

7735 Pocket Cube

The Pocket Cube, also known as the Mini Cube or the Ice Cube, is the $2 \times 2 \times 2$ equivalence of a Rubik's Cube.

The cube consists of 8 pieces, all corners.

Each piece is labeled by a three dimensional coordinate (h, k, l) where $h, k, l \in \{0, 1\}$. Each of the six faces owns four small faces filled with a positive integer.

For each step, you can choose a certain face and turn the face ninety degrees clockwise or counter-clockwise.

You should judge that if one can restore the pocket cube in one step. We say a pocket cube has been restored if each face owns four same integers.

Input

The first line of input contains one integer N ($N \leq 30$) which is the number of test cases.

For each test case, the first line describes the top face of the pocket cube, which is the common 2×2 face of pieces labelled by $(0, 0, 1), (0, 1, 1), (1, 0, 1), (1, 1, 1)$. Four integers are given corresponding to the above pieces.

The second line describes the front face, the common face of $(1, 0, 1), (1, 1, 1), (1, 0, 0), (1, 1, 0)$. Four integers are given corresponding to the above pieces.

The third line describes the bottom face, the common face of $(1, 0, 0), (1, 1, 0), (0, 0, 0), (0, 1, 0)$. Four integers are given corresponding to the above pieces.

The fourth line describes the back face, the common face of $(0, 0, 0), (0, 1, 0), (0, 0, 1), (0, 1, 1)$. Four integers are given corresponding to the above pieces.

The fifth line describes the left face, the common face of $(0, 0, 0), (0, 0, 1), (1, 0, 0), (1, 0, 1)$. Four integers are given corresponding to the above pieces.

The sixth line describes the right face, the common face of $(0, 1, 1), (0, 1, 0), (1, 1, 1), (1, 1, 0)$. Four integers are given corresponding to the above pieces.

In other words, each test case contains 24 integers a, b, c to x . You can flat the surface to get the surface development as follows.

```

+ - + - + - + - + - + - +
| q | r | a | b | u | v |
+ - + - + - + - + - + - +
| s | t | c | d | w | x |
+ - + - + - + - + - + - +
      | e | f |
      + - + - +
      | g | h |
      + - + - +
      | i | j |
      + - + - +
      | k | l |
      + - + - +
      | m | n |
      + - + - +
      | o | p |
      + - + - +

```

Output

For each test case, output 'YES' if can be restored in one step, otherwise output 'NO'.

Sample Input

```
4
1 1 1 1
2 2 2 2
3 3 3 3
4 4 4 4
5 5 5 5
6 6 6 6
6 6 6 6
1 1 1 1
2 2 2 2
3 3 3 3
5 5 5 5
4 4 4 4
1 4 1 4
2 1 2 1
3 2 3 2
4 3 4 3
5 5 5 5
6 6 6 6
1 3 1 3
2 4 2 4
3 1 3 1
4 2 4 2
5 5 5 5
6 6 6 6
```

Sample Output

```
YES
YES
YES
NO
```