The grass has dried up in Farmer John's pasture due to a drought. After hours of despair and contemplation, FJ comes up with the brilliant idea of purchasing corn to feed his precious cows.

FJ's N ($1 \leq N \leq 100$) cows are arranged in a line such that the ith cow in line has a non-negative integer hunger level of h_i. As FJ's cows are social animals and insist on eating together, the only way FJ can decrease the hunger levels of his cows is to select two adjacent cows i and $i+1$ and feed each of them a bag of corn, causing each of their hunger levels to decrease by one.

FJ wants to feed his cows until all of them have the same non-negative hunger level. Although he doesn't know his cows' exact hunger levels, he does know an upper bound on the hunger level of each cow; specifically, the hunger level h_i of the i-th cow is at most H_i ($0 \leq H_i \leq 1000$).

Your job is to count the number of N-tuples of hunger levels $[h_1, h_2, \ldots, h_N]$ that are consistent with these upper bounds such that it is possible for FJ to achieve his goal, modulo 10^9+7.

INPUT FORMAT (input arrives from the terminal / stdin):

The first line contains N.

The second line contains $H_1, H_2, \ldots, H_N$.

OUTPUT FORMAT (print output to the terminal / stdout):

The number of N-tuples of hunger levels modulo 10^9+7.

SAMPLE INPUT:

```
3
9 11 7
```

SAMPLE OUTPUT:

```
241
```

There are $(9+1) \cdot (11+1) \cdot (7+1)$ 3-tuples h that are consistent with H.

One of these tuples is $h = [8, 10, 5]$. In this case, it is possible to make all cows have equal hunger values: give two bags of corn to both cows 2 and 3, then give five bags of corn to both cows 1 and 2, resulting in each cow having a hunger level of 3.

Another one of these tuples is $h = [0, 1, 0]$. In this case, it is impossible to make the hunger levels of the cows equal.

SAMPLE INPUT:

```
4
6 8 5 9
```

SAMPLE OUTPUT:

```
137
```

SCORING:

N is even in even-numbered tests and odd in odd-numbered tests.

- Tests 3 and 4 satisfy $N \leq 6$ and $H_i \leq 10$.
- Tests 5 through 10 satisfy $N \leq 50$ and $H_i \leq 100$.
- Tests 11 through 20 satisfy no further constraints.