# L. TONTON AND MAGICAL PLANTS

*Time limit: 1s | Memory limit: 512MB*
*Input stream: stdin | Output stream: stdout*

Winnie is a first grade pupil at school of Tonton. In this semester, Winnie has started to study a new subject called *Introduction to Magic Biology*. After understanding the underline theory of it, he decides to do his own experiment.

Winnie has $n$ seeds, the $i^{th}$ seed has power $p_i$. He can combine some seeds $s_1, s_2, \dots, s_k$ ($0 < k \le n, 1 \le s_1 < s_2 < \cdots < s_k \le n$) and do a spell, this will result in S new seeds, each seed with a random type $s_1, s_2, \dots, s_k$ where $S = \prod_{i=1}^{k} p_{s_i}$. Winnie wants S to be a square integer so that he can use S seeds to plant a square garden.

Your task is to calculate how many ways Winnie can select the seeds so that he has a square garden. Since the answer can be very large, you should print it modulo $10^9 + 7$.

**Input**

- The first line contains an integer $n$ ($1 \le n \le 2 \times 10^5$).
- The second line contains $n$ integers $p_1, p_2, \dots, p_n$ ($1 \le p_i \le 4 \times 10^6$).

**Output**

- Print exactly one integer modulo $10^9 + 7$ – answer of task.

**Sample 1**

| Input | Output |
|---|---|
| 3<br>3 5 7 | 0 |

**Sample 2**

| Input | Output |
|---|---|
| 4<br>2 3 6 2 | 3 |