

L: Remoteland

Time Limit: 10 second(s)

In the Republic of Remoteland, the people celebrate their independence day every year. However, as it was a long long time ago, nobody can remember when it was exactly. The only thing people can remember is that today, the number of days elapsed since their independence (D) is a perfect square, and moreover it is the largest possible such number one can form as a product of distinct numbers less than or equal to n .

As the years in Remoteland have 1 000 000 007 days, their citizens just need D modulo 1 000 000 007. Note that they are interested in the largest D , not in the largest D modulo 1 000 000 007

Input

The input contains multiple test cases. Every test case is described by a single line with an integer n , ($1 \leq n \leq 10\,000\,000$). The input ends with a line containing 0.

Output

For each test case, output the number of days ago the Republic became independent, modulo 1 000 000 007, one per line.

Sample Input and Output

Sample Input	Output for Sample Input
4	4
9348095	177582252
6297540	644064736
0	