homework4 2Sum using hash table

Description

Given an integer k and an array of integers A_1, A_2, ..., A_n$A_1,A_2,...,A_n$, how many pairs (i, j) are there such that $1\le i<j\le n$ and A_i+A_j=k$A_i+A_j=k$?

You should construct a hash table to compute the answer. The use of Standard Template Library(STL) of C++ or any sorting algorithm is not allowed.

Input Format

The first line contains an integer $T(1\le T\le 30)$, which indicates the number of test cases.

Each test case contains two lines:

The first line contains two integers n,$k(1\le n\le 10^5,-10^9\le k\le 10^9)$ - the length of the array and the desired sum.

The second line contains n integers $A_1,A_2,...,A_n(-10^9\le A_i\le 10^9,\forall 1\le i\le n)$, separated by spaces.

Output Format

For each test case, print the answer in a line..

Hint

Sample Input	Sample Output
3 1 1 1 4 9 2 7 11 15 6 0 -1 0 1 2 -1 -4	0 1 2