

Find Number Of Pair of Friends

You are given n numbers. Any two number are called friends if they have some digit common. eg. (11, 12) and (15, 4561) are friends but (33, 556) is not.

Find out no of pairs which are friends.

(Formally speaking Let us assume the n numbers be are stored in array a[]. You have to find out number of i and j pairs such that $i < j$ and a[i] and a[j] are friends.)

Input

T : no of test cases ($T \geq 1$ && $T \leq 7$)

For each test case, you will be given two lines, first line will contain $n \leq 10^6$

then in next n line each line will contain a single integer representing a[i] ($a[i] \geq 1$ && $a[i] \leq 10^{18}$)

Output

For every test case print a line

containing number of such pairs as mentioned in the problem statement.

Example

Input:

4

2

12 13

3

10 12 24

3

5 6 7

4

10 11 211 3

Output:

1

2

0

3