

# Quiz 9

Brian Hou

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1. What are the first four values of the stream `s`?

```
(define (sweet dreams)
  (cons-stream (list dreams) (sweet (list dreams))))
```

```
(define (mix tape)
  (cons-stream
    (car (car tape))
    (mix (append (match cdr-stream (cdr tape))
                  (list (cdr-stream (car tape)))))))
```

```
(define (match dot com)
  (if (null? com) nil
      (cons (dot (car com)) (match dot (cdr com)))))
```

```
(define s (mix (match sweet '(1 2 3))))
```

(1)                    (2)                    ((3))                    (((1)))

2. Make Trees iterable! What method(s) will you need to implement?

```
class Tree:
    """A tree with entry as its root value."""
    def __init__(self, entry, branches=()):
        self.entry = entry
        for branch in branches:
            assert isinstance(branch, Tree)
        self.branches = list(branches)

    def __iter__(self):
        yield self.entry
        for branch in self.branches:
            for elem in branch:
                yield elem
```

```
>>> t = Tree(1, [Tree(2, [Tree(3), Tree(4)]), Tree(5)])
>>> [e for e in t]
[1, 2, 3, 4, 5]
```