De7a El Gamed

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

We all know how competitive our friends *De7a* and *Essawi* can get. They have been competing to decide who is the faster 3x3 speedcuber.

Now *Zula* wants this to end right now and realized there is no better way than to give them both a problem and see who can solve it first and he asked you to try to beat them both to the punch.

Given Q queries, each one consisting of two integers L and R, you need to count the number of divisors of the number M, where M is the product of all numbers from L to R ($M = \Pi_{i=L}^{R} i$). As the answer maybe very large print it modulo $10^9 + 7$.

The clock is ticking as *De7a* and *Essawi* are already started coding their solutions.

Input

The first line of input consists of a single integer $Q(1 \leq Q \leq 100)$ the number of queries Zula will ask.

Each of the next Q lines contains two integers L and R ($1 \leq L \leq R \leq 10^5$).

Output

For each test case output the answer to the query as Zula described modulo $10^9 + 7$.

Examples

standard input	standard output
1 2 3	4
2 7 7 3 5	2 12

Note

In the **first** test case the product is the number 6 which has 4 divisors 1, 2, 3 and 6.

How modulo is used:

A few distributive properties of modulo are as follows:

1. $(a + b)\%c = ((a\%c) + (b\%c))\%c$
2. $(a \times b)\%c = ((a\%c) \times (b\%c))\%c$
3. $(a - b)\%c = ((a\%c) - (b\%c))\%c$