

Ilke the Agile

Time Limit: 1.0s **Memory Limit:** 256M

Ilke is an agile statistics student.

One day, a professor of hers conducts an oral exam. The turn comes to Ilke and she goes up to the board. The professor flips a biased coin at least twice and **at most** k times and writes **H** on the board each time he gets heads and **T** on the board each time he gets tails. Afterwards, he asks Ilke to calculate the experimental probability of changeover (which occurs whenever the outcome of a coin flip is different than the one before) for the biased coin, and Ilke says that the answer is a/b . It's known that Ilke has answered correctly and raised the curve.

You are asked to calculate the number of strings the professor may have written. Since this number can be very large, print it modulo 998244353.

Input

The only line respectively contains three integers k , a , and b — the **maximum** number of coin flips, the numerator, and the denominator of the probability fraction.

- $2 \leq k \leq 10^6$
- $1 \leq b < k$
- $0 \leq a \leq b$

Output

Print one integer — the number of strings that the professor may have written modulo 998244353.

Example

Input 1:

```
4 1 3
```

Output 1:

```
6
```

Input 2:

481516 333 42878

Output 2:

688512150

Explanation

Input 1: The professor may have written `HTTT`, `HHTT`, `HHHT`, `TTTH`, `TTHH`, or `TTHH` on the board.