D. Ice Sculptures

time limit per test: 3 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The Berland University is preparing to celebrate the 256-th anniversary of its founding! A specially appointed Vice Rector for the celebration prepares to decorate the campus. In the center of the campus n ice sculptures were erected. The sculptures are arranged in a circle at equal distances from each other, so they form a regular n-gon. They are numbered in clockwise order with numbers from 1 to n.

The site of the University has already conducted a voting that estimated each sculpture's characteristic of t_i — the degree of the sculpture's attractiveness. The values of t_i can be positive, negative or zero.

When the university rector came to evaluate the work, he said that this might be not the perfect arrangement. He suggested to melt some of the sculptures so that:

- the remaining sculptures form a regular polygon (the number of vertices should be between 3 and n),
- the sum of the t_i values of the remaining sculptures is maximized.

Help the Vice Rector to analyze the criticism — find the maximum value of t_i sum which can be obtained in this way. It is allowed not to melt any sculptures at all. The sculptures can not be moved.

Input

The first input line contains an integer n ($3 \le n \le 20000$) — the initial number of sculptures. The second line contains a sequence of integers $t_1, t_2, ..., t_n$, t_i — the degree of the i-th sculpture's attractiveness ($-1000 \le t_i \le 1000$). The numbers on the line are separated by spaces.

Output

Print the required maximum sum of the sculptures' attractiveness.

Examples

input
8 1 2 -3 4 -5 5 2 3
output
14

input
6 1 -2 3 -4 5 -6
output
9

input
6 1 2 3 4 5 6
output
21

Note

In the first sample it is best to leave every second sculpture, that is, leave sculptures with

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VK Cup 2012 Qualification Round 1
Finished

→ Problem tags

brute force   number theory
No tag edit access

→ Contest materials

- Announcement   ✕
- Tutorial   ✕

attractivenesses: 2, 4, 5 и 3.