The Strange Function

One of the most important skills a programmer needs to learn early on is the ability to pose a problem in an abstract way. This skill is important not just for researchers but also in applied fields like software engineering and web development.

You are able to solve most of a problem, except for one last subproblem, which you have posed in an abstract way as follows: Given an array consisting of n integers $[a_1, a_2, \ldots, a_n]$, define

$$f(l,r) = \gcd(a_l, a_{l+1}, \ldots, a_r) \cdot \left(\left(\sum_{i=l}^{r} a_i \right) - \max(a_l, a_{l+1}, \ldots, a_r) \right).$$

For example, for an input array [10, -5, 5, 20], a subsegment $f(1,1)$ would be computed as follows:

Input array = [10, -5, 5, 20]

(l, r)	GCD	Sum	Max	f (l, r)
(1, 1)	10	10	10	0

What is $\max\limits_{1 \le l \le r \le n} f(l,r)$, i.e., the maximum value of $f(l,r)$ among all subsegments $[l,r]$?

Complete the function `maximumValue` which takes an integer array as input and returns the maximum value of f among all subsegments $[l,r]$.

Note that:

- $\gcd(x,y) = \gcd(|x|, |y|)$
- $\gcd(x,0) = \gcd(0,x) = |x|$

Input Format

number of elements n of array A
n space separated integers: elements a_i of array $A[a_1 \ldots a_N]$

Constraints

$1 \le N \le 50000$
$-106 \le a_i \le 106$

Output Format

Print a single integer denoting the answer

Sample Input 0

```
4
10 -5 5 20
```

Sample Output 0

```
50
```

Explanation 0

The maximum value occurs at $f(1,4) = 50$ as shown below.

Input array = [10, -5, 5, 20]

(l, r)	GCD	Sum	Max	f (l, r)
(1, 1)	10	10	10	0
(1, 2)	5	5	10	-25
(1, 3)	5	10	10	0
(1, 4)	5	30	20	50
(2, 2)	5	-5	-5	0
(2, 3)	5	0	5	-25
(2, 4)	5	20	20	0
(3, 3)	5	5	5	0
(3, 4)	5	25	20	25
(4, 4)	20	20	20	0

Sample Input 1

```
5
7 12 24 6 5
```

Sample Output 1

```
144
```

Explanation 1

The maximum value occurs at $f(2, 3) = 144$.