Task 3. Conditionally rich numbers

Mariya has come up with the following definition for a **rich** number. It is given a positive integer *X.* Then a positive integer *N* is called a **rich** number (relative to X) if the sum of its divisors except *N* is greater than X. For example, the number 10 (whose sum of divisors is 1+2+5 = 8) is **rich** relative to *X*=7 but it isn't **rich** relative to *X*=12.

Task

Write a program `rich_num` to help Mariya. The program will be given queries that are ordered triples of positive integers (*L, R, V*) and for each query it should calculate the number of **rich** numbers relative to *V*, which are greater than or equal to *L* and less than or equal to R.

Input

The first line of the standard input contains one positive integer *Q* – the number of queries that your program has to process.

Each of the next *Q* lines contains three positive integers *L, R* and *V*, which describe a query for your program to process.

Output

Your program should output to the standard output Q lines – one line for each query in the order of the input. Each line should contain the answer to the corresponding query.

Constraints

$1 \le Q \le 10^5$

$1 \le L \le R \le 10^5$

$1 \le V \le 10^5$

Subtasks

Subtask	Points	Q	R	V
1	5	$\le 10^3$	$\le 10^3$	$\le 10^5$
2	10	$\le 10^5$	$\le 10^4$	$= 10$
3	30	$\le 10^5$	$\le 10^5$	≤ 10
4	55	$\le 10^5$	$\le 10^5$	$\le 10^5$

The points for a subtask are given only if all the tests for it are passed.

Example

Input	Output
3 5 15 5 1 20 20 12 20 10	6 2 4