Final Review + Conclusion

Announcements

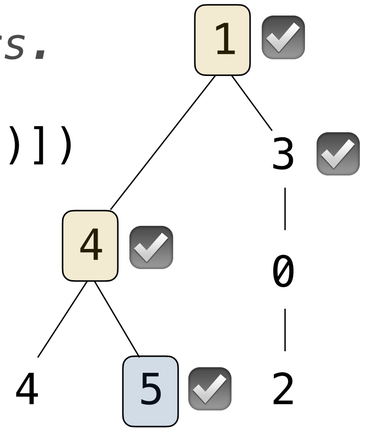
- Final exam is tomorrow
  - Seating assignments will be released by EOD today
    - Please do not email us unless you don’t hear by 11:59 pm today
- HW 08 is due today
  - Get that bonus point!!
- Last instructor OH today 12:45 – 1:45 pm
- Last day of OH today in Warren Hall

Solving Tree Problems

Implement **bigs**, which takes a Tree instance t containing integer labels. It returns the number of nodes in t whose labels are larger than all labels of their ancestor nodes. (Assume the root label is always larger than all of its ancestors, since it has none.)

```
def bigs(t):
    """Return the number of nodes in t that are larger than all their ancestors.

    >>> a = Tree(1, [Tree(4, [Tree(4), Tree(5)]), Tree(3, [Tree(0, [Tree(2)])])])
    >>> bigs(a)
    4
```




```
    if t.is_leaf():
        return ___
    else:
        return ___([___ for b in t.branches])
```

Somehow increment the total count

Somehow track a list of ancestors

```
if node.label > max(ancestors):
```

Somehow track the largest ancestor

```
if node.label > max_ancestors:
```

Solving Tree Problems

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    4
    """
    def f(a, x):
        if ____________________:
            return 1 + ____________________
        else:
            return ____________________
    return ____________________
```

Somehow track the largest ancestor

A node *max_ancestor*

a.label > x

node.label > max_ancestors

sum([f(b, a.label) for b in a.branches])

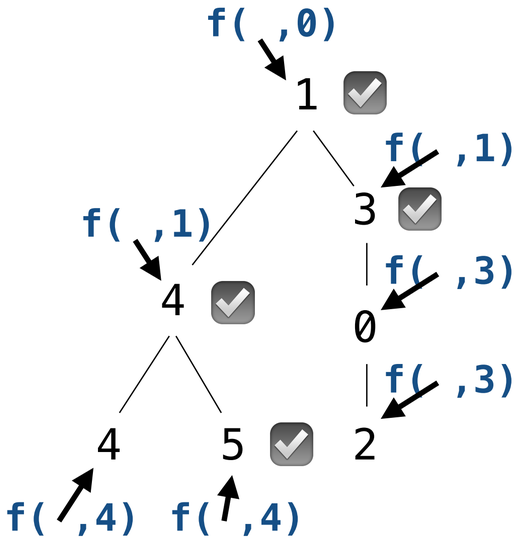
Somehow increment the total count

sum([f(b, x) for b in a.branches])

f(t, t.label - 1)

Root label is always larger than its ancestors

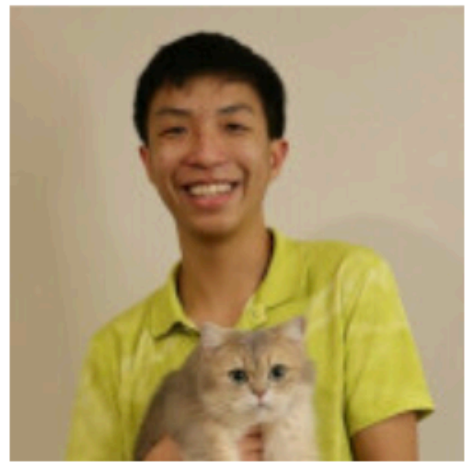
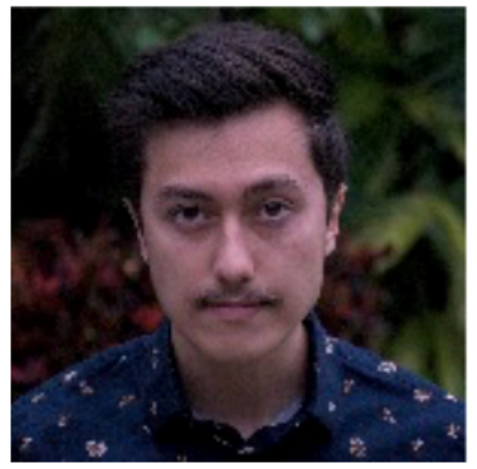
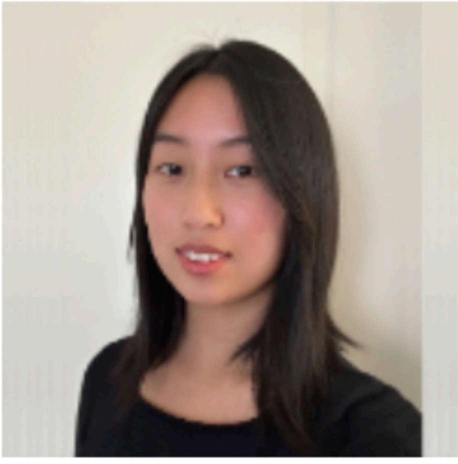
Some initial value for the largest ancestor so far...



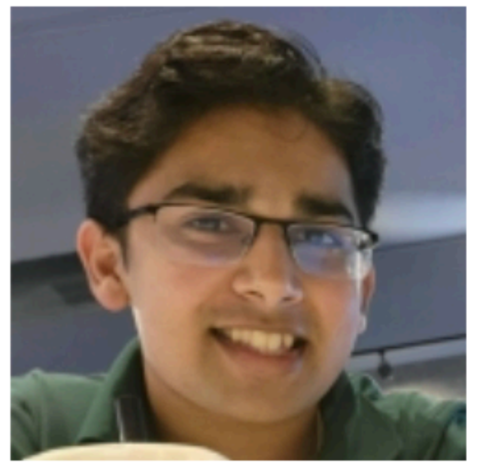
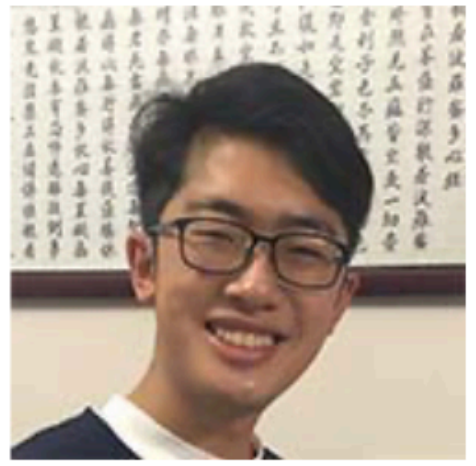
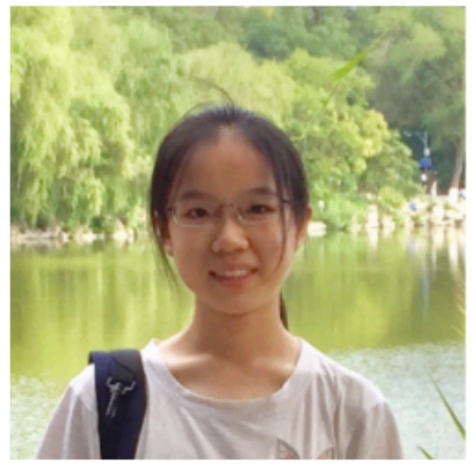
Past Exam Questions

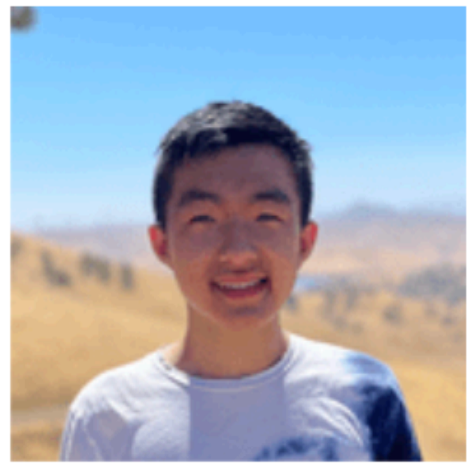
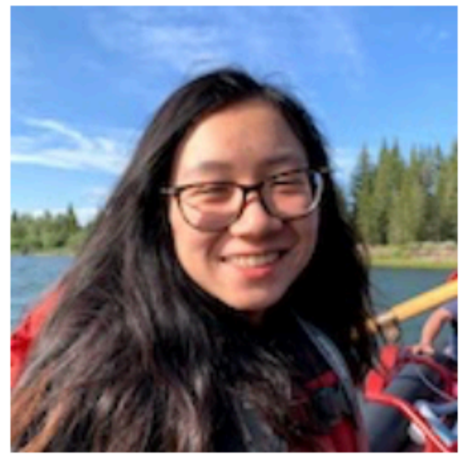
Ask Us Anything!!

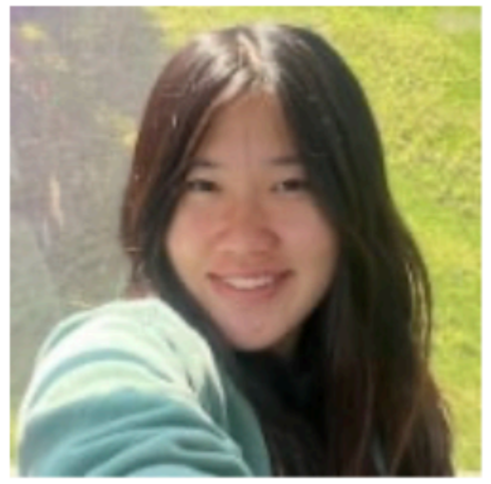
A Huge Thanks to all TAs & Tutors

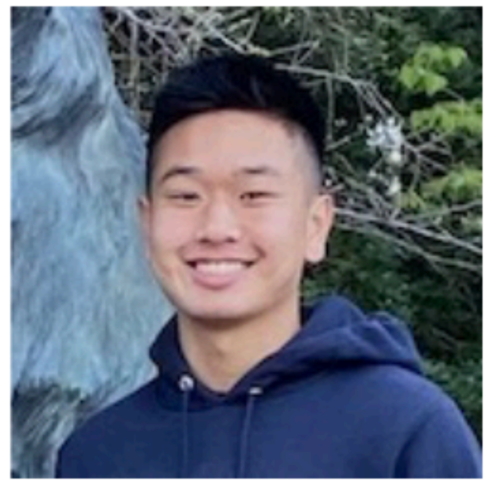






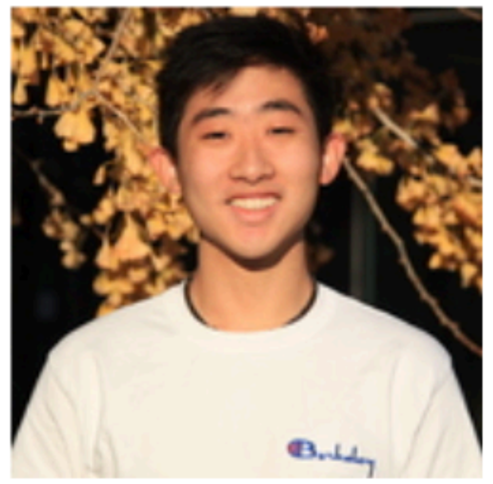









Thank you and Good Luck Tomorrow :)