[redacted]

Due date: 04/29/2021 11:59 pm

Total Points: 20 pts

Parser

***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 `parserr.py` (and modify other files if necessary) so that our parser builds a tree from the below three cases.

1. Grouped Expression (ex. 1 * (2 + 5))
2. Single Number Expression (ex. 25)
3. Expression with Negative Sign (ex. -25 * 3)

Homework Guideline

To get information about how to implement the above cases in a parser, look at 'HW6_resources.pptx' on Blackboard.

Test Cases

This section provides several test cases to check whether you wrote a parser correctly. In the `main.py`, you will change `srcCode` with the below test cases and see whether your output results are matched with the ones given in the table.

```
import lexer
import parserr

srcCode = "1 * (2 + 5)"
tokSeq = lexer.tokenize(srcCode)
rootNode = parserr.parse(tokSeq)
parserr.printTree(rootNode)
print()
```

`main.py`

Test Case (`srcCode`)	**Output Result**
1 * (2 + 5)	(1 * (2 + 5))
(1 + 2) * 5 + 4	(((1 + 2) * 5) + 4)
23 * ((1 + 5) * 33)	(23 * ((1 + 5) * 33))
24	24
125	125

-5	((0 - 1) * 5)
- -5	(((0-1)*(0-1))*5)
- (-5)	((0-1)*((0-1)*5))

Submission Guideline

1. You need to submit all modified Python files including `parserr.py` and `main.py` to the GitHub classroom.
    a. If you modified `lexer.py` to implement one of the above cases, you need to submit the modified `lexer.py` also.
    b. DO NOT compress them as a ZIP file.
    c. DO NOT forget to include your name in python files as a comment like the below:
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.