

No Division Allowed

Input file: **standard input**
Output file: **standard output**
Time limit: 0.5 seconds
Memory limit: 64 megabytes

In order to stop the division among the fighters, the government of Eniarku decided to test the mathematical skills of the soldiers, while also boosting their morale in the fight against the invaders.

Given three integers a , b and x , find the number of integers in the range $[a, b]$ such that they are not multiple of any of the integers in the range $[2, x]$. Since the answer can be really big, you need to print the remainder of the answer modulo $10^9 + 7$.

Since this is an easy challenge for the leader of Eniarku, he wants to see if you are up to the challenge.

Input

The first line of the input contains three integers, a , b and x ($1 \leq a \leq b \leq 10^{100000}$), ($2 \leq x \leq 20$).

For tests worth 10 points, ($1 \leq b \leq 10^6$).

For tests worth 10 more points, ($1 \leq b \leq 10^{18}$).

For tests worth 20 more points, ($2 \leq x \leq 5$).

For tests worth 30 more points, ($2 \leq x \leq 10$).

Output

The output will contain the answer, modulo $10^9 + 7$.

Examples

standard input	standard output
1 14 5	4
392692 6382655 20	1024429

Note

For the first sample, the numbers which are not divisible by either 2, 3, 4 or 5 are 1, 7, 11 and 13.