Median of sub-sequences

Let a given sequence S (of length n) of positive integers be called x-medial (where x is a positive integer) if:

1. n is odd, and the median of the sequence (the $((n+1)/2)^{th}$ largest term) equals x. **OR**
2. n is even, and both the central terms ($(n/2)^{th}$ largest and $(n/2+1)^{th}$ largest) are equal to x.

Given a sequence A (of length N) of positive integers and an integer k, find out how many of its sub-sequences are k-medial.

A sub-sequence of A is any sequence {A[i], A[i+1], A[i+2]... , A[j]}, where $0 \le i \le j < N$.

Input

The first line contains T ($T \le 15$), the number of test cases.

Each test case consists of 2 lines. The first line contains the numbers N ($1 \le N \le 10^5$) and k ($1 \le k \le 10^9$), seperated by a single space.

The next line contains the sequence A (N terms, each $\le 10^9$, seperated by single spaces between them).

Output

Output T lines, each containing a single integer, equal to the number of k-medial sub-sequences.

Example

Input:

2

3 5

17 5 2

5 2

1 2 2 3 7

Output:

2

7