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371. Sum of Two Integers

Easy
686
1120
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Calculate the sum of two integers a and b , but you are **not allowed** to use the operator `+` and `-`.

Example 1:

Input: $a = 1, b = 2$
Output: 3

Example 2:

Input: $a = -2, b = 3$
Output: 1

Accepted 125,871 | Submissions 245,835

Seen this question in a real interview before?

Yes

No

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```

1 package Algorithm;
2
3 /*
4  * 举个例子: 11+5, 其二进制形式为11: 1011, 5: 0101
5  * 1. 那么两个位置都为1的地方就需要进位, 所以进位值就为0001. 原位置两个数相加的结果为那个位置值的异或即1110,
6  * 即两个位置值如果不一样就为1, 一样的话要么两个位置原来值都为0结果也为0, 要么进位, 那么结果依然是0.
7  * 2. 接下来就要把进位位和下一位相加, 所以进位值左移一位, 即0001变为0010,
8  * 重复上面操作可得新的进位值为0010, 原位置异或(即相加)结果为1100.
9  * 3. 继续重复上面操作直到进位为0, 可得到最终结果10000, 即16
10  */
11 public class L371 {
12     public int getSum(int a, int b) {
13         while(b != 0) {
14             int carry = a & b;
15             a = a ^ b;
16             b = carry << 1;
17         }
18         return a;
19     }
20 }
21
    
```

