K12-Combinations

Given n find the value of $((nC_1)^2+2*(nC_2)^2+3*(nC_3)^2+4*(nC_4)^2+ ... +n*(nC_n)^2)\%$ MOD, where MOD=10^9+7.

Note: nCr is the number of ways of choosing r items from n items.

Input

The first line of input file contains T which denotes number of test cases. Each of the following line contains an integer n. T<=1000 and n<=10^6.

Output

The output must contain T lines each line corresponding to a testcase.

Example

Input:
2
1
2

Output:
1
6