# Xor

**Time Limit: 2000/1000 MS (Java/Others)    Memory Limit: 524288/524288 K (Java/Others)**
**Total Submission(s): 0    Accepted Submission(s): 0**

## Problem Description

Given $A, B, K, W$, Kanade wants to know the number of $(x, y)$ which satisfies the following conditions:

1. $x, y$ are integers

2. $x \in [0, A], y \in [0, B]$

3. $|x - y| \le K$

4. $x \ xor \ y \le W$

## Input

There are $T$ test cases in this problem.

The first line has 1 integer $T$.

Then for every test case, the first line has 4 integers $A, B, K, W$

$1 \le T \le 2000$

$0 \le A, B, K, W \le 10^9$

## Output

For every test case, output the answer in a line.

## Sample Input

```
3
3 3 1 2
10 10 3 7
998244353 998244353 114514 123456789
```

## Sample Output

```
8
53
228430202591616
```

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