

Problem G. Max Sum of Max-K-sub-sequence

Time limit 1000 ms
Mem limit 32768 kB
OS Windows

Given a circle sequence $A[1], A[2], A[3], \dots, A[n]$. Circle sequence means the left neighbour of $A[1]$ is $A[n]$, and the right neighbour of $A[n]$ is $A[1]$.

Now your job is to calculate the max sum of a Max-K-sub-sequence. Max-K-sub-sequence means a continuous non-empty sub-sequence which length not exceed K .

Input

The first line of the input contains an integer $T(1 \leq T \leq 100)$ which means the number of test cases.

Then T lines follow, each line starts with two integers $N, K(1 \leq N \leq 100000, 1 \leq K \leq N)$, then N integers followed(all the integers are between -1000 and 1000).

Output

For each test case, you should output a line contains three integers, the Max Sum in the sequence, the start position of the sub-sequence, the end position of the sub-sequence. If there are more than one result, output the minimum start position, if still more than one, output the minimum length of them.

Sample

Input	Output
4 6 3 6 -1 2 -6 5 -5 6 4 6 -1 2 -6 5 -5 6 3 -1 2 -6 5 -5 6 6 6 -1 -1 -1 -1 -1 -1	7 1 3 7 1 3 7 6 2 -1 1 1