



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. $|x - y| \leq K$
4. $x \text{ xor } y \leq W$

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

$1 \leq T \leq 2000$

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

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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 Designer & Developer : Wang Rongtao Lin Le GaoJie GanLu
 Total 0.000000(s) query 0, Server time : 2020-09-20 12:08:04, Gzip disabled

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