

Project Euler #48: Self powers



This problem is a programming version of [Problem 48](#) from projecteuler.net

The series,

$$1^1 + 2^2 + 3^3 + \dots + 10^{10} = 10405071317$$

Find the last ten digits of the series,

$$1^1 + 2^2 + 3^3 + \dots + N^N$$

Note You do not need to print leading zeros. See sample.

Input Format

Input contains an integer N

Constraints

$$1 \leq N \leq 2 \times 10^6$$

Output Format

Print the answer corresponding to the test case.

Sample Input

10

Sample Output

405071317