

# Recursion II

## Recursive Warm-Up

(a) Write a block that reports the index of the first occurrence of a letter in a word.

Position of letter: u in public-funds

2

+ Position + of + letter: + letter + in + word +

if \_\_\_\_\_:

report \_\_\_\_\_

else:

report \_\_\_\_\_

## More Practice

(b) Write a block that reports the max item in a given list, like this:

maximum item of list

-1 5 0

5

You can use the following block in your solution:

max of 4 , 2

4

+ maximum + item + of + list :

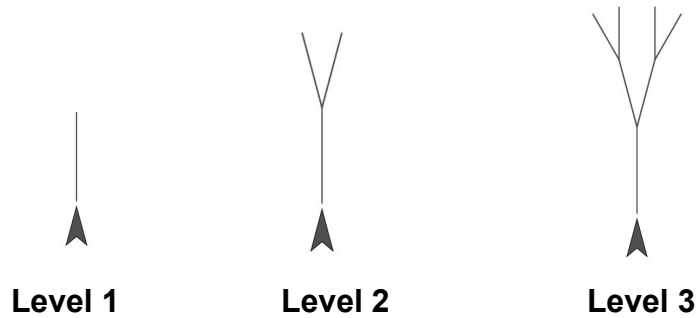
if \_\_\_\_\_:

report \_\_\_\_\_

else:

report \_\_\_\_\_

## Tree Recursion



| Level | Segment Count |
|-------|---------------|
| 1     | 1             |
| 2     | 3             |
| 3     |               |
| 4     |               |
| 5     |               |

(c) Write a block that reports how many line segments a tree of a given level has.

**+ segments + in + tree + level +** **level** **+**

if \_\_\_\_\_:

    report \_\_\_\_\_

else:

    report \_\_\_\_\_

What's the running time of Draw Tree?  $O(\rule{1cm}{0.4pt})$