

E. k-d-sequence

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

We'll call a sequence of integers a good k - d sequence if we can add to it at most k numbers in such a way that after the sorting the sequence will be an arithmetic progression with difference d .

You got hold of some sequence a , consisting of n integers. Your task is to find its longest contiguous subsegment, such that it is a good k - d sequence.

Input

The first line contains three space-separated integers n, k, d ($1 \leq n \leq 2 \cdot 10^5$; $0 \leq k \leq 2 \cdot 10^5$; $0 \leq d \leq 10^9$). The second line contains n space-separated integers: a_1, a_2, \dots, a_n ($-10^9 \leq a_i \leq 10^9$) — the actual sequence.

Output

Print two space-separated integers l, r ($1 \leq l \leq r \leq n$) show that sequence a_l, a_{l+1}, \dots, a_r is the longest subsegment that is a good k - d sequence.

If there are multiple optimal answers, print the one with the minimum value of l .

Examples

input
6 1 2 4 3 2 8 6 2
output
3 5

Note

In the first test sample the answer is the subsegment consisting of numbers 2, 8, 6 — after adding number 4 and sorting it becomes sequence 2, 4, 6, 8 — the arithmetic progression with difference 2.