

An Introduction To Interactive Programming In Python (Part 1)

by Joe Warren, Scott Rixner, John Greiner, Stephen Wong

Quiz 3a – Drawing canvas

Skanda S Bharadwaj

Question 1

What Python operator takes two strings (e.g., "sun" and "rise") and forms the combination of these two strings, one followed by the other (e.g., "sunrise")?

Your Answer

Score

Explanation

concatenate

*

append

concat



Correct

10.00

Total

10.00 / 10.00

Question 2

What does the draw handler parameter represent?

If you've forgotten, refer to the [documentation](#).

Your Answer

Score

Explanation

The object to be drawn

Nothing — it doesn't have a parameter

The location of the object to be drawn

The frame

The canvas	Correct	10.00	
Total		10.00 / 10.00	

Question 3

What happens if you draw text outside the canvas coordinates?

Try it in CodeSkulptor.

Your Answer	Score	Explanati
Causes an error		
Some or none of the text is shown. Conceptually, the text is drawn at whatever coordinates are given, but only whatever text fits within the canvas coordinates is shown.	Correct 10.00	
The text appears in the frame, but some or all of the text is shown outside the canvas area.		

The text coordinates are implicitly “wrapped” around using modular arithmetic, so that the text appears on the canvas

Total	10.00 / 10.00
-------	------------------

Question 4

Assume we have a canvas that is 200 pixels wide and 300 pixels high. We want to draw a green line between the upper left corner of the canvas and the lower right corner of the canvas. Which of the following calls will accomplish this?

Try the code in CodeSkulptor.

Your Answer		Score	Explanation
<code>canvas.draw_line((300, 0), (0, 200), 10, "Green")</code>	Correct	1.00	
<code>canvas.draw_line((0, 0), (300, 200), 10, "Green")</code>	Correct	1.00	
<code>canvas.draw_line((200, 300), (0, 0), 10, "Green")</code>	Correct	8.00	

Total

10.00 / 10.00

Question Explanation

A common mistake on this problem is to use a frame that is the same size as the default CodeSkuptor demo (300 pixels wide and 200 pixels high).

Question 5

Consider the following function definition.

```
def date(month, day):  
    """  
    Given numbers month and day, returns a string of the form '2/12',  
    with the month followed by the day.  
    """  
    return month + "/" + day  
  
print date(2, 12)
```

This definition leads to an error. To fix it, what Python expression should replace the question marks below?

```
def date(month, day):  
    """
```

Given numbers month and day, returns a string of the form '2/12',
with the month followed by the day.

```
"""
```

```
return ???
```

```
print date(2, 12)
```

Your Answer

Score

Explanation

```
string(month + "/" + day)
```

```
string(month) + "/" + string(day)
```

```
str(month) + "/" + str(day)
```

Correct

10.00

```
str(month / day)
```

```
str(month + "/" + day)
```

```
string(month / day)
```

Total

10.00 / 10.00

Question 6

How many instances of the letter "l" are there in the following:

[illegible]

Although it might be hard to tell, that string contains ones (1) and lower-case L's (l). Create a small CodeSkulptor program, and use copy-and-paste to put this string in your code. Your program should only need one function or method call.

Answer for Question 6

You entered:

Your Answer		Score	Explanation
60	Correct	10.00	
Total		10.00 / 10.00	

Question 7

Where should your `draw_text`, `draw_line`, and similar drawing calls be?

Your Answer

Score

Explanati

Anywhere in your code

In a draw handler, or a helper function called from it

Correct 10.00

In the handlers for the control objects that create or change the drawing,
or their helper functions

Total

10.00 /
10.00

Question 8

Which of the following function calls are valid, i.e., don't lead to an error?

Read the [documentation](#) for these functions, and also try the code in CodeSkulptor.

Your Answer		Score	Explanation
<code>float("5.4")</code>	Correct	4.00	
<code>float("5")</code>	Correct	4.00	
<code>int("5.4")</code>	Correct	1.00	
<code>int("five")</code>	Correct	1.00	
Total		10.00 / 10.00	

Question 9

Turn the following description into a CodeSkulptor program, and run it.

1. Create a 300-by-300 canvas.
2. Draw two circles with radius 20 and white lines of width 10. One is centered at (90,200) and one at (210,200).
3. Draw a red line of width 40 from (50,180) to (250,180).
4. Draw two red lines of width 5 from (55,170) to (90,120) and from (90,120) to (130,120).

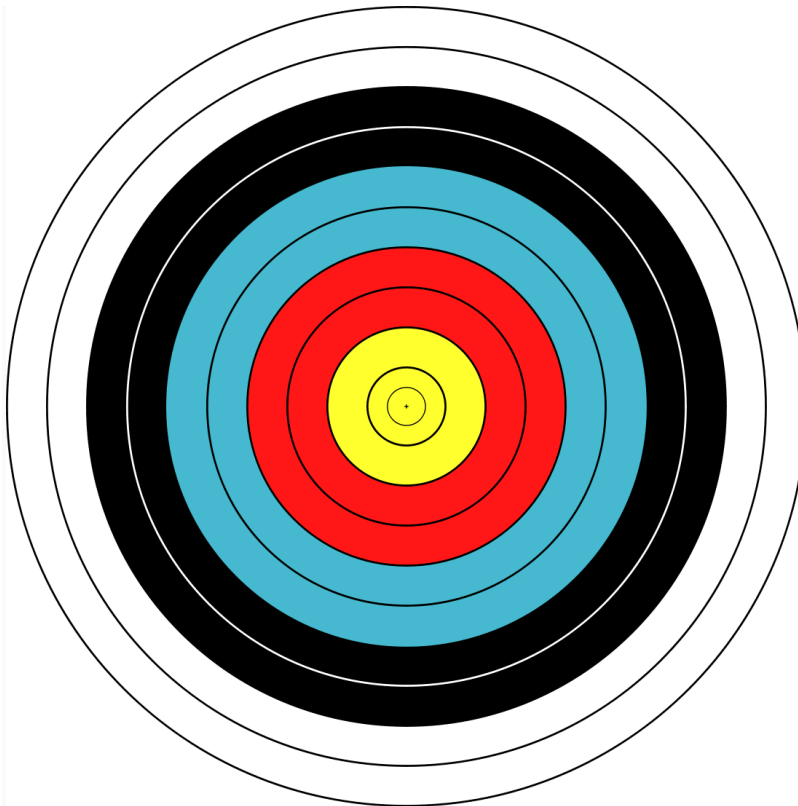
5. Draw a red line of width 140 from (180,108) to (180,160).

The resulting picture is a simple diagram of what?

Your Answer		Score	Explanation
An automobile	Correct	10.00	
A person			
A motorcycle			
A house			
A computer			
Total		10.00 / 10.00	

Question 10

The following is a diagram of an archery target.



To draw this in CodeSkulptor, we can put a small yellow circle with a black border on top of a slightly bigger yellow circle with a black border, ... on top of a big white circle with a black border. In what order should your code draw these circles?

Your Answer

Score

Explanation

Smallest first

Largest first

Correct

10.00

Correct. Whatever you draw last appears to be on top.

Total

10.00 / 10.00