CSES Problem Set

Number Spiral

TASK │ STATISTICS

Time limit: 1.00 s	**Memory limit:** 512 MB

A number spiral is an infinite grid whose upper-left square has number 1. Here are the first five layers of the spiral:

1	2	9	10	25
4	3	8	11	24
5	6	7	12	23
16	15	14	13	22
17	18	19	20	21

Your task is to find out the number in row y and column x.

Input

The first input line contains an integer t: the number of tests.

After this, there are t lines, each containing integers y and x.

Output

For each test, print the number in row y and column x.

Constraints

- $1 \le t \le 10^5$
- $1 \le y, x \le 10^9$

Example

Input:
3
2 3

Introductory Problems

```
1 1
4 2
```

Output:
```
8
1
15
```