

## Help Bipin Judge Answer!!

Mayank and Aswin are good friends. They came to Amrita School of Engineering, Coimbatore to train the school kids as a part of ISPC camp. They were talking in Hindi to each other. Their roommate Bipin got pissed off since he didn't understand what they were talking about because he doesn't

understand Hindi. He wanted to change the topic. He knew they were good at mathematics. So, he decided to give them a problem to test their math skill. The question goes as follows: Given Q queries, each query containing 2 integers A, B representing the ranges, they've to predict which number among that range (inclusive) is having the most number of 1's in them if they're converted to binary.

Since Bipin don't know programming, he doesn't know how to judge if the answer is correct or not. Can you help him?

### Input:

First line contains an integer, Q representing the queries

Next Q lines follows with each having 2 integers A, B representing the range

### Output:

For each Q queries, output a single integer which contains the most number of 1's in the given range

when converted to binary. If there're multiple such integers output the smallest such number.

### Constraints:

$1 \leq Q \leq 100,000$

$0 \leq A \leq B \leq 10^{18}$

### Example Input:

```
2
2 9
10 16
```

### Example Output:

```
7
15
```