Problem F. Ribbons

Time limit 1000 ms
Mem limit 131072 kB

You are given n ribbons with lengths $l[1], l[2], ..., l[n]$ centimeters. You need to cut them to obtain k equal-length ribbons of the maximum possible length (lengths are in centimeters and are integers).

If it is not possible to get k ribbons of length 1 cm, print 0.

Input

The first line contains two integers n $(1 \leq n \leq 10000)$ and k $(1 \leq k \leq 10000)$.

The next n lines contain the integers $l[1], l[2], ..., l[n]$ $(100 \leq l[i] \leq 10^7)$, one natural number per line.

Output

Print a natural number — the length of the segments.

Example

Input	Output
4 11 802 743 457 539	200