

# J

## Remoteland

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

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

```
4
9348095
6297540
0
```

### Sample Output

```
4
177582252
644064736
```