

Problem BB. Sums of 2 and 3

Time limit	2000 ms
Mem limit	1572864 kB
Code length Limit	50000 B
OS	Linux

Changu and Mangu are brothers. Changu likes 2 and Mangu likes 3. They decided to express each number as sum of 2 and 3.

They need your help. They want you to tell them the number of ways of writing a number as ordered sums of 2 and/or 3.

For example, there are 4 ways to write 8 as an ordered sum of 2s and/or 3s:

- $2 + 2 + 2 + 2$
- $2 + 3 + 3$
- $3 + 2 + 3$
- $3 + 3 + 2$

Input

The first line contains T, the number of test cases. It is followed by T lines, each containing the number N.

Output

You have to print the number of ways of writing N as ordered sum of 2 and/or 3. You have to print the answer mod 1000000007.

Example

Input:

```
3
2
3
8
```

Output:

```
1
1
4
```

Constraints:

$T \leq 100000$

$1 \leq N \leq 1000000$