

Lexer

- *This homework is a programming assignment.**
- *You need to submit Python files (lexer.py and main.py) on the GitHub classroom.**
- *You need to include your name as a comment in both lexer.py and main.py.**
- *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 `lexer.py` that we've worked on during the class. In our interpreter, a lexer needs to handle seven tokens as shown below.

Token Type	Token Value
NUMBER	0,1,2,3,....,9
PLUS	+
MINUS	-
MULTIPLICATION	*
DIVISION	/
LPAREN	(
RPAREN)

Currently, our lexer produces NUMBER token and PLUS token. Complete `lexer.py` so that our lexer also produces other tokens (MINUS, MULTIPLICATION, DIVISION, LPAREN, RPAREN).

Assume that we run `main.py` with `srcCode="((12+3*5)+5/4)"` with the completed `lexer.py` like the below.

```
import lexer

srcCode = "((12+3*5)+5/4)"
tokSeq = lexer.tokenize(srcCode)

for i in tokSeq:
    print(i.type, i.value)
```

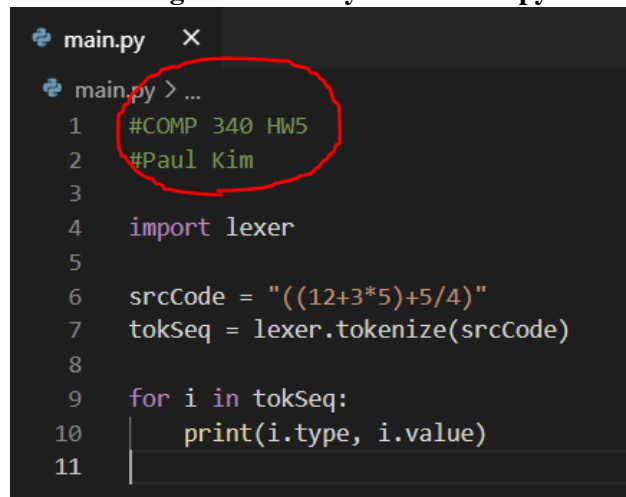
`main.py`

Then, it should print a sequence of tokens:

```
LPAREN (  
LPAREN (  
NUMBER 12  
PLUS +  
NUMBER 3  
MULTIPLICATION *  
NUMBER 5  
RPAREN )  
PLUS +  
NUMBER 5  
DIVISION /  
NUMBER 4  
RPAREN )
```

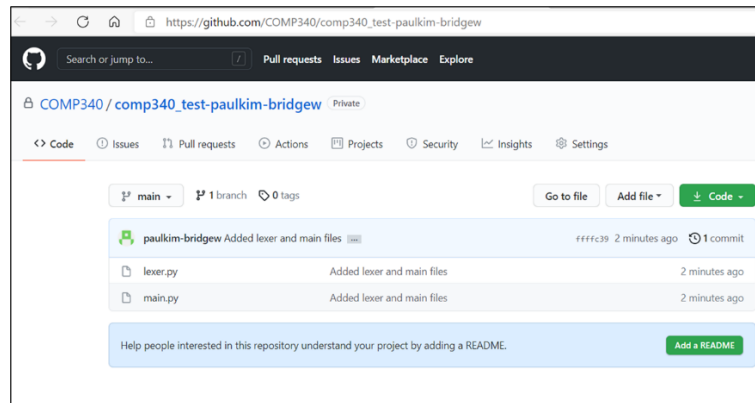
Submission Guideline

1. You need to submit `lexer.py` and `main.py` to the GitHub classroom.
 - a. Look at the GitHub tutorial (`GitHub_Windows.pptx` or `GitHub_Mac.pptx`) on Blackboard to learn how to submit files to the GitHub classroom.
 - 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:**



```
main.py X  
main.py > ...  
1 #COMP 340 HW5  
2 #Paul Kim  
3  
4 import lexer  
5  
6 srcCode = "((12+3*5)+5/4)"  
7 tokSeq = lexer.tokenize(srcCode)  
8  
9 for i in tokSeq:  
10     print(i.type, i.value)  
11
```

2. You also need to submit a screenshot of your repository of GitHub classroom on Blackboard.
 - a. The screenshot should look like:



3. After you submit them, DOUBLE-CHECK whether you've submitted the correct files on GitHub classroom and Blackboard.