Challenge 3 (Day 3)

HackerRank

You are given an array A with size N and a number K. Let's call a position i (1 ≤ i ≤ N) valid if, after increasing Ai by K, it would be greater than the sum of all other elements in the array A.

Determine the number of distinct valid positions.

Input Format

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains two space-separated integers N and K.
- The second line contains N space-separated integers A1, A2, ..., AN.

Constraints

- 1 ≤ T ≤ 100000
- 1 ≤ N ≤ 100000
- 1 ≤ K ≤ 100000
- 1 ≤ Ai ≤ 10000 for each valid i
- 1 ≤ sum of N over all test cases ≤ 100000

Output Format

For each test case, print a single line containing one integer - the number of valid positions.

Sample Input 0

```
2
4 4
2 1 6 7
4 2
2 1 5 4
```

Sample Output 0

```
1
0
```