7944 Base Sums

Given three values n, a, and b, find the smallest $m > n$ such that the sum of the digits of m in base a is the same as the sum of digits of m in base b.

Input

The input file contains several test cases. For each of them, there will be a single line with three integers, n ($0 \leq n \leq 10^{16}$), a and b ($2 \leq a < b \leq 36$), all of which will be in base 10.

Output

For each test case, on a line by itself, output a single integer, m, which is the smallest number greater than n such that the sum of its digits in base a is the same as the sum of its digits in base b. Output m in base 10.

Sample Input

```
66 10 16
24 4 15
9358385 11 32
```

Sample Output

```
144
90
9437362
```