

Problem 1

Problem Statement:

Given an integer n , return the number of structurally unique **BST**'s (binary search trees) which has exactly n nodes of unique values from 1 to n .

Input:

The first line contains one integers t , denoting number of testcases

The second line has one integer n

Output:

Print one integer denoting the number of unique BST's modulo 1000000007

Constraints:

$$1 \leq t \leq 10^5$$

$$1 \leq n \leq 10^3$$

Sample Testcases:

Input	Output
2	5
3	42
5	

Input	Output
1	510739299
882	