



Due date: 05/03/2021 11:59 pm

Total Points: 20 pts

# Evaluator

- \*This homework is a programming assignment.**
- \*You need to submit Python files on the GitHub classroom.**
- \*You need to include your name as a comment in Python files.**
- \*You also need to submit a screenshot of your GitHub repository on Blackboard.**
- \*While working on the assignment, read this document THOROUGHLY.**

## Homework Description

In this homework, you need to complete `evaluator.py` so that our evaluator evaluates -, \*, and / operators in addition to + operator. Assume that users input only valid expressions. For example, they will not input an expression like `1/0` which gives a division error.

## Homework Guideline

Look at how we made the evaluator evaluate + operator. You will use very similar code for other operators.

## Test Cases

After running the below `main.py`, you can try the test cases on the next page to see whether your evaluator is written well. The test cases are denoted by the bold texts.

```
import lexer
import parserr
import evaluator

while True:
    srcCode = input(">>> ")
    if srcCode == "poopoo":
        break
    tokSeq = lexer.tokenize(srcCode)
    rootNode = parserr.parse(tokSeq)
    result = evaluator.evaluate(rootNode)
    print("The result is: ", result)
print("Now it is time to go poo poo.")
main.py
```

```
>>> 1 * ( 2 + 5 )
The result is: 10

>>> (1 + 2) * 5 + 4
The result is: 19

>>> 23 * ((1 + 5) * 33)
The result is: 4554

>>> 5 - 13 / 21 + 21 * 6
The result is: 130.38095238095238

>>> 24
The result is: 24

>>> 125
The result is: 125

>>> -5
The result is: -5

>>> --5
The result is: 5

>>> -(-5)
The result is: 5

>>> poopoo
Now it is time to go poo poo.
```

### Submission Guideline

1. You need to submit `evaluator.py` and `main.py` to the GitHub classroom.
  - a. DO NOT compress them as a ZIP file.
  - b. DO NOT forget to include your name in python files as a comment.**
2. You also need to submit a screenshot of your repository of GitHub classroom on Blackboard.
3. After you submit them, DOUBLE-CHECK whether you've submitted the correct files on GitHub classroom and Blackboard.