

Problem B. Beauty of Integers

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 mebibytes

Number theorist Beata is attracted by the beauty of numbers. When we are given an integer $a = \overline{a_1 a_2 \dots a_n}$ of n digits and a positive integer k , a is called k -special if the product of all the digits of a , that is, $a_1 \cdot a_2 \cdot a_3 \cdot \dots \cdot a_n$, is divisible by k . Note that the number 0 is divisible by every positive integer.

For example, if $a = 2349$ and $k = 12$, then the product of all the digits of a , $2 \cdot 3 \cdot 4 \cdot 9 = 216$, is divisible by $k = 12$, so the number 2349 is 12-special. If $a = 2349$ and $k = 16$, then the product of all the digits of a , $2 \cdot 3 \cdot 4 \cdot 9 = 216$, is not divisible by $k = 16$, so the number 2349 is not 16-special.

Given three integers k , L , and R , write a program to find $x \bmod 998\,244\,353$ where x is the number of k -special numbers among integers in the range $[L, R]$.

Input

The input has one line containing three integers, k , L , and R ($1 \leq k \leq 10^{17}$, $1 \leq L \leq R \leq 10^{20}$).

Output

Print exactly one line. The line should contain $x \bmod 998\,244\,353$ where x is the number of k -special numbers among the numbers in the range $[L, R]$, where both L and R are inclusive in the range.

Examples

standard input	standard output
5 1 20	4
5 50 100	19
15 11 19	0