4984 - Binary Operation

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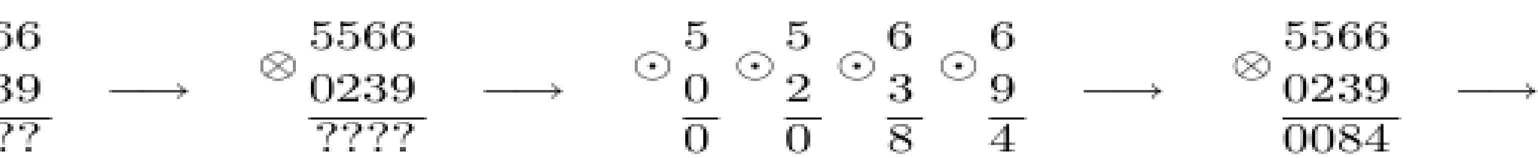
Consider a binary operation defined on digits 0 to 9, : {0, 1,..., 9} x {0, 1,..., 9} $\rightarrow$ {0, 1,..., 9}, such that 0 0 = 0.

A binary operation $\otimes$ is a generalization of to the set of non-negative integers, $\otimes$: $Z_0 + \times Z_0 + \rightarrow Z_0 +$. The result of $a \otimes b$ is defined in the following way: if one of the numbers a and b has fewer digits than the other in decimal notation, then append leading zeroes to it, so that the numbers are of the same length; then apply the operation digit-wise to the corresponding digits of a and b.



Example. If a $b = ab$ mod 10, then 5566 $\otimes$ 239 = 84.

Let us define $\otimes$ to be left-associative, that is, $a \otimes b \otimes c$ is to be interpreted as $(a \otimes b) \otimes c$.

Given a binary operation and two non-negative integers a and b, calculate the value of $a \otimes (a + 1) \otimes (a + 2) \otimes \ldots \otimes (b - 1) \otimes b$.

Input

The input file contains several test cases, each of them as described below.

The first ten lines of the input file contain the description of the binary operation . The i-th line of the input file contains a space-separated list of ten digits -- the j-th digit in this list is equal to $(i - 1)$ $(j - 1)$.

The first digit in the first line is always 0.

The eleventh line of the input file contains two non-negative integers a and b ($0 \le a \le b \le 10^{18}$).

Output

For each test case, output on a line by itself a single number -- the value of $a \otimes (a + 1) \otimes (a + 2) \otimes \ldots \otimes (b - 1) \otimes b$ without extra leading zeroes.

Sample Input

```
0 1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9 0
2 3 4 5 6 7 8 9 0 1
3 4 5 6 7 8 9 0 1 2
4 5 6 7 8 9 0 1 2 3
5 6 7 8 9 0 1 2 3 4
6 7 8 9 0 1 2 3 4 5
7 8 9 0 1 2 3 4 5 6
8 9 0 1 2 3 4 5 6 7
9 0 1 2 3 4 5 6 7 8
0 10
```

Sample Output

```
15
```

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