Jumping Bunnies

HackerRank

Bunnies are very cute animals who likes to jump a lot. Every bunny has his own range of jump. Lets say there are N bunnies and i^{th} $(i \in [1, N])$ bunny jumps j_i units. Consider a 1-D plane, where initially bunnies are at 0. All of them starts jumping in forward direction.

For example, consider the case of k^{th} bunny. Initially he is at 0. After first jump, he will be at point j_k. After second, he will be at $2 \times j_k$ and so on. After m^{th} jump, he will be at point $m \times j_k$.

Two bunnies can only meet each other when they are on the ground. When on the ground, a bunny can wait any amount of time. Being a social animal, all of them decide to meet at the next point where *all* of them will be on the ground. You have to find the nearest point where all the bunnies can meet.

For example, if there are $N = 3$ bunnies where $j_1 = 2$, $j_2 = 3$, $j_3 = 4$. Nearest point where all bunnies can meet again is at 12. First bunny has to jump six times, for second it is 4 times and for third it is 3 times.

Help bunnies to find the nearest point where they can meet again.

Input Format
First line will contain an integer, N, represeting the number of bunnies. Second line will contain N space separated integer, $j_1, j_2, \cdots, j_N$, representing the jumping distance of them.

Output Format
Print the nearest location where all bunnies can meet again.

Constraints
$2 \leq N \leq 10$
$1 \leq j_i \leq 10^6$
For each test case it is guaranteed that solution will not exceed 2×10^{18}.

Sample Input #00

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3
2 3 4
```

Sample Output #00

```
12
```

Sample Input #01

```
2
1 3
```

Sample Output #01

```
3
```

Explanation

Sample Case #00: This is the same example mentioned in the statement above.
Sample Case #01: First bunny has to jump 3 times to point 3, whereas second bunny has to jump only one time to go at point 3. Point 3 will serve as their meeting point.