

Problems

Write a program to find the sum of bit differences in all pairs that can be formed from array elements n. Bit difference of a pair (x, y) is a count of different bits at same positions in binary representations of x and y. For example, bit difference for 2 and 7 is 2. Binary representation of 2 is 010 and 7 is 111 (first and last bits differ in two numbers).

Input: The first line of input contains an integer **T** denoting the number of test cases. First line of the test case will contain an array of elements n.

Output: The sum of bit differences of all pairs that can be formed by given array.

Constraints:

1 <=T<= 100

1 <=N<= 10

1 <=a[i]<= 10

Example:

Input:

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

Output:

```
4
8
```

**** For More Input/Output Examples Use 'Expected Output' option ****

Author: atharv (<https://auth.geeksforgeeks.org/user/atharv/practice/>)

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