A. Vasya and Coins

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Vasya decided to go to the grocery store. He found in his wallet a coins of 1 burle and b coins of 2 burles. He does not yet know the total cost of all goods, so help him find out s ($s > 0$): the **minimum** positive integer amount of money he **cannot** pay without change or pay at all using only his coins.

For example, if $a = 1$ and $b = 1$ (he has one 1-burle coin and one 2-burle coin), then:

- he can pay 1 burle without change, paying with one 1-burle coin,
- he can pay 2 burle without change, paying with one 2-burle coin,
- he can pay 3 burle without change by paying with one 1-burle coin and one 2-burle coin,
- he cannot pay 4 burle without change (moreover, he cannot pay this amount at all).

So for $a = 1$ and $b = 1$ the answer is $s = 4$.

Input

The first line of the input contains an integer t ($1 \le t \le 10^4$) — the number of test cases in the test.

The description of each test case consists of one line containing two integers a_i and b_i ($0 \le a_i, b_i \le 10^8$) — the number of 1-burle coins and 2-burles coins Vasya has respectively.

Output

For each test case, on a separate line print one integer s ($s > 0$): the minimum positive integer amount of money that Vasya cannot pay without change or pay at all.

Example

input Copy

```
5
1 1
4 0
0 2
0 0
2314 2374
```

output Copy

```
4
5
1
1
7063
```

Note

- The first test case of the example is clarified into the main part of the statement.
- In the second test case, Vasya has only 1 burle coins, and he can collect either any amount from 1 to 4, but 5 can't.
- In the second test case, Vasya has only 2 burle coins, and he cannot pay 1 burle without change.
- In the fourth test case you don't have any coins, and he can't even pay 1 burle.