Roses and pots (2) P22292_en

You have roses of c different colors. In particular, you have n roses of each color. Please compute the number of ways to plant all the roses in a line of cn pots, one rose per pot, in such a way that there is exactly one pair of adjacent roses of the same color. The roses of the same color are indistinguishable.

Input

Input consists of several cases, each with c and n. Assume that c is either 2 or 3. For $c = 2$, we have $1 \leq n \leq 10^7$. For $c = 3$, we have $1 \leq n \leq 200$.

Output

For every case, print the answer modulo $10^8 + 7$.

Sample input 1

```
2 2
3 1
3 2
3 200
```

Sample output 1

```
2
0
36
73999084
```

Problem information

Author: Salvador Roura

Generation: 2026-01-25T10:13:55.721Z