There are N faculties in university of Moratuwa numbers from 1 to N. All the faculties have balconies except for the last one. Binod goes to each of these balconies. He notices that to the balcony of the ith faculty (1<=i<N) only the i th and i+1 th faculties are visible. Binod comes up with an idea. He invites

(N-1)! Batchmates for an experiment. He assigns each of them a permutation of integers 1,2,3,.., N-1. He makes sure that each of them gets a distinct permutation. He asks each batchmate to go to the faculties in the order given by the permutation assigned to them (Note that no student goes to the last faculty). He also instructs each batchmate to stop going to faculties when that batchmate has seen all the faculties. The score of each participant is the number of faculties he/she has visited. Find the total score of all the batchmates. Since this number can be very large print it modulo 1000000007.

Constraints

2<=N<=1000000

Input

The only line contains integer N

Output

Print the total sum of scores of all batchmates modulo 1000000007