

Problem B

Planning Tree

Time Limit: **1 second**

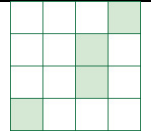
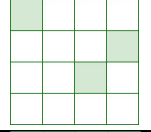
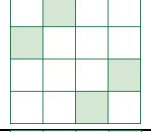
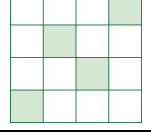
Mem limit: **512 Megabytes**

A new beautiful park has just been built in our city. Your team is now responsible for planting trees in the park.

The park can be considered as a grid with N rows and N columns. The rows are numbered from 1 to N from top to bottom. The columns are numbered from 1 to N from left to right. Let us denote the cell at i^{th} row and j^{th} column by (i, j) .

Your team will plant exactly N trees, such that in each row and in each column, there is exactly one tree.

The entrance of the park is at cell $(1, 1)$ and the exit of the park is at cell (N, N) ; your team cannot plant trees at these two cells. Furthermore, there must exist a path from the entrance to the exit of the park such that a visitor only needs to move right or down. Obviously, visitors cannot walk through trees.

The following park is not valid, because column 3 has 2 trees	
The following park is not valid, because cell $(1, 1)$ is not empty, and there are only 3 trees	
The following park is not valid, because it is not possible to go from $(1, 1)$ to $(4, 4)$ moving only right or down	
The following park is valid	

Please determine the number of different valid parks. Two parks are considered different if there is at least one tree at different positions in the two parks.

Input

The first line of input contains a single integer T ($T \leq 10^5$) – the number of test cases.

T lines follow, each line contains a single integer N ($1 \leq N \leq 10^7$).

Output

Print exactly T lines, each line contains the number of ways to plant trees, satisfying all the given conditions. As the result can be very large, please prints the answer modulo $10^9 + 7$.

Sample Input

Sample Output

3	0
1	0
2	2
3	12
4	