You will be given a list of n integers, $< a_1\ a_2\ a_3 \ldots a_n >$ and an integer k. Find out the number of ways of choosing 2 integers (a_i, a_j), such that $a_i \leq a_j$ and $1 \leq i, j \leq n$ and $i \neq j$ and $(a_i + a_j)$ is divisible by k. Every pair must be distinct. Two pairs, (a, b) and (c, d), are equal if a is equal to c and b is equal to d.

Suppose we are given 5 integers $< 41223 >$ and $k = 1$. There are 7 ways of choosing different pairs that meets the above restrictions: $(1, 2)(1, 3)(1, 4)(2, 2)(2, 3)(2, 4)(3, 4)$.

Input

The first line of input contains an integer T that determines the number of test cases. Each test case contains two lines. The first line consists of two integers n and k. The next line contains n integers. The i-th integer gives the value of a_i.

Output

For each test case, output the case number followed by the number of ways to choose the pairs.

Constraints

- $T < 100$
- $1 < n < 100001$
- $0 < k < 501$
- $|a_i| < 10000001$ for any i

Sample Input

```
2
5 1
4 1 2 2 3
5 2
4 1 2 2 3
```

Sample Output

```
Case 1: 7
Case 2: 3
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