066 Plus One

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Question:

Given a non-negative integer represented as a **non-empty** array of digits, plus one to the integer.
You may assume the integer do not contain any leading zero, except the number 0 itself.
The digits are stored such that the most significant digit is at the head of the list.

来自 <https://leetcode.com/problems/plus-one/description/>

给定一个非负整数组成的**非空**数组，给整数加一。

可以假设整数不包含任何前导零，除了数字0本身。

最高位数字存放在列表的首位。

Solution for Python3:

```python
class Solution1:
    def plusOne(self, digits):
        """
        :type digits: List[int]
        :rtype: List[int]
        """
        p = 1
        for i in range(len(digits) - 1, -1, -1):
            digits[i] += p;
            if digits[i] > 9:
                digits[i] -= 10
            else:
                p = 0
                break
        return [1] + digits if p else digits

class Solution2:
    def plusOne(self, digits):
        """
        :type digits: List[int]
        :rtype: List[int]
        """
        for i in range(len(digits) - 1, -1, -1):
            if digits[i] == 9:
                digits[i] = 0
            else:
                digits[i] += 1
                return digits
        return [1] + digits

```

Solution for C++:

```cpp
class Solution {
public:
    vector<int> plusOne(vector<int>& digits) {
        for (int i = digits.size() - 1; i >= 0; i--) {
            if (digits[i] == 9) {
                digits[i] = 0;
            } else {
                digits[i]++;
                return digits;
            }
        }
        digits[0] = 1;
        digits.push_back(0);
        return digits;
    }
};
```