Problem A. Candies

Input file:	`stdin`
Output file:	`stdout`
Time limit:	1 second
Memory limit:	512 megabytes

n bobo are playing a game about candies. bobo are labeled by $1, 2, \ldots, n$ for convenience. Initially, the i-th bobo has a_i candies in hand.

The game is played in m rounds. In each round, the bobo who has the least number of candies currently is awarded with x candies. If two or more bobo have the same number of candies, the bobo with the smallest label gets the prize.

The 1-st bobo is their leader. So he can get at most y more candies from some unknown source before the start of the game. Now he wonder the maximum number of candies he can have after the m rounds.

Input

The first line contains 4 integers n, m, x, y ($1 \le n, m \le 200000, 1 \le x, y \le 10^9$).

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^9$).

Output

A single integer denotes the maximum number of candies.

Sample input and output

stdin	stdout
2 1 2 2 1 2	4