1. **(4 points)   As a function of** `n`

   Identify the order of growth of the runtime as a function of `n`.

   ```
   def f0(n):
       while n > 0:
           print('print(print(None)))')
           n -= 1
   ```

   $O(n)$.

   ```
   def f1(n):
       while n > 0:
           print('make')
           n -= 2
   ```

   $O(n)$.

   ```
   def f2(n):
       while n > 0:
           print('lemonade')
           n //= 2
   ```

   $O(\log n)$.

2. (6 points)   *All* of the paths

Write a function `all_paths` that takes in a `Tree` and returns a list of paths from the root to leaves. Each path should be represented as a list.

```
def all_paths(tree):
    if tree.is_leaf():
        return [[tree.entry]]
    result = []
    for branch in tree.children:
        result += [[tree.entry] + path for path in all_paths(branch)]
    return result
```