Deck of Cards

You are given a deck of n custom made cards, denoted by $0, \ldots, n-1$ going from the top of the deck to the bottom. Each card i has a number v_i which represents its value. You play a strange game with your younger brother, where he tells you his favourite number k and you need to find cards i and j such that $i \leq j$ and $\sum_{\ell=i}^{j} v_\ell = k$. Since you are older than your brother, you know that finding such a subset of the deck won't always be possible. Thus, you want to write a program which finds two cards i and j such that the sum $\sum_{\ell=i}^{j} v_\ell$ is as close as possible to k. If there are multiple candidates for the solution, find the one which is lexicographically smallest.

Input

The first line of the input contains the number $t \leq 80$ of test cases. Each of the t test cases is described as follows.

- It starts with a line that contains two integers n k, separated by a space, where n denotes the number of cards, and such that $1 \leq n \leq 10^5$ and $0 \leq k \leq 2^{30}$.
- The following line defines the values of the cards 0 to $n-1$, in that order. It contains n integers $v_0 \ \ldots \ v_{n-1}$, separated by a space, and such that $0 \leq v_i \leq 2^{30}$, for $i \in \{0, \ldots, n-1\}$. It is guaranteed that $\sum_{i=0}^{n-1} v_i \leq 2^{30}$.

Output

A solution is a pair i, j of cards with $i \leq j$. We define the value of the solution i, j as $\mathrm{val}(i,j) := \left| k - \sum_{\ell=i}^{j} v_\ell \right|$.

For each test case output a single line containing two numbers i and j, separated by a space, corresponding to the solution i, j with the smallest value. If there are multiple such solutions, output the lexicographically smallest one.

Note: (i, j) is lexicographically smaller than (i', j') iff $i < i'$ or $i = i'$ and $j < j'$.

Points

There are three groups of test sets. For each group there is also a corresponding hidden test set. Overall, you can achieve 100 points.

1. For the first group of test sets, worth 20 points, and the corresponding hidden test set, worth 5 points, you may assume $n \leq 200$.
2. For the second group of test sets, worth 40 points, and the corresponding hidden test set, worth 10 points, you may assume $n \leq 3000$.
3. For the third group of test test sets, worth 20 points, and the corresponding hidden test set, worth 5 points, there are no additional assumptions.

Corresponding sample test sets are contained in `testi.in/out`, for $i \in \{1, 2, 3\}$.