

★ 371 Sum of Two Integers

2018年4月10日

11:44

Question:

Calculate the sum of two integers a and b , but you are **not allowed** to use the operator $+$ and $-$.

Example:

Given $a = 1$ and $b = 2$, return 3.

来自 <https://leetcode.com/problems/sum-of-two-integers/description/>

不使用运算符 $+$ 和 $-$ ，计算两整数 a 、 b 之和。

示例:

若 $a = 1$ ， $b = 2$ ，返回 3。

Solution for Python3:

```
1 class Solution:
2     def getSum(self, a, b):
3         """
4         :type a: int
5         :type b: int
6         :rtype: int
7         """
8         MAX = 0x7FFFFFFF
9         MIN = 0x80000000
10        mask = 0xFFFFFFFF
11        sum = a
12        while b:
13            a, b = (a ^ b) & mask, ((a & b) << 1) & mask
14        return a if a <= MAX else ~(a ^ mask)
```

Solution for C++:

```
1 class Solution {
2 public:
3     int getSum(int a, int b) {
4         int sum = a;
5         while (b) {
6             sum = a ^ b;           //异或，不考虑进位，相应位置上和的值
7             b = (a & b) << 1;      //进位，左移一位再叠加到sum中
8             a = sum;               //a为本位，b为进位，继续迭代
9         }
10        return sum;
11    }
12 };
```