Problem F
Doubled GCD

There are N cards in a deck, numbered from 1 to N, where card i has a positive integer A_i written on it.

You are to perform $N-1$ moves with the cards. In each move, you select two cards of your choice from the deck. Let x and y be the integers written on the selected cards, respectively. Remove both selected cards, and insert a new card into the deck with $2 \cdot gcd(x, y)$ written on it, where $gcd(x, y)$ is the greatest common divisor of x and y. Note that with this one move, there will be one fewer card in the deck (as you remove two cards and insert one new card).

After all $N-1$ moves have been performed, there will be exactly one card remaining. Your goal is to maximize the integer written on the last card; output this integer.

Input

Input begins with an integer N ($2 \leq N \leq 100\,000$) representing the number of cards. The next line contains N integers A_i ($1 \leq A_i \leq 10^9$) representing the number written on card i.

Output

Output an integer in a single line representing the maximum possible integer written on the last card.

Sample Input #1

```
3
2 4 6
```

Sample Output #1

```
8
```

Explanation for the sample input/output #1

To get the maximum possible integer on the last card, you have to select card 1 and card 3 on the first move with $x = 2$ and $y = 6$. Remove both selected cards, and insert a new card with $2 \cdot gcd(2, 6) = 4$ written on it. For the second move, there are two cards remaining with an integer 4 written on each card. Select those cards with $x = 4$ and $y = 4$. Remove both selected cards, and insert a new card with $2 \cdot gcd(4, 4) = 8$ written on it. The last card has an integer 8 written on it, and it is the maximum possible integer in this example.

Sample Input #2

```
3
3 5 7
```

Sample Output #2

```
2
```

Explanation for the sample input/output #2

Regardless of your choice in each move, the answer will always be 2.

Sample Input #3

```
4
9 9 9 9
```

Sample Output #3

```
36
```

Sample Input #4

```
5
10 100 1000 10000 100000
```

Sample Output #4

```
160
```