Problem E. White and Black Balls

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

How many ways are there to arrange N white balls and M black balls in a row from left to right to satisfy the following condition?

- For each i $(1 \leq i \leq N + M)$, let w_i and b_i be the number of white balls and black balls among the leftmost i balls, respectively. Then, $w_i \leq b_i + K$ holds for every i.

Since the count can be enormous, find it modulo $(10^9 + 7)$.

Constraints

- $0 \leq N, M \leq 10^6$
- $1 \leq N + M$
- $0 \leq K \leq N$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
N M K
```

Output

Print the answer. Be sure to find the count modulo $(10^9 + 7)$.

Sample 1

Input	Output
2 3 1	9

There are 10 ways to arrange 2 white balls and 3 black balls in a row, as shown below, where `w` and `b` stand for a white ball and a black ball, respectively.

`wwbbb` `wbwbb` `wbbwb` `wbbbw` `bwwbb` `bwbwb` `bwbbw` `bbwwb` `bbwbw` `bbbww`

Among them, `wwbbb` is the only one that does not satisfy the condition. Here, there are 2 white balls and 0 black balls among the 2 leftmost balls, and we have $2 > 0 + K = 1$.

Sample 2

Input	Output
`1 0 0`	`0`

There may be no way to satisfy the condition.

Sample 3

Input	Output
`1000000 1000000 1000000`	`192151600`

Be sure to print the count modulo $(10^9 + 7)$.