Strings and Designing Functions

Quiz, 18 questions

1 point

1.

Which of the following results in a syntax error?

```
'''yesno'''
```

```
'yes\nno'
```

```
'yes
no'
```

```
"yes
no"
```

1 point

2.

Which of the following results in a syntax error?

```
'3\'
```

```
'"Once upon a time...", she said.'
```

```
"He said, "Yes!""
```

```
''That's okay'''
```

1 point

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3.

The following is printed by a **`print`** function call:

```
yesterday
today
tomorrow
```

Select the function call(s) that prints what is shown above.

- [ ]
```
print('''yesterday
\ntoday
\ntomorrow''')
```

- [ ]
```
print('''yesterday
today
tomorrow''')
```

- [ ]
```
print('yesterday\ntoday\ntomorrow')
```

- [ ]
```
print('yesterday
today
tomorrow')
```

---

1 point

4.

The following is printed by a **`print`** function call:

```
hello-how-are-you
```

Select the function call(s) that prints what is shown above.

- [ ] **`print('hello', 'how', 'are', 'you')`**
- [ ] **`print('hello', '-', 'how', '-', 'are', '-', 'you')`**
- [ ] **`print('hello' + '-' + 'how' + '-' + 'are' + '-' + 'you')`**
- [ ] **`print('hello-' + 'how-are-you')`**
- [ ] **`print('hello', 'how', 'are', 'you' + '-' * 4)`**

---

1 point

5.

Consider this code fragment:


```
>>> def announce_location(country):
    # Missing function body
>>> instructor_location = announce_location('Canada')
>>> print(instructor_location)
Canada
```

Select the missing function body from the options below.

- `return country`
- `print(country)`
- `return instructor_location`
- `print('Canada')`

---

1 point

6.

Consider this code fragment:

```
>>> def announce_location(country):
    # Missing function body

>>> instructor_location = announce_location('Canada')
Canada
>>> print(instructor_location)
Canada
```

Select the missing function body from the options below.

- `print(country)`
- `return country`
- `print(country)`
- `print(country)`
- `return country`
- `return country`

---

1 point

7.

Consider the following statements:

```
x = None
print(x)
```

What is printed when the code above executes?

None

1 point

Strings and Designing Functions

Quiz, 18 questions

8.

What is the first step of the *Design Recipe*?

- Examples
- Type Contract
- Test
- Code

---

1 point

9.

What is the last step of the *Design Recipe*?

- Type Contract
- Test
- Examples
- Code

---

1 point

10.

What is the **Type Contract** for the following function definition?

```
def is_passing_grade(grade):
    """Return 'pass' if grade is at least 50 and return 'fail' otherwise.
    >>> is_passing_grade(45)
    'fail'
    >>> is_passing_grade(80.5)
    'pass'
     """
```

- `(int, float) -> str`
- `(float) -> str`
- `(int) -> str`
- `(number) -> str`

---

1 point

11.

What is the **Type Contract** for the following function definition?

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```
def total_vowels(word1, word2):
    """Return the number of vowels in words word1 and word2.
    >>> total_vowels('hello', 'hi')
    3
    """
```

- `(str, str) -> float`
- `(int) -> str, str`
- `(str, str) -> int`
- `str == int`

---

1 point

12.

According to the **Description** of function `get_oldest`, what value should be returned by the **Example** function call?

```
def get_oldest(age1, age2):
    ''' (int, int) -> int

    Return the oldest of the two ages, age1 and age2.

    >>> get_oldest(27, 22)
    ???
    '''
```

27

---

1 point

13.

Here is an insufficient docstring for function `euro_to_dollars`:

```
def euro_to_dollars(amount):
    """(number) -> number

    Calculate the value in Canadian dollars of the given quantity of Euros.
    """
```

Identify the problem(s) with the **Description** in the docstring above.

- [ ] It doesn't explain which Python operators are used to perform the calculation.
- [ ] It doesn't mention the parameters by name.
- [ ] It doesn't say what the function returns.
- [ ] It doesn't mention the parameter types.

---

1 point

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14.

Two function definitions are saved in the same file:

- A function **`count_vowels`** has one parameter, a word, and returns the number of vowels in that word.
- A function **`count_consonants`** has one parameter, a word, and returns the number of consonants in that word.

To determine the number of letters in a word, write a one-line body for the following function that calls both **`count_vowels`** and **`count_consonants`**:

```
def count_letters(word):
    """ (str) -> int

    Return the number of letters in word.
    >>> count_letters('hello')
    5
    >>> count_letters('bonjour')
    7
    """
    # Write the one-line function body that belongs here.
```

Note:

- do not call any functions other than those listed above
- do not use any unnecessary parentheses

```
return count_letters(word) + count_consona
```

---

1 point

15.

Two function definitions are saved in the same file:

- A function **`get_capital`** has one string parameter that represents a country and returns its capital.
- A function **`longer`** has two string parameters and returns the longer of the two strings.

Variables **`country1`** and **`country2`** refer to **`str`** values. Write a one-line expression that produces the longer of the capitals of **`country1`** and **`country2`**. Your expression should involve calls on both **`get_capital`** and **`longer`**.

Note:

- do not call any functions other than those listed above
- do not use any unnecessary parentheses

```
return longer(get_capital(country1), get_capi
```

---

1 point

16.

What is the value of **`average`** after the following code is executed?


```
1  grade1 = 80
2  grade2 = 90
3  average = (grade1 + grade2) / 2
4  grade1 = 100
```

- 95.0
- 95
- 85.0
- 85

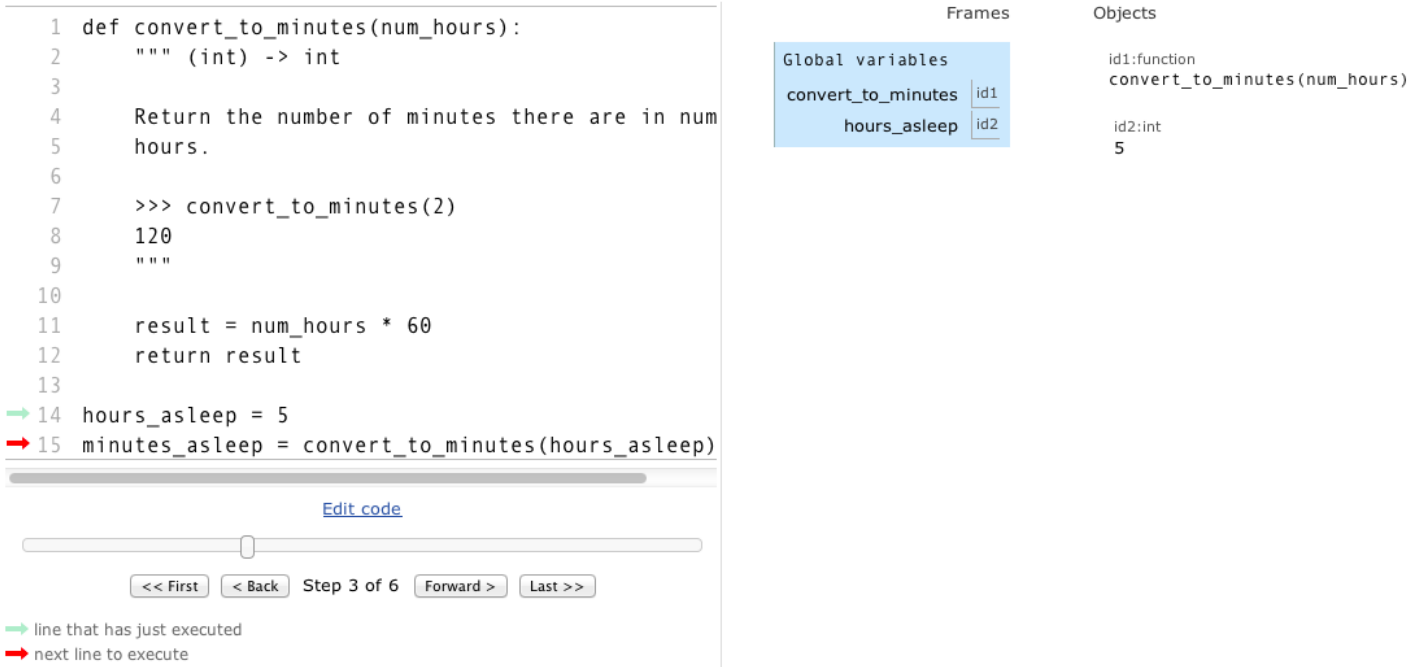
---

1 point

17.

Below is an image of the Python Visualizer in action. The line with the red arrow (line 15) is about to be executed. When we press **Forward**, function **`convert_to_minutes`** will be called, control will move to line 11 of the code (the first line of that function), and a new stack frame will be created containing variable **`num_hours`**. What value will **`num_hours`** refer to then? (We are looking for a value, not a memory address.)

(If the image is too small, right-click on it and open it in a new browser tab. Then you can zoom in.)



5

---

1 point

18.

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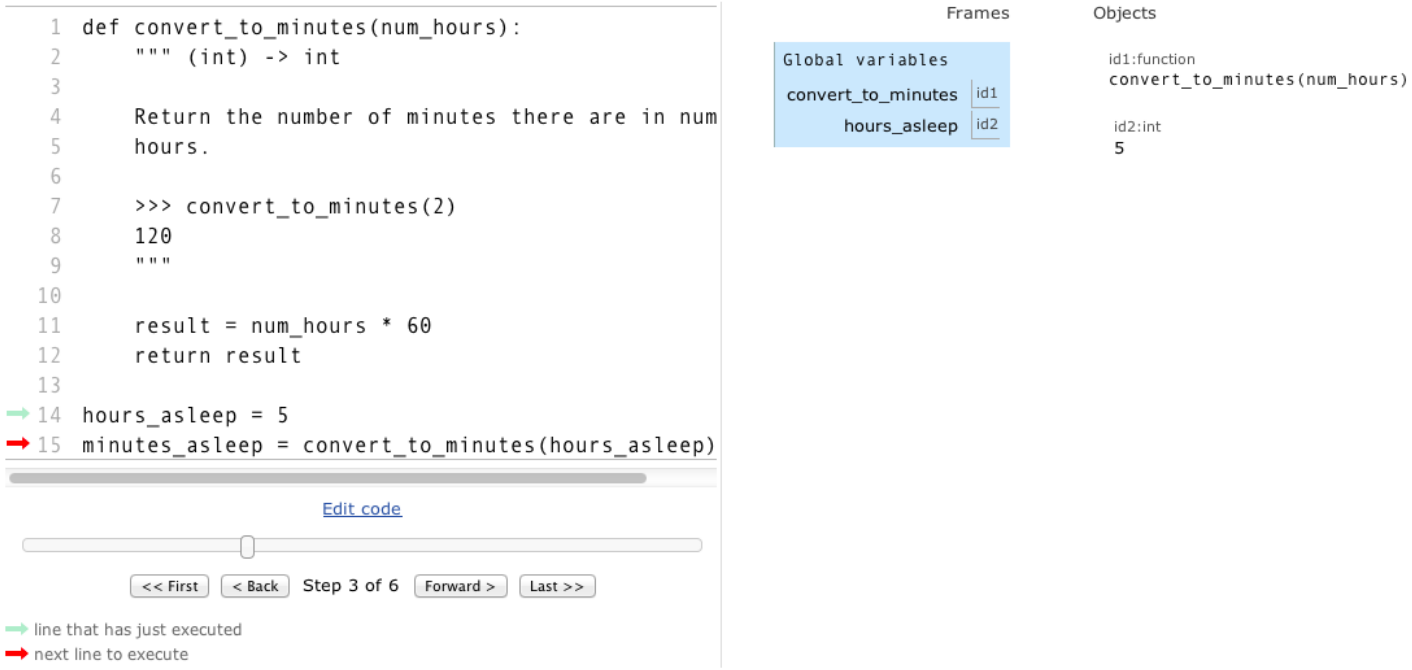
The line with the red arrow (line 15) is about to be executed. After stepping through to the end of the code below (we can do this by pressing the **Last** button), how many variables (excluding those that refer to functions) will be on the stack? Recall that the stack is represented by the images on the left-hand side of the model. (If the image is too small, right-click on it and open it in a new browser tab. Then you can zoom in.)



- 1
- 2
- 3
- 4
- 5

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