Problem E
Bulls and Cows

Input File: *testdata.in*
Time Limit: 1 second

Problem Description

Bulls and Cows is a very popular game. Given a secret number with four digits. You have to guess the number with a minimal number of steps. The rules of the game are as follows.

1. All digits in the secret number are different.
2. The secret number can start with zero (e.g., 0134).
3. If your try has matching digits on the exact places, they are "Bulls".
4. If you have digits from the secret number, but not on the right places, they are "Cows".

For example:
The secret number is: 0324
Your try is: 0153
The answer is: 1 bull 1 cow.

In the following, we use the term "*hint*" to represent a tuple consisting of your try, the bull value, and the cow value. For instance, $\{0153, 1, 1\}$ is a hint, where your try is 0153, the bull value is 1 and the cow value is 1.

Given a set of hints, please write a program that outputs the number of secret numbers that match all the hints.

For example, Table **??** gives a set of hints. We find that 6214 can match all the these hints. That is, comparing 6214 with 3641, we get 0 bull and 3 cows. Comparing 6214 with 6234, we get 3 bulls and 0 cow. Finally, comparing 6214 with 6534, we get 2 bulls and 0 cow. Using the similar manner, we find

Table 1: A set of hints.

Your try	Bull	Cow
3641	0	3
6234	3	0
6534	2	0

that 1234 also matches all these hints. Since only 6214 and 1234 match all these hints, the number of secret numbers is 2.

Technical Specifications

1. The number of test cases would be smaller than or equal to 5.
2. $0 \leq$ The bull value ≤ 4.
3. $0 \leq$ The cow value ≤ 4.

Input Format

The first line of the input file contains an integer indicating the number of test cases to follow. Each test case contains several lines. Each line indicates a hint. A hint is a single line containing 6 digits. The first 4 digits are your try. The fifth and the sixth digits are the bull value and the cow value, respectively.

Each test case is terminated by a line containing the integer -1.

Output Format

For each test case, output the number of secret numbers that match all the hints.

Sample Input

```
2
278001
421912
629420
```

```
529111
123440
-1
279802
458702
764912
-1
```

Sample Output

```
1
15
```