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C. Knapsack

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You have a knapsack with the capacity of W. There are also n items, the i-th one has weight w_i.

You want to put some of these items into the knapsack in such a way that their total weight C is at least half of its size, but (obviously) does not exceed it. Formally, C should satisfy: $\lceil \frac{W}{2}\rceil \le C \le W$.

Output the list of items you will put into the knapsack or determine that fulfilling the conditions is impossible.

If there are several possible lists of items satisfying the conditions, you can output any. Note that you **don't** have to maximize the sum of weights of items in the knapsack.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 10^4$). Description of the test cases follows.

The first line of each test case contains integers n and W ($1 \le n \le 200\,000$, $1 \le W \le 10^{18}$).

The second line of each test case contains n integers $w_1, w_2, \dots, w_n$ ($1 \le w_i \le 10^9$) — weights of the items.

The sum of n over all test cases does not exceed $200\,000$.

Output

For each test case, if there is no solution, print a single integer -1.

If there exists a solution consisting of m items, print m in the first line of the output and m integers j_1, j_2, ..., j_m ($1 \le j_i \le n$, **all** j_i **are distinct**) in the second line of the output — indices of the items you would like to pack into the knapsack.

If there are several possible lists of items satisfying the conditions, you can output any. Note that you **don't** have to maximize the sum of weights items in the knapsack.

Example

input Copy

```
3
1 3
3
6 2
19 8 19 69 9 4
7 12
1 1 1 17 1 1 1
```

output Copy

```
1
1
-1
6
1 2 3 5 6 7
```

Note

In the first test case, you can take the item of weight 3 and fill the knapsack just right.

In the second test case, all the items are larger than the knapsack's capacity. Therefore, the answer is -1.

In the third test case, you fill the knapsack exactly in half.

Codeforces Round 683 (Div. 2, by Meet IT)

Finished

→ Practice?

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

Register for practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

constructive algorithms greedy math sortings *1300

No tag edit access

→ Contest materials

- Tutorial (en)