The Sound of Silence

In digital recording, sound is described by a sequence of numbers representing the air pressure, measured at a rapid rate with a fixed time interval between successive measurements. Each value in the sequence is called a *sample*.

An important step in many voice-processing tasks is breaking the recorded sound into chunks of non-silence separated by silence. To avoid accidentally breaking the recording into too few or too many pieces, the silence is often defined as a sequence of m samples where the difference between the lowest and the highest value does not exceed a certain treshold c.

Write a program to detect silence in a given recording of n samples according to the given parameter values m and c.

Input

The input is read from a text file named `sound.in`.

The first line of the file contains three integers: n ($1 \leq n \leq 1,000,000$), the number of samples in the recording; m ($1 \leq m \leq 10,000$), the required length of the silence; and c ($0 \leq c \leq 10,000$), the maximal noise level allowed within silence.

The second line of the file contains n integers a_i ($0 \leq a_i \leq 1,000,000$ for $1 \leq i \leq n$), separated by single spaces: the samples in the recording.

Output

The output is written into a text file named `sound.out`.

The file should list all values of i such that $\max(a[i \ldots i+m-1]) - \min(a[i \ldots i+m-1]) \leq c$. The values should be listed in increasing order, each on a separate line.

If there is no silence in the input file, write `NONE` on the first and only line of the output file.

Example

sound.in	sound.out
7 2 0	2
0 1 1 2 3 2 2	6