

# Problem 43: Multiply Strings

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 43.09%

**Paid Only:** No

**Tags:** Math, String, Simulation

## Problem Description

Given two non-negative integers `num1` and `num2` represented as strings, return the product of `num1` and `num2`, also represented as a string.

**\*\*Note:\*\*** You must not use any built-in BigInteger library or convert the inputs to integer directly.

**\*\*Example 1:\*\***

**\*\*Input:\*\*** num1 = "2", num2 = "3" **\*\*Output:\*\*** "6"

**\*\*Example 2:\*\***

**\*\*Input:\*\*** num1 = "123", num2 = "456" **\*\*Output:\*\*** "56088"

**\*\*Constraints:\*\***

\* `1 <= num1.length, num2.length <= 200` \* `num1` and `num2` consist of digits only. \* Both `num1` and `num2` do not contain any leading zero, except the number `0` itself.

## Code Snippets

**C++:**

```
class Solution {  
public:
```

```
string multiply(string num1, string num2) {  
    }  
};
```

**Java:**

```
class Solution {  
public String multiply(String num1, String num2) {  
    }  
}
```

**Python3:**

```
class Solution:  
def multiply(self, num1: str, num2: str) -> str:
```