Cube Coloring

locked

Problem Submissions

Time Limit: $C/C++$ $(1s)$, $Java$ $(2s)$
Memory Limit: $512MB$

On his last birthday, Little Bob got a Crystal Cube as a present. He loves the cube so much there is not a day that passes he doesn't play with the cube. One day while playing the cube fell from from his hands into his painting box. At first, he becomes sad that the cube has become dirty with all the colors painted on it. However, due to the smooth nature of the cube's sides, he could clean all the colors easily. After he finds out that the cube can be cleaned easily, an interesting idea comes to his mind instantly. How about painting the cube in different colors in a different way every time?

Bob has 6 color containers in his painting box. The possible types of colors are -

Red (R), Green (G), Blue (B), White (W), Yellow (Y), and Orange (O).

Note that, Bob can have the same type of colors in different containers. For example, containers 1 and 3 can have Red color, containers 2, 4, and 5 can have Blue color, etc.

The cube has 6 sides, initially with no colors. Bob repeats the following operations in order 6 times.

- Choose a side of the cube with no color on it.
- Pick a container with color in it.
- Paint the chosen side with the color from the picked container. This leaves the container empty.

After this, Bob will have a cube with all sides painted. Depending on the sides and containers he selects while performing the operations, he can end up with different final paintings of the cube.

Any two sides of the cube painted with the same color are identical. Two paintings are considered the same if one can be obtained from another by rotating the final cube in any direction. All things considered, Bob wonders how many distinct paintings can he obtain?

Input Format

The first line contains a positive integer T denoting the number of test cases.

Each of the next T lines contains 6 space-separated *uppercase* characters C_{1-6} representing the colors of the containers.

Colors will not follow any specific order.

Constraints

$1 \leq T \leq 50$

$C_i \in \{R, G, B, W, Y, O\}$

Output Format

For each case, print the number of distinct paintings in a separate line. Check the samples for a better understanding.

Sample Input 0

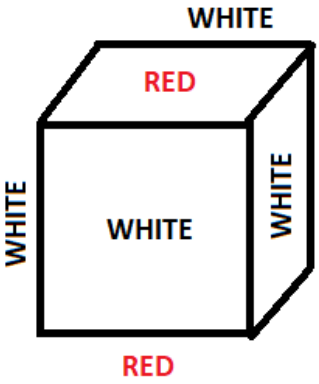
```
3
W W W W W W
R W W W W R
R G B Y W O
```

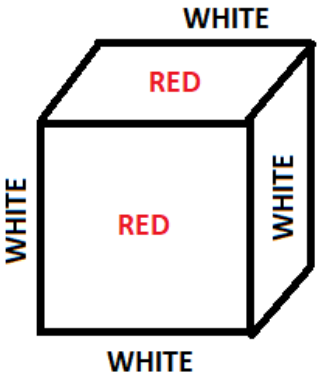
Sample Output 0

```
1
2
30
```

Explanation 0

For case **2**, there are **2** different ways to paint the cube.





Submissions: 82
Max Score: 1

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C

```c
#include <math.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <assert.h>
#include <limits.h>
#include <stdbool.h>

int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code