

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 ($3 \leq n \leq 20000$) — the initial number of sculptures. The second line contains a sequence of integers $t_1, t_2, \dots, t_n, t_i$ — the degree of the i -th sculpture's attractiveness ($-1000 \leq t_i \leq 1000$). 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

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

VK Cup 2012 Qualification Round 1

Finished

→ Virtual participation

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→ Problem tags

[brute force](#) [number theory](#)

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 

attractivenesses: 2, 4, 5 и 3.

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