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Day 29: Bitwise AND

by [AvmnuSng](#)[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)[Editorial](#)[Tutorial](#)

Objective

Welcome to the last day! Today, we're discussing bitwise operations. Check out the [Tutorial](#) tab for learning materials and an instructional video!

Task

Given set S . Find two integers, a and b (where $a \leq b$), from set S such that the value of $a \& b$ is the maximum possible *and also less than a given integer*, c . In this case, $a \& b$ represents the *bitwise AND* operator.

Input Format

The first line contains an integer, t , the number of test cases.

Each of the t subsequent lines defines a test case as 2 space-separated integers, a and b , respectively.

Constraints

-

-
-

Output Format

For each test case, print the maximum possible value of $A \& B$ on a new line.

Sample Input

```
3
5 2
8 5
2 2
```

Sample Output

```
1
4
0
```

Explanation

All possible values of A and B are:

- 1.
2. A
- 3.
- 4.

5.

6. `A` `A &`



7.

8.

9.

10.

The maximum possible value of that is also is , so we print on a new line.

Submissions:21502**Max Score:**30**Difficulty:** Medium**Rate This Challenge:**[More](#)**Current Buffer** (saved locally, editable)  

Java 8

