Problem F. Function analysis

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

Let p be a sequence of numbers $(1, 2, 3, \ldots, n-1, n)$, and q be a random sample of $m \leq n$ elements of p, such that i-th element of q is chosen equiprobable and independently.

Denote by $nth(a, b)$ the element that is in the b-th position if we order a in non-decreasing order. For example, $nth(a = (5, 2, 3, 2), b = 4) = 5$.

For each m, s.t. $d \leq m \leq n$ find the probability that $nth(p, k) < nth(q, d)$, modulo 998244353. In other words, if the desired probability is $\frac{P}{Q}$, print $P \cdot Q^{-1} \mod 998244353$.

Input

A single line of input contains three integers separated by space n, d and k.

$$1 \leq k \leq n \leq 3 \cdot 10^5$$

$$1 \leq d \leq n$$

Output

Print $n - d + 1$ lines, each of them containing a single integer, the probability for m from d to n both including (modulo 998244353).

Example

standard input	standard output
5 2 3	119789323 15971910 552628074 239898083