A Simple Problem

Given an array of integers A[] and a number S, find the number of pairs of integers in the array whose

sum is equal to S.

Input

Input starts with an integer T (1 ≤ T ≤ 50), denoting the number of test cases.

Each case starts with a line containing two integers n (1 ≤ n ≤ 10 5) and S (1 ≤ S ≤ 10 10). The next line

contains n integers, denoting A1, A2 ... An (1 ≤ Ai ≤ 10 9).

Output

For each case, print the case number and the number of ways S can be made. Be careful as the result

can be a large number.

Example

Input:
3
4 8
1 2 4 9
3 7
3 4 4
3 8
4 4 4

Output:
Case 1: 0
Case 2: 2
Case 3: 3