Given a $2 \times 2 \times N$ box, in how many ways can you fill it with 1x1x2 blocks?

Input

The input starts with an integer T — the number of test cases ($T \leq 10,000$). T cases follow on each subsequent line, each of them containing the integer N ($1 \leq N \leq 1,000,000$).

Output

For each test case, print the number of ways to fill the box *modulo* 1,000,000,007

Sample Input

```
3
1
2
3
```

Sample Output

```
2
9
32
```