CS 61A Fall 2017 — Structure and Interpretation of Computer Programs

Quiz 10

INSTRUCTIONS

- You have 5 minutes to complete this quiz.
- The exam is closed book, closed notes, closed computer, closed calculator.
- Mark your answers **on the exam itself**. We will *not* grade answers written on scratch paper.
- For multiple choice questions, fill in each option or choice completely.
  - ☐ means mark **all options** that apply
  - ◯ means mark a **single choice**

Last name	
First name	
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Discussion Section	___ ___ ___
All the work on this exam is my own. **(please sign)**	

0. **Your thoughts?** If Cal's mascot was a turkey, what would be its name?

1. **Tree Time**

   Fill in the square to the left of each line if *removing the line* would help pass the doctests. In the space to the right, briefly describe why each line should be removed. *Remove as many lines as possible.*

   Recall: The special method `__iter__` is called by the built-in `iter()` and should return an iterator.

   `IterableTree.__iter__` is a generator that yields the root value of the tree and then each value in its branches.

```
class Tree:
    def __init__(self, label, branches=()):
        self.label = label
        self.branches = list(branches)

    def is_leaf(self):
        return not self.branches
```

☐ `class IterableTree:`

☐ `class IterableTree(Tree):`

☐ `    def __init__(self, label, branches=()):`

☐ `        Tree.__init__(label, branches)`

☐ `        Tree.__init__(self, label, branches)`

```
    def __iter__(self):
        """Yield the entries of this tree.

        >>> T = IterableTree
        >>> t = T('A', [T(2, [T('C'),
        ...                   T(4)]),
        ...             T('E', [T(6)])])
        >>> list(t)
        ['A', 2, 'C', 4, 'E', 6]
        """
```

☐ `        yield self.label`

☐ `        yield label`

```
        for branch in self.branches:
```

☐ `            branch = iter(branch)`

☐ `            for label in branch:`

☐ `            for label in branch():`

☐ `                yield self.label`

☐ `                yield label`

☐ `        yield self.label`

☐ `        yield label`