

What happen if you change the size value to -100?

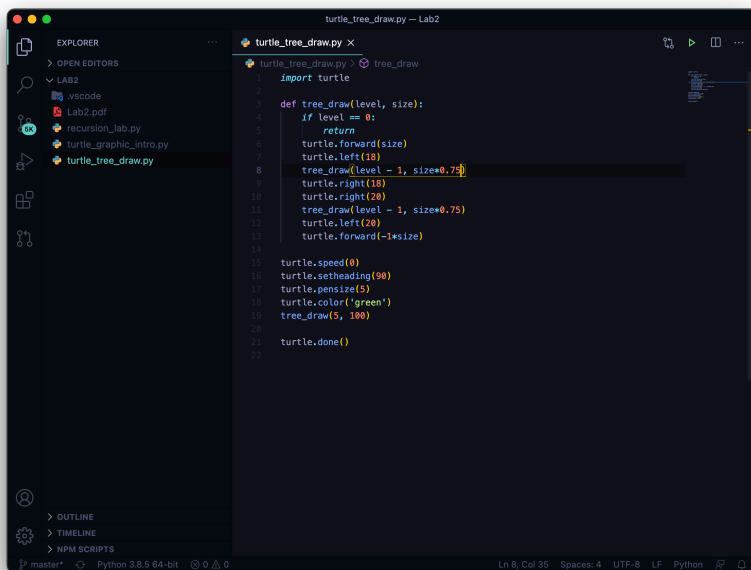
- The tree will goes upside down

What happen if you change the input level to be -4?

- The tree will dead. No leaf appeared.

To produce a tree below, what are the values for levels, the two turn degrees, and the two constant multipliers for size during recursive calls

- Assign level=5 and size=100 when first call function, then first turtle.left changed to 18, first turtle.right changed to 18, second turtle.right changed to 20, second turtle.left changed to 20, then the two constants multipliers for size during recursive calls are 0.75.
- Example below

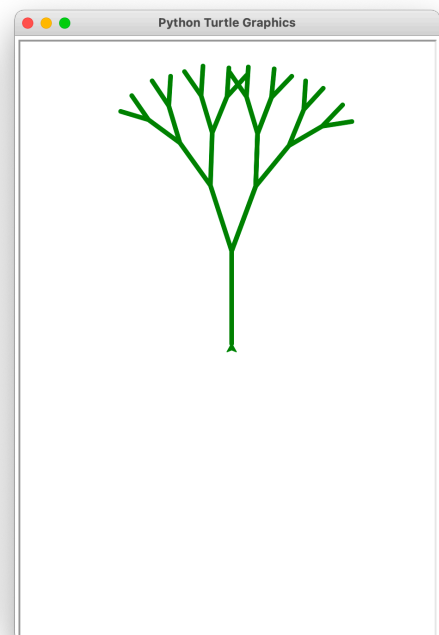


```
1 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9
10 10
11 11
12 12
13 13
14 14
15 15
16 16
17 17
18 18
19 19
20 20
21 21
22 22
```

```
def tree_draw(level, size):
    if level == 0:
        return
    turtle.forward(size)
    turtle.left(18)
    tree_draw(level - 1, size*0.75)
    turtle.right(18)
    turtle.right(20)
    tree_draw(level - 1, size*0.75)
    turtle.left(20)
    turtle.forward(-size)

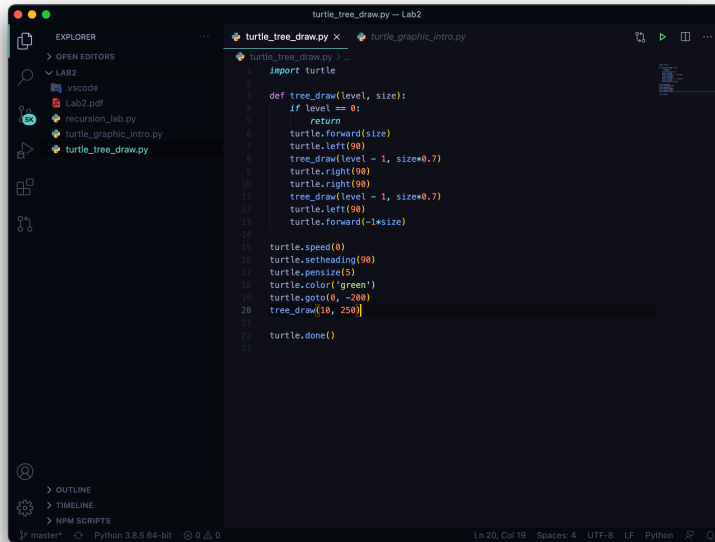
turtle.speed(0)
turtle.setheading(90)
turtle.pensize(5)
turtle.color('green')
tree_draw(5, 100)

turtle.done()
```



What modification you have to make to the original code to produce the above H-tree?

- Assign level=10 and size=250 when first call function, then change all turns to 90, and the two constants multipliers for size during recursive calls are 0.7, also assign turtle.goto = (0, -200) to see the tree clearly
- Example below



```
def tree_draw(level, size):
    if level == 0:
        return
    turtle.forward(size)
    turtle.left(90)
    tree_draw(level - 1, size*0.7)
    turtle.right(90)
    turtle.right(90)
    tree_draw(level - 1, size*0.7)
    turtle.left(90)
    turtle.forward(-1*size)

turtle.speed(0)
turtle.setheading(90)
turtle.pensize(5)
turtle.color('green')
turtle.goto(0, -200)
tree_draw(10, 250)

turtle.done()
```

