

C. Novel

Readers are waiting for a new novel which contains N chapters. Publisher want to print the novel in K volumes. He wants the size of the largest volume to be as small as possible, but he can not change the order of the chapters. Help publisher.

Input

In the first line contains n and k ($1 \leq n, k \leq 25$). The next line contains the sequence of n integers (chapter's values).

Output

Output contains the size of the largest volume.

Sample input

```
5 2  
1 3 2 4 3
```

Sample output

```
7
```