Problem B. Split the sequence

Input file:	sequence.in
Output file:	sequence.out
Time limit:	2 seconds
Memory limit:	128 megabytes

You are playing a game with a sequence of n non-negative integers. In this game you have to split the sequence into $k + 1$ non-empty parts. To obtain $k + 1$ parts you repeat the following steps k times:

1. Choose any part with more than one element (initially you have only one part – the whole sequence).

2. Split it between any two elements to get two new non-empty parts.

Each time after these steps you gain the number of points which is equal to product of sums of elements of each new part. You want to maximize the total number of points you gain.

Input

The first line of the input file contains two integers n and k ($k + 1 \leq n$). The second line of input contains n non-negative integers $a_1, a_2, \ldots, a_n$ ($0 \leq a_i \leq 10^4$) – the sequence.

Output

On the first line output the largest total number of points you can gain. On the second line output k integers between 1 and $n - 1$ — the positions of elements after which you have to split the sequence to gain the largest total number of points. If there are more than one way to gain the largest number of points output any one of them.

Examples

sequence.in	sequence.out
7 3	108
4 1 3 4 0 2 3	1 3 5

Note

In the first sample you can gain 108 points by the following way:

- Initially you have the whole sequence $(4, 1, 3, 4, 0, 2, 3)$ as one part. You will split the sequence after 1st element and gain $4 \times (1 + 3 + 4 + 0 + 2 + 3) = 52$ points.

- You have two parts (4), $(1, 3, 4, 0, 2, 3)$. You will split the sequence after 3rd element and gain $(1 + 3) \times (4 + 0 + 2 + 3) = 36$ points.

- You have three parts (4), $(1,3)$, $(4, 0, 2, 3)$. You will split the sequence after 5th element and gain $(4 + 0) \times (2 + 3) = 20$ points.

So, after the steps taken above you get four parts (4), $(1,3)$, $(4,0)$, $(2, 3)$ and gain $52 + 36 + 20 = 108$ points.

Scoring

Your program will be tested on 6 sets of input instances as follows:

Subtask 1 (points: 11)

$1 \leq k < n \leq 10$.

Subtask 2 (points: 11)

$1 \leq k < n \leq 50.$

Subtask 3 (points: 11)

$1 \leq k < n \leq 200.$

Subtask 4 (points: 17)

$2 \leq n \leq 1000,\ 1 \leq k \leq min(n-1, 200).$

Subtask 5 (points: 21)

$2 \leq n \leq 10000,\ 1 \leq k \leq min(n-1, 200).$

Subtask 6 (points: 29)

$2 \leq n \leq 100000,\ 1 \leq k \leq min(n-1, 200).$