A digit string is **good** if the digits **(0-indexed)** at **even** indices are **even** and the digits at **odd** indices are **prime** (2, 3, 5, or 7).

* For example, "2582" is good because the digits (2 and 8) at even positions are even and the digits (5 and 2) at odd positions are prime. However, "3245" is **not** good because 3 is at an even index but is not even.

Given an integer n, return *the* ***total*** *number of good digit strings of length* n. Since the answer may be large, **return it modulo** 109 + 7.

A **digit string** is a string consisting of digits 0 through 9 that may contain leading zeros.

**Example 1:**

Input: n = 1  
Output: 5  
Explanation: The good numbers of length 1 are "0", "2", "4", "6", "8".

**Example 2:**

Input: n = 4  
Output: 400

**Example 3:**

Input: n = 50  
Output: 564908303

**Constraints:**

* 1 <= n <= 1015