

C. k-Tree

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

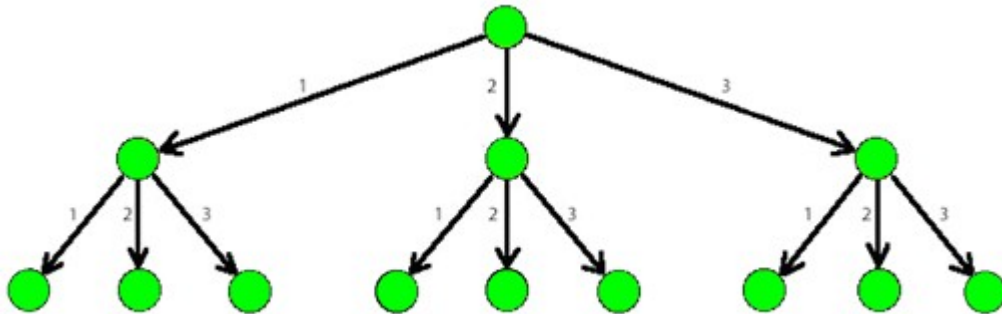
standard output

Quite recently a creative student Lesha had a lecture on trees. After the lecture Lesha was inspired and came up with the tree of his own which he called a k -tree.

A k -tree is an infinite rooted tree where:

- each vertex has exactly k children;
- each edge has some weight;
- if we look at the edges that goes from some vertex to its children (exactly k edges), then their weights will equal $1, 2, 3, \dots, k$.

The picture below shows a part of a 3-tree.



As soon as Dima, a good friend of Lesha, found out about the tree, he immediately wondered: "How many paths of total weight n (the sum of all weights of the edges in the path) are there, starting from the root of a k -tree and also containing at least one edge of weight at least d ?" Help Dima find an answer to his question. As the number of ways can be rather large, print it modulo 1000000007 ($10^9 + 7$).

Input

A single line contains three space-separated integers: n , k and d ($1 \leq n, k \leq 100$; $1 \leq d \leq k$).

Output

Print a single integer — the answer to the problem modulo 1000000007 ($10^9 + 7$).

Examples

input

Copy

3 3 2

output

Copy

3

input

Copy

3 3 3

output

Copy

1

input

Copy

4 3 2

output

Copy

6

input

Copy

4 5 2

output

Copy

7