Product

Input file:	*standard input*
Output file:	*standard output*
Time limit:	12 seconds
Memory limit:	1024 mebibytes

We will be short here.

For a given sequence of integers $(a_0, a_1, \ldots a_{mk-1})$ of length mk, define its weight as the product $\prod_{i=0}^{m-1} a_{ik}$. Calculate the sum of all weights of sequences $(a_0, a_1, \ldots, a_{mk-1})$ such that $1 \le a_0 \le a_1 \le \ldots \le a_{mk-1} \le n_0$ modulo 998 244 353 for all n_0 from 1 to n, inclusive.

Input

The only input line contains three integers: n, m, and k ($1 \le n, k \le 250\,000$; $1 \le m \le 10^{18}$).

Output

Output n lines: answers for $n_0 = 1, 2, \ldots, n$ modulo 998 244 353.

Example

standard input	*standard output*
2 2 2	1 10