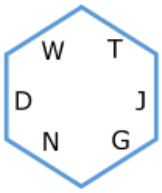
Problem 24 Hexagon Puzzle

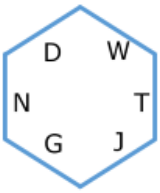
[19 points]

Summary

Every loves a good puzzle. Well, not everyone. But every CodeWars contestant loves a good puzzle! Am I right?

In this puzzle, there are seven hexagons. Each hexagon has letters at its six edges (sides). The goal is to arrange the seven hexagons with one in the center and the other six surrounding it. The letters on the edges of two adjacent hexagons must match. The hexagons may be rotated, but the order of the edge letters must be preserved. For example, the hexagon on the left can be rotated to a new orientation as on the right:





Hexagons cannot be flipped as a mirror image.

Input

The input consists of seven lines, each with six capital letters. Each line represents a single hexagon and each letter is an edge of the hexagon. The letters are listed in clockwise order around the hexagon.

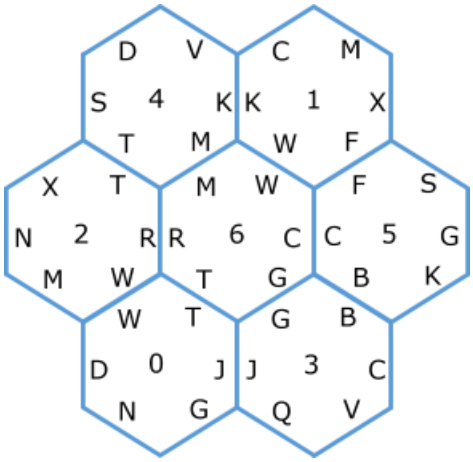
```
W T J G N D
X F W K C M
M N X T R W
B C V Q J G
M T S D V K
C F S G K B
G T R M W C
```

Output

The program must print a solution to the puzzle. There will actually be six possible orientations for the solution – the correct solution will be the one for which the center hexagon is oriented so that its lowest character, alphabetically, is on the right edge. The hexagon sequence must be printed left-to-right, top-to-bottom. The first hexagon in the input is the top left, and the last is the bottom right. After each index, the program must print the letter of the right edge. HINT: test your program with all the sample data.

```
4K 1X 2R 6C 5G 0J 3C
```

For your reference, here is a visualization of the solution for the sample input:



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