Phasmophobia

Okayu and Korone are playing Phasmophobia.

There are **N** rooms, numbered **1** to **N**. Each player has to enter the **N** rooms in an order.

Let **P** be the permutation of size **N** representing the order of rooms Okayu enters, and **Q** for Korone.

Korone doesn't want to be too far from Okayu, so they set up a plan as the following:

- Okayu will enter the rooms in numerical order. Formally, **P = {1, 2, 3, ..., N}**.
- Korone will enter the rooms in a way such that $|P_i - Q_i| \le K$ **for every** $1 \le i \le N$.

How many configurations can Korone enter the rooms? Since the answer can be large, print the answer modulo $10^9 + 7$.

Input Format

The first and only line contains two integers **N and K**.

Output Format

Print an integer denoting the number of permutations **Q** satisfying the conditions above in modulo $10^9 + 7$.

Sample Input 1

3 1

Sample Output 1

3

Sample Input 2

3 2

Sample Output 2

6

Explanation

In sample 1, the possible configurations are **{1, 2, 3}**, **{2, 1, 3}**, and **{1, 3, 2}**.

In sample 2, all permutations are valid.

Constraints

$1 \le N \le 1000$

$1 \le K \le 5$