Problem 282: Expression Add Operators

Problem Information

Difficulty: Hard
Acceptance Rate: 42.47%
Paid Only: No
Tags: Math, String, Backtracking

Problem Description

Given a string `num` that contains only digits and an integer `target`, return _**all possibilities** to insert the binary operators _`'+'`_,_`'-'`_, and/or_`'*'`_between the digits of_`num` _so that the resultant expression evaluates to the_`target` _value_.

Note that operands in the returned expressions **should not** contain leading zeros.

Note that a number can contain multiple digits.

Example 1:

Input: num = "123", target = 6 **Output:** ["1*2*3","1+2+3"] **Explanation:** Both "1*2*3" and "1+2+3" evaluate to 6.

Example 2:

Input: num = "232", target = 8 **Output:** ["2*3+2","2+3*2"] **Explanation:** Both "2*3+2" and "2+3*2" evaluate to 8.

Example 3:

Input: num = "3456237490", target = 9191 **Output:** [] **Explanation:** There are no expressions that can be created from "3456237490" to evaluate to 9191.

Constraints:

* `1 <= num.length <= 10` * `num` consists of only digits. * `-231 <= target <= 231 - 1`

Code Snippets

C++:

```
class Solution {
public:
vector<string> addOperators(string num, int target) {

}
};
```

Java:

```
class Solution {
public List<String> addOperators(String num, int target) {

}
}
```

Python3:

```
class Solution:
def addOperators(self, num: str, target: int) -> List[str]:
```