Given n orders, each order consist in pickup and delivery services.

Count all valid pickup/delivery possible sequences such that delivery(i) is always after of pickup(i).

Since the answer may be too large, return it modulo 10^9 + 7.

**Example 1:**

**Input:** n = 1

**Output:** 1

**Explanation:** Unique order (P1, D1), Delivery 1 always is after of Pickup 1.

**Example 2:**

**Input:** n = 2

**Output:** 6

**Explanation:** All possible orders:

(P1,P2,D1,D2), (P1,P2,D2,D1), (P1,D1,P2,D2), (P2,P1,D1,D2), (P2,P1,D2,D1) and (P2,D2,P1,D1).

This is an invalid order (P1,D2,P2,D1) because Pickup 2 is after of Delivery 2.

**Example 3:**

**Input:** n = 3

**Output:** 90

**Constraints:**

* 1 <= n <= 500