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Coprime Range | Problem Code: **COPRIMEX**

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Read problem statements in **Bengali**, **Mandarin Chinese**, **Russian**, and **Vietnamese** as well.

You are given a range of positive integers $L, L+1, \ldots R$. Find an integer X greater than 1 which is coprime with all the integers in this range (does not share any common factors greater than 1 with any of these integers). In addition, X must not exceed $2 \cdot 10^9$.

If there are multiple solutions satisfying these conditions, you may find any one of them. It is guaranteed that for the given constraints, at least one such integer X exists.

For example, if $L = 16$ and $R = 17$, then $X = 9$ is coprime with both 16 and 17. However, if $L = 6$ and $R = 12$ instead, then $X = 9$ shares a common factor 3 with 6 and 12 and a common factor 9 with 9.

Input

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first and only line of each test case contains two space-separated integers L and R.

Output

For each test case, print a single line containing one integer X which satisfies the above conditions.

Constraints

- $1 \le T \le 1,000$
- $2 \le L \le R \le 10^6$

Subtasks

Subtask #1 (100 points): original constraints

Example Input

```
3
16 17
16 17
973360 973432
```

Example Output

```
9
27
79
```

Explanation

Example case 1: $X = 9$ does not share any common factors with 16 and 17.

Example case 2: $X = 27$ does not share any common factors with 16 and 17.

Example case 3: $X = 79$ does not share any common factors with any of the integers $973360, 973361, \ldots, 973432$.

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Time Limit:	0.5 secs
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CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of **algorithms**, **computer programming**, and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and two smaller programming challenges at the middle and end of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in the language of your choice. Our **programming contest** judge accepts solutions in over 55+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests, Cook-off and Lunchtime

Here is where you can show off your **computer programming skills**. Take part in our 10 days long monthly coding contest and the shorter format Cook-off and Lunchtime **coding contests**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), $700 (for Global Community) and lots more CodeChef goodies up for grabs.

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Contest Hosting	Hard	College Chapters	Refund Policy
Problem Setting	Challenge	CodeChef for Business	Code of Conduct
CodeChef Tutorials	Peer		Bug Bounty Program
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