PC3

Input file:	`standard input`
Output file:	`standard output`
Time limit:	4 seconds
Memory limit:	256 megabytes

You need to count the number of integers x such that:

- $L \leq x \leq R$
- $l \leq x \bmod p \leq r$
- $\text{popcount}(x) = 3$

where $\text{popcount}(x)$ refers to the number of `1` in the binary representation of x.

Since the answer may be too large, print it modulo 998244353.

Input

The first two lines are the binary representation of L and R. ($1 \leq L \leq R \leq 2^{100000}$)

The third line contains three integers p, l, r ($0 \leq l \leq r < p \leq 10^5$).

Output

One integer refers to the answer modulo 998244353.

Example

standard input	standard output
10 1111 7 0 4	3