Return the number of permutations of 1 to n so that prime numbers are at prime indices (1-indexed.)

*(Recall that an integer is prime if and only if it is greater than 1, and cannot be written as a product of two positive integers both smaller than it.)*

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

**Example 1:**

**Input:** n = 5

**Output:** 12

**Explanation:** For example [1,2,5,4,3] is a valid permutation, but [5,2,3,4,1] is not because the prime number 5 is at index 1.

**Example 2:**

**Input:** n = 100

**Output:** 682289015

**Constraints:**

* 1 <= n <= 100