Problem 772: Basic Calculator III

Problem Information

Difficulty: Hard
Acceptance Rate: 52.94%
Paid Only: Yes
Tags: Math, String, Stack, Recursion

Problem Description

Implement a basic calculator to evaluate a simple expression string.

The expression string contains only non-negative integers, `'+'`, `'-'`, `'*'`, `'/'` operators, and open `'('` and closing parentheses `')'`. The integer division should **truncate toward zero**.

You may assume that the given expression is always valid. All intermediate results will be in the range of `[-231, 231 - 1]`.

Note: You are not allowed to use any built-in function which evaluates strings as mathematical expressions, such as `eval()`.

Example 1:

Input: s = "1+1" **Output:** 2

Example 2:

Input: s = "6-4/2" **Output:** 4

Example 3:

Input: s = "2*(5+5*2)/3+(6/2+8)" **Output:** 21

Constraints:

* `1 <= s <= 104` * `s` consists of digits, `'+'`, `'-'`, `'*'`, `'/'`, `'('`, and `')'`. * `s` is a **valid** expression.

Code Snippets

C++:

```
class Solution {
public:
int calculate(string s) {

}
};
```

Java:

```
class Solution {
public int calculate(String s) {

}
}
```

Python3:

```
class Solution:
def calculate(self, s: str) -> int:
```