

Binary Three

You are tasked to find the number of xor ($\hat{}$) between two integers A_i and A_j (i < j) in an array which have at least 3 ON bits. A bit has a single binary value, either 0 or 1. An ON bit is a bit that has binary value 1.

Format Input

The first line of input consists of an integer T which indicates the number of test cases. The next line consists of an integer N which indicates the size of the array. The next line consists of N integers.

Format Output

Output "Case #X:", where X is the test case number starting at 1, then followed by the number of xor pairs of integers that have at least 3 ON bits and the number of xor pairs of integers xor that do not have at least 3 ON bits.

Constraints

- $1 \le T \le 50$
- $2 \le N \le 100$
- $0 \le A_i \le 10^6$

Sample Input (standard input)

```
3
2
2 5
5
1 2 3 4 5
7
2 4 7 0 4 2 8
```

Sample Output (standard output)

```
Case #1: 1 0
Case #2: 2 8
Case #3: 2 19
```

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Explanation

For the 1st test case

we cannot pick 5 as A_i and 2 as A_j because j must be greater than i.

Hint: to convert 6 to binary

- $(6/2) \Rightarrow 0$
- $(3/2) \Rightarrow 1$
- $(1/2) \Rightarrow 1$

so 6 in binary are 110

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Anda diminta untuk menghitung jumlah pasangan xor ($\hat{}$) antara dua bilangan bulat A_i dan A_j (i < j), dalam sebuah array yang memiliki setidaknya 3 bits menyala. Sebuah bit memiliki sebuah nilai biner, entah 0 atau 1. Sebuah bit menyala adalah sebuah bit yang memiliki nilai biner 1.

Format Input

Baris pertama dari input terdiri dari sebuah bilangan bulat T yang menyatakan jumlah kasus uji. Baris berikutnya terdiri dari sebuah bilangan bulat N yang menyatakan ukuran array. Baris berikutnya terdiri dari N buah bilangan bulat.

Format Output

Keluarkan "Case #X: ", di mana X adalah nomor kasus uji mulai dari 1, kemudian diikuti jumlah pasangan xor bilangan bulat yang memiliki setidaknya 3 bit menyala dan jumlah pasangan xor bilangan bulat yang tidak memiliki setidaknya 3 bit menyala.

Constraints

- 1 < T < 50
- $2 \le N \le 100$
- $0 \le A_i \le 10^6$

Sample Input (standard input)

```
3
2
2 5
5
1 2 3 4 5
7
2 4 7 0 4 2 8
```

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Sample Output (standard output)

Case #1: 1 0
Case #2: 2 8
Case #3: 2 19

Explanation

Untuk kasus uji pertama

kita tidak bisa memilih 5 sebagai A_i dan 2 sebagai A_j karena j harus lebih besar daripada i

Hint: untuk mengubah 6 ke biner

 $(6/2) \Rightarrow 0$

 $(3/2) \Rightarrow 1$

 $(1/2) \Rightarrow 1$

jadi bentuk biner 6 adalah 110

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