>len(my_list) // 2 - 1</code> is not in either part.
<input checked="" type="checkbox"/> <code>my_list[: len(my_list) // 2]</code> and <code>my_list[len(my_list) // 2 :]</code>	✓ 3.00	
<input checked="" type="checkbox"/> <code>my_list[0 : len(my_list) // 2]</code> and <code>my_list[len(my_list) // 2 : len(my_list)]</code>	✓ 5.00	
Total	10.00 / 10.00	

Question 5

What is the distance between point `[4, 7]` and the nearest point on the circle centered at `[2, 9]` with radius 2? Provide at least 4 digits of accuracy.

Hint: The distance between a point and a circle is the distance between the point and the center of the circle minus the radius of the circle. You can use the point-to-point distance code described in this week's videos.

You entered:

0.8284

Your Answer**Score****Explanation**

0.8284



10.00

Total

10.00 / 10.00

Question 6

A ball with velocity `[4, 2]` reflects off a vertical wall. What is its new velocity?

Your Answer**Score****Explanation**☐ `[4, 2]`☒ `[-4, 2]`

10.00

☐ `[4, -2]`☐ `[-4, -2]`

Total

10.00 / 10.00

Question 7

Which of the following illustrate how to properly structure a keydown or keyup event handler? (For more advanced Python programmers, assume that you have just imported `simplegui` and haven't used `from`.)

Your Answer**Score****Explanation**

7.00

```
def keydown_handler(key):  
    if key == simplegui.KEY_MAP[  
        "left"]:
```

...

☐

1.00

```
def keydown_handler(key):
    if "left" == KEY_MAP[key]:
        ...
```

☐

1.00

```
def keydown_handler(key):
    if "left" == simplegui.KEY_MA
P[key]:
    ...
```

☐

1.00

```
def keydown_handler(key):
    if key == "left":
        ...
```

The `key` parameter does not have a string value.

Total

10.00 /
10.00

Question 8

Assume you have a program with a keydown handler. You run it, and press a single key and *hold it down continuously*. How many times does the keydown handler get called?

Experiment in [CodeSkulptor](#) to find out.

Your Answer	Score	Explanation
<input checked="" type="radio"/> 1	✓ 15.00	
<input type="radio"/> Unlimited — i.e., repeatedly until you finally release the key		
<input type="radio"/> 2 — once at the beginning and once when you release the key		
Total	15.00 / 15.00	



☐ Unlimited — i.e., repeatedly until you finally release the key

☐ 2 — once at the beginning and once when you release the key

Total

15.00 /
15.00

Question 9

Several keys on the keyboard, such as Shift, CapsLock, and Ctrl, typically act to modify what happens when you press other keys, rather than doing anything on their own. When using the SimpleGUI keydown handler, how are such keys treated?

Experiment in [CodeSkulptor](#) to find out.

Your Answer	Score	Explanation
<input checked="" type="radio"/> Independent key press events — e.g., pressing Shift by itself creates an event	✓ 15.00	Yes, for example Shift gives the value 16.
<input type="radio"/> No effect — e.g., pressing the Shift key does not create or modify the behavior of any event.		
<input type="radio"/> Modify other key presses — e.g., pressing the 'a' key creates an event with a different value than pressing Shift and 'a' together.		
Total	15.00 / 15.00	