

# 13273 Making a Team

It is now the year 2200 and programming contest activities have spread around the world like never before. It has been estimated that there may be as many as  $10^7$  world class contestants in the world. Now your job is to form a team consisting of contestants only. Exactly one of the team members must be a team leader (**TL**), exactly one must be lead developer (**LD**), exactly one must be lead tester (**LT**), exactly one must be marketing manager (**MM**). Of course same person can hold more than one of these four posts. Anyone not holding any of these posts is an ordinary worker (**OW**). Given the total number of world class contestants  $N$ , your task is to find out in how many ways can you form such a team. Two teams are different, if any one of the following conditions is satisfied:

- i) Total number of contestants in the two teams is different.
- ii) Two teams have same number of contestants and at least one contestant is different.
- iii) Two teams have same contestants and at least one contestant plays different role.

For example consider the following teams:

	Member 1	Member 2	Member 3	Member 4
Team A	Contestant A (TL)	Contestant B (LD)	Contestant C (LT)	Contestant D(MM)
Team B	Contestant A (TL & MM)	Contestant B (LD)	Contestant C (LT)	Contestant D (OW)
Team C	Contestant A (TL)	Contestant B (LD)	Contestant C (LT)	Contestant E(MM)
Team D	Contestant A (TL)	Contestant B (LD)	Contestant D (MM)	Contestant C (LT)
Team E	Contestant A (TL & LD && MM)	Contestant B (OW)	Contestant D (OW)	Contestant C (LT)

Here Team A and Team B are different (although members are same) as contestant A and contestant D have difference in their roles, Team A and Team C are different because member 4 are two different persons, Team A and Team D is the same team as all members and their corresponding roles are same (only written in different order). Team E is valid because there can be more than one OW.

## Input

The input file contains at most 10001 lines of input.

Each line contains an integer  $N$  ( $0 < N < 10000001$ ) denoting the total number of world class contestants. Input is terminated by a line containing a single zero. This line should not be processed.

## Output

For each line of input produce one line of output. This line contains an integer  $W$  denoting the total number of ways to form a team.

As this value can be too big, please output the *modulo* 100000007 ( $10^8 + 7$ ) value of  $W$  (or  $W \% 100000007$ ).

## Sample Input

```
2
4
100
0
```

## Sample Output

18

680

95856450