1922. Count Good Numbers

Description

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** $10^9 + 7$.

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:

- $1 <= n <= 10^{15}$