Textbook Display

Dinger Publishing is setting up a display at a number theory conference to promote their Marigold Series of textbooks. There are N books in the series so far numbered 1 through N. Being number theorists, the attendees seem to follow a peculiar rule; they will avoid the display entirely if there is a certain redundancy in the numbering of the displayed textbooks. Specifically (and strangely), if for any integer $d \geq 2$ there are two textbooks on display whose numbers in the Marigold Series are both divisible by d then all attendees of the conference will avoid the display entirely.

Dinger estimates that if book number i is put out on display then they will receive r_i dollars in revenue from sales for that book as long as attendees are not avoiding the display. Help Dinger select which books to display in a way that will maximize their total estimated revenue while ensuring no two books on display have their number in the Marigold Series divisible by a common integer greater than one.

Input

The first line of input contains a single integer N ($1 \leq N \leq 3\,000$). The second and final line of input contains N integers $r_1, r_2, \ldots, r_N$ ($0 \leq r_i \leq 10^6$). Here, r_i indicates the estimated revenue from displaying book number i.

Output

Output consists of a single integer R, the maximum possible total estimated revenue that Dinger can obtain by carefully selecting which books to display.

Sample Input 1

```
6
1 1 1 1 1 1
```

Sample Output 1

```
4
```

Sample Input 2

```
7
5 1 1 1 0 3 10
```

Sample Output 2

```
18
```

Sample Input 3

```
20
7 7 1 5 9 8 7 5 8 6 10 4 9 3 5 3 2 10 5 9
```

Sample Output 3

```
64
```