Problem F. Programming Contest

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

Takahashi will participate in a programming contest, which lasts for T minutes and presents N problems.
With his extrasensory perception, he already knows that it will take A_i minutes to solve the i-th problem.
He will choose zero or more problems to solve from the N problems so that it takes him no longer than T minutes in total to solve them.
Find the longest possible time it takes him to solve his choice of problems.

Constraints

- All values in input are integers.
- $1 \leq N \leq 40$
- $1 \leq T \leq 10^9$
- $1 \leq A_i \leq 10^9$

Input

Input is given from Standard Input in the following format:

```
N T
A_1 ... A_N
```

Output

Print the answer as an integer.

Sample 1

Input	Output
5 17 2 3 5 7 11	17

If he chooses the 1-st, 2-nd, 3-rd, and 4-th problems, it takes him $2 + 3 + 5 + 7 = 17$ minutes in total to solve them, which is the longest possible time not exceeding $T = 17$ minutes.

Sample 2

Input	Output
6 100 1 2 7 5 8 10	33

It is optimal to solve all the problems.

Sample 3

Input	Output
6 100 101 102 103 104 105 106	0

He cannot solve any of the problems.

Sample 4

Input	Output
7 273599681 6706927 91566569 89131517 71069699 7520033	273555143

If he chooses the 2-nd, 3-rd, and 7-th problems, it takes him 273555143 minutes in total to solve them.