Weird Base Problem

Problem ID: uzbektrek

Traveler Todd plans on making the trek from Kazakhstan to Turkmenistan. In order to do so, he must navigate through the great nation of Uzbekistan.

Unfortunately, Uzbekistan imposes a tax on all foreign travelers who pass through it. Uzbekistan has imposed a particularly peculiar tax on Todd. While trekking through Uzbekistan, Todd must wear special shoes with the blue, white and green flag of Uzbekistan stiched onto them.

However, each shoe only lasts for a certain amount of footsteps. Moreover, each shoe lasts for exactly p^k footsteps for some $k \geq 0$.

Todd predetermines that it will take him n footsteps to travel through Uzbekistan. He then goes to the Uzbek Shoe Depot where he purchases all the shoes he needs to complete his journey.

The Uzbek Shoe Depot is a luxury store. Todd can order as many shoes as he likes. For each shoe, Todd gets to pick k which determines that the shoe will last for p^k footsteps. Help Todd determine how many ways he can order sets of shoes so that he can wear all the shoes in sequence to travel **exactly** n footsteps!

Input

The first line contains space-separated integers n and p such that $1 \leq n \leq 10^7$ and $1 \leq p \leq 10^7$.

Output

Output a single integer, the number of ways to express n as a sum of powers of p. Since the answer can be large, output it modulo $10^9 + 7$.

Sample Input 1	Sample Output 1
100 100	2