

← → ↺ 🌐 leetcode.com/problems/multiply-strings/ ☆ 0

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📄 Description 📖 Editorial 👤 Solutions 🔄 Submissions

43. Multiply Strings

Medium 🔖 Topics 🏢 Companies

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.

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📄 Code

Java 📄 Auto

```
1 public class Solution {
2     public String multiply(String num1, String num2) {
3         int n1 = num1.length(), n2 = num2.length();
4         int[] products = new int[n1 + n2];
5         for (int i = n1 - 1; i >= 0; i--) {
6             for (int j = n2 - 1; j >= 0; j--) {
7                 int d1 = num1.charAt(i) - '0';
8                 int d2 = num2.charAt(j) - '0';
9                 products[i + j + 1] += d1 * d2;
10            }
11        }
12        int carry = 0;
13        for (int i = products.length - 1; i >= 0; i--) {
14            int tmp = (products[i] + carry) % 10;
15            carry = (products[i] + carry) / 10;
16            products[i] = tmp;
17        }
```

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📄 Testcase ➤ Test Result

Accepted Runtime: 0 ms

• Case 1 • Case 2

Input

num1 =
"2"