A queue

Cost: 8 | Solved: 42

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

Civil countries usually have ***k*** ticket windows on a railway station but there's only one waiting queue. The service works in such a way: initially, when all ticket windows are free, the first ***k*** people from the queue take their places at windows; all other people wait for their turn. As soon as a client gets served, the window calls for another client, the first one from the queue. This continues until all people are served.

Find the minimal time needed to serve all clients.

Input:

The first line contains two integers ***n*** and ***k*** ($1 \le n \le 10^5$, $1 \le k \le 10^4$) – the quantity of clients and ticket windows respectively.

The second line contains ***n*** natural numbers. Each ***i***th number determines the time t_i ($1 \le t_i \le 10^5$) required to serve the ***i***th client from the queue.

Output:

The minimal time needed to serve the queue.

Example:

Input	Output

5 2 3 1 1 2 3	6
7 3 1 2 3 4 5 3 1	7