k-Intersecting pair

Time Limit: 1.5s **Memory Limit:** 256M

jsumabat has n integers, and has a definition of what he calls *k-Intersecting Numbers*.

He considers a pair of integers "k-Intersecting" if the binary representation of the numbers x and y differs from each other in exactly k bits.

For example, if $k = 2$, the pairs of integers $x = 5$ and $y = 3$ is *k-intersecting* because the binary representation $x = 101$ and $y = 011$ differs exactly in two bits.

Now here's the problem: **jsumabat** wants to know how many pairs of integers (i, j) are in his sequence so that $i < j$ and the pair of integers a_i and a_j is *k-intersecting*.

Can you help **jsumabat** find the number of pairs that fit in these constraints?

Input Specifications

The first line contains two integers n and k $(2 \leq n \leq 10^5, 0 \leq k \leq 14)$ - the number of integers **jsumabat** has and the number of bits in which integers in a *k-intersecting* pair should differ.

The second line contains the sequence $a_1, a_2, \ldots, a_n$ $(0 \leq a_i \leq 10^4)$, which **jsumabat** has.

Output Specifications

Print the number of pairs (i, j) so that $i < j$ and the pair of integers a_i and a_j is *k-intersecting*.

Sample Input 1

```
4 1
0 3 2 1
```

Sample Output 1

```
4
```

Sample Input 2

```
6 0
200 100 100 100 200 200
```

Sample Output 2

```
6
```

Sample Explanation

In the first sample, there are 4 *k-intersecting* pairs:

- $(1, 3)$,
- $(1, 4)$,
- $(2, 3)$,
- $(2, 4)$.

In the second sample where $k = 0$, there are 6 *k-intersecting* pairs:

- $(1, 5)$,
- $(1, 6)$,
- $(2, 3)$,
- $(2, 4)$,
- $(3, 4)$,
- $(5, 6)$.