Problem B. Bottles

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

An immortal elf got $e + p + w$ bottles from the mage.

The first e bottles contain elixir. If the elf drinks it, she becomes immune to all poison effects, present or future.

The other p bottles, numbered from 1 to p, contain different poisons. Each poison has a delayed effect: poison bottle i has a delay of $t + i - 0.5$ days. If the elf drinks from poison bottle i, the respective delay passes, and she didn't yet drink any elixir in her life (doesn't matter if it's before or after drinking the poison), she dies. Poisons act independently: the delay for each poison is not changed by drinking other poisons.

The remaining w bottles contain water. When the elf drinks it, nothing happens.

At the same time every morning, the elf chooses one non-empty bottle with equal probability and drinks it. If all bottles are empty, she does nothing.

Find the probability that the elf will be alive $10^{10^{10}}$ days after the first day she starts drinking bottles. Remember that the elf is immortal, so she won't die from anything other than poison.

Input

The first line of input contains four integers: e, p, w, and t ($1 \le e, p, w, t \le 10^5$).

Output

It can be proven that the probability is a rational number. Represent it as p/q where p and q are coprime integers, and print the integer $p \cdot q^{-1}$ modulo $998\,244\,353$. You may assume that q will be coprime with $998\,244\,353$.

Examples

standard input	standard output
1 1 2 1	249561089
1 1 1 42	1
2 2 2 2	987152750

Note

For the three examples, the answers in rational form are: $3/4$, $1/1$, and $83/90$.