

Task: KOR

Beads

UFAM Workshop, contest #5. Source file kor.* Available memory: 128 MB.

Byteasar once decided to start manufacturing necklaces. He subsequently bought a very long string of colourful coral beads for a bargain price. Byteasar now also has a machine that, for a given k ($k > 0$), can cut the string into pieces (or substrings) of k coral beads (i.e., the first piece consists of the beads number $1, \dots, k$, the second of $k + 1, \dots, 2k$ etc.). If the length of the string (measured in coral beads) is not a multiple of k , then the last piece is not used, as it has length smaller than k . From now on we denote the colours of the beads with positive integers.

Byteasar, always praising diversity, wonders how he should choose the number k in order to get as many different substrings as possible. The ends of the long string that will be cut are different: there are specific beginning and ending (rather than two interchangeable endpoints), and the machine of course starts cutting at the beginning. On the other hand, in the substrings obtained from cutting the endpoints are interchangeable, and so the substrings can be reversed. In other words, the substrings $(1, 2, 3)$ and $(3, 2, 1)$ are identical to us. Write a program that determines the optimum value of k for Byteasar.

For example, for the following string of beads:

$(1, 1, 1, 2, 2, 2, 3, 3, 3, 1, 2, 3, 3, 1, 2, 2, 1, 3, 3, 2, 1)$,

- using $k = 1$, we would get 3 different substrings: (1) , (2) , (3) ,
- using $k = 2$, we would get 6 different substrings: $(1, 1)$, $(1, 2)$, $(2, 2)$, $(3, 3)$, $(3, 1)$, $(2, 3)$,
- using $k = 3$, we would get 5 different substrings: $(1, 1, 1)$, $(2, 2, 2)$, $(3, 3, 3)$, $(1, 2, 3)$, $(3, 1, 2)$,
- using $k = 4$, we would get 5 different substrings: $(1, 1, 1, 2)$, $(2, 2, 3, 3)$, $(3, 1, 2, 3)$, $(3, 1, 2, 2)$, $(1, 3, 3, 2)$,
- using larger values of k would give at most 3 different substrings.

Input

In the first line of the standard input there is an integer n ($1 \leq n \leq 200\,000$) denoting the length of the string to cut. In the second line there are n positive integers a_1, \dots, a_i ($1 \leq a_i \leq n$), separated by single spaces, that denote the colours of successive beads in Byteasar's string.

Output

Two integers, separated by a single space, should be printed out to the first line of the standard output: the (maximum) number of different substrings that can be obtained with an optimal choice of parameter k , and the number l of such optimal values of k . The second line should contain integers separated by single spaces: the values of parameter that yield an optimum solution sorted increasingly.

Example

For the input data:

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21
1 1 1 2 2 2 3 3 3 1 2 3 3 1 2 2 1 3 3 2 1
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the correct result is:

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6 1
2
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