Q4 (through Trees 1)

This is a preview of the published version of the quiz

Started: Nov 2 at 9:52am

Quiz Instructions

Question 1 0.1 pts

There may be multiple frames corresponding to the same function on the stack at the same time.

- ◯ True
- ◯ False

Question 2 0.2 pts

Suppose the following runs without error:

```
# code hidden
A.next = B
B.next = A
C.next = B
```

Which of the following refers to the same object as A?

- ◯ C.next
- ◯ A.next.next.next
- ◯ A.next
- ◯ B.next.next.next

- C.next.next.next

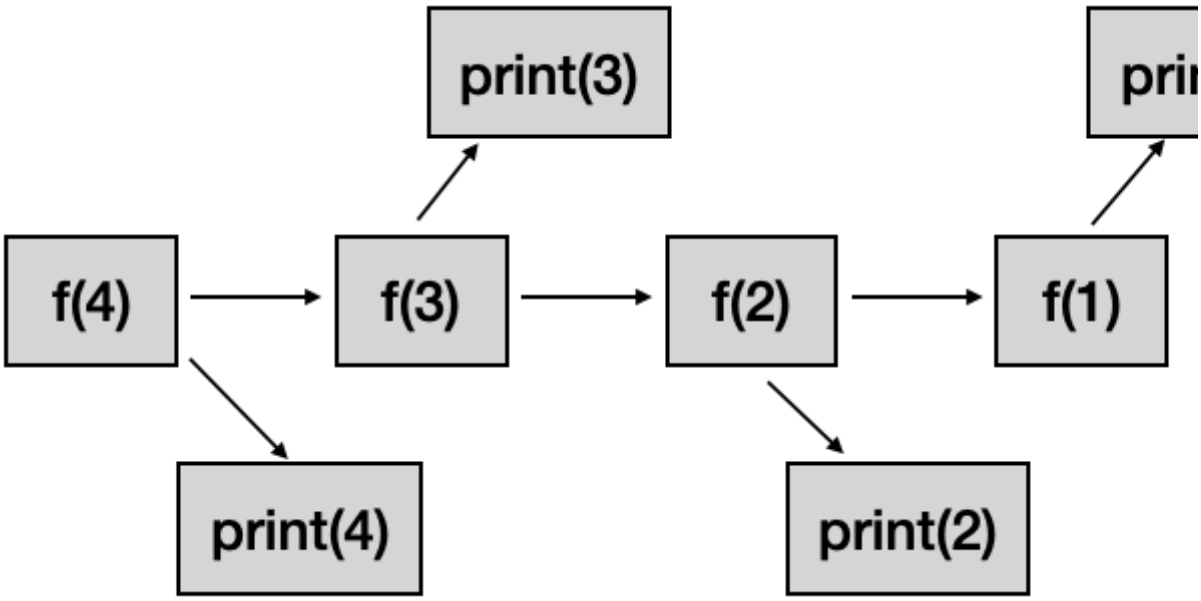
Question 3 — 0.1 pts

The B class is a child of the A class; both have an __init__ method. Both __init__ methods are guaranteed to run when a new instance of B is created, regardless of the code in B's __init__ method.

- True
- False

Question 4 — 0.2 pts

Consider the following call graph drawn as somebody is tracing through a recursive function call, using the same technique demonstrated in the lecture:



What is the last number printed?

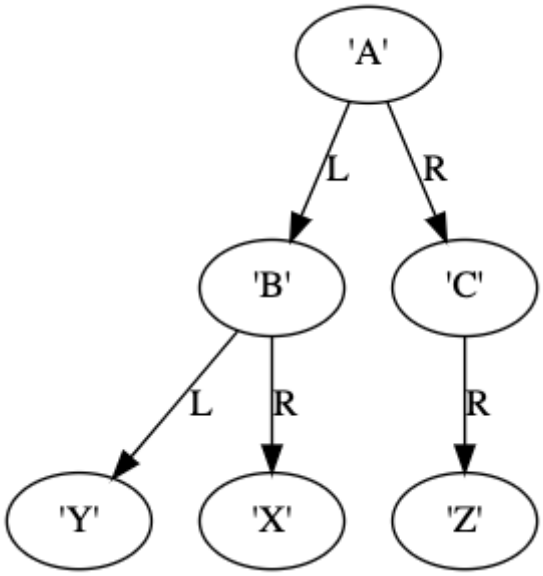
Question 5 — 0.1 pts

A directed graph has multiple nodes, but zero roots (remember that in 320 we define a "root" as any node that has no parents). What can we guarantee about the graph?

- ◯ it is NOT a DAG
- ◯ the graph is NOT weakly connected
- ◯ the graph is weakly connected
- ◯ it is a DAG

Question 6 — 0.1 pts

The following is not a binary search tree. Which nodes must be deleted to make it one? If there are multiple correct answers, choose the one that involves removing the fewest nodes.



- ◯ Y
- ◯ A, C, and Z (B would be the new root in the remaining tree)
- ◯ X and Y
- ◯ X, Y, and Z
- ◯ B, X, and Y

Question 7

0.1 pts

In the lab, you completed the following method for the Node class of your linked list:

```
    def __len__(self):
        if self.next == None:
            # base case: I'm the only Node!  Length must be 1
            return 1
        else:
            # recursive case: total length is the length of next plus 1
            return ????
```

What should replace the missing code?

- ◯ N
- ◯ N + 1
- ◯ len(self) + 1
- ◯ len(self) - 1
- ◯ len(self.next)
- ◯ len(self.next) + 1
- ◯ len(self.next) - 1
- ◯ len(self)

Question 8

0.1 pts

If the commits in a git repo are nodes and edges connect each commit to the previous commit(s) in history, the resulting graph will always form a tree.

- ◯ True
- ◯ False

Not saved Submit Quiz