

Alice and Boat Trips

Problem

Submissions

Leaderboard

Alice owns a company that transports tour groups between two islands. She has n trips booked, and each trip has p_i passengers. Alice has m boats for transporting people, and each boat's maximum capacity is c passengers.

Given the number of passengers going on each trip, determine whether or not Alice can perform all n trips using no more than m boats per individual trip. If this is possible, print Yes; otherwise, print No.

Input Format

The first line contains three space-separated integers describing the respective values of n (number of trips), c (boat capacity), and m (total number of boats). The second line contains n space-separated integers describing the values of $p_0, p_1, p_2, \dots, p_{n-1}$.

Constraints

$1 \leq n, c, m \leq 100$ $1 \leq p_i \leq 100$

Output Format

Print Yes if Alice can perform all n booked trips using no more than m boats per trip; otherwise, print No.

Sample Input 0

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

Sample Output 0

```
Yes
```

Explanation 0

Alice has $m = 2$ boats and a maximum capacity of $c = 2$ passengers per boat. This means she can transport *at most* $m \cdot c = 4$ passengers at a time.

There are $n = 5$ tour groups, and the largest tour group contains $p_3 = 4$ passengers. Because Alice will be able to transport each group using $\leq m$ boats per group, we print **Yes**.

Sample Input 1

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

Sample Output 1

```
No
```

Explanation 1

Alice has $m = 2$ boats and a maximum capacity of $c = 1$ passenger per boat. This means she can transport *at most* $m \cdot c = 2$ passengers at a time.

There are $n = 5$ tour groups, and the largest tour group contains $p_3 = 4$ passengers. Because Alice does not have enough boats to transport a group of four passengers, we print **No**.



Contest ends in 38 minutes



Submissions: 1715




Max Score: 100

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Python 3   

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