537. Complex Number Multiplication

A [complex number](#) can be represented as a string on the form `"real+imaginaryi"` where:

- `real` is the real part and is an integer in the range `[-100, 100]`.
- `imaginary` is the imaginary part and is an integer in the range `[-100, 100]`.
- `i<sup>2</sup> == -1`.

Given two complex numbers `num1` and `num2` as strings, return *a string of the complex number that represents their multiplications*.

Example 1:

```
Input: num1 = "1+1i", num2 = "1+1i"
Output: "0+2i"
Explanation: (1 + i) * (1 + i) = 1 + i2 + 2 * i = 2i, and you need convert
it to the form of 0+2i.
```

Example 2:

```
Input: num1 = "1+-1i", num2 = "1+-1i"
Output: "0+-2i"
Explanation: (1 - i) * (1 - i) = 1 + i2 - 2 * i = -2i, and you need convert
it to the form of 0+-2i.
```

Constraints:

- `num1` and `num2` are valid complex numbers.

```python
class Solution:
    def complexNumberMultiply(self, a: str, b: str) -> str:
        a = a.split('+')
        b = b.split('+')

        realA = int(a[0])
        realB = int(b[0])
        imgA = int(a[1][:-1])
        imgB = int(b[1][:-1])
        ansReal = realA*realB - imgA*imgB
        ansImg = realA*imgB + realB*imgA

        ans = str(ansReal) + '+'+ str(ansImg)+'i'
        return ans
```