Armageddon

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	1024 megabytes

Cocoa, the *magic sword president* of RUN, has obtained a new magic sword named **Armageddon**. To maximize its power, Cocoa intends to enhance it.

Specifically, the sword's power is determined by its length x, enchantment level y, and brilliance z, according to the formula:

$$\frac{x(x+1)}{2} \cdot \frac{y(y+1)}{2} \cdot a^z$$

where x, y, z are nonnegative integers. Here, a is a fixed constant determined when **Armageddon** was forged. Initially, x, y, z are all initialized to 0.

Cocoa can invest her mana to improve the sword. For each 1 mana spent, she can increase either x, y, or z by 1.

For each $k = 1, 2, \cdots, n$, determine the maximum possible power of the sword if Cocoa uses exactly k mana to enhance the sword.

Input

The first line contains three integers p, q, and n separated by spaces, where $a = p/q$.

Output

Print n values in a single line, separated by spaces.

For the i-th value, output $s \times t^{-1} \pmod{10^9 + 7}$, where s/t is the irreducible fraction representing the maximum possible power after investing exactly i mana.

Scoring

- $1 \leq p, q, n \leq 10^5$

Examples

standard input	standard output
1 1 10	0 1 3 9 18 36 60 100 150 225
2 1 10	0 1 3 9 18 36 72 144 288 576
100000 1 5	0 1 100000 999999937 993000007

Note

There is no *magic sword president* in RUN.