634. Find the Derangement of An Array Premium

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In combinatorial mathematics, a **derangement** is a permutation of the elements of a set, such that no element appears in its original position.

You are given an integer `n`. There is originally an array consisting of `n` integers from `1` to `n` in ascending order, return *the number of **derangements** it can generate*. Since the answer may be huge, return it **modulo** $10^9 + 7$.

Example 1:

> **Input:** n = 3
> **Output:** 2
> **Explanation:** The original array is [1,2,3]. The two derangements are [2,3,1] and [3,1,2].

Example 2:

> **Input:** n = 2
> **Output:** 1

Constraints:

- $1 <= n <= 10^6$

Seen this question in a real interview before? 1/5

Yes No

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