Due: Tuesday, 7 February 2023, at 6:29pm

**Instructions.** This lab is due on **Tuesday, 7 February 2023, at 6:29pm**. Labs should typically be finished within the lab period of class, but you have until the end of next week's class to submit in the event of an emergency.

Feel free to come to office hours to get checked off as well!

## Problem 1   *Newly Planted*                                    (20 points)

For each of the following questions, please create a **syntax tree** for the given Python sentence. Use the grammar below to parse each sentence's syntax, clearly labeling each node and branch.

```
1          Expression ← OPERATOR "\(" OperandPhrase "\)"
2          OperandPhrase ← Operand "," OperandPhrase | Operand
3          Operand ← Expression | VALUE
4
5          OPERATOR  ← {add, mul, max, min, any, all}
6          VALUE ← {int, float, str, bool}
```

Then, write below the tree what you expect the **"return value"** to be.

# 1. add(2, 5)

Return value: _____

2. mul("ke", 3)

Return value:

3. mul(add(4, mul(4, 6)), add(3, 5))

Return value:

4. all(add(7, sub(4, 11)), 8)

Return value:

(Optional): max(add(4, min(4, 6)), mul(3, 5))

Return value: [＿＿＿＿＿＿＿＿＿]