

31 Settlers of CodeWars

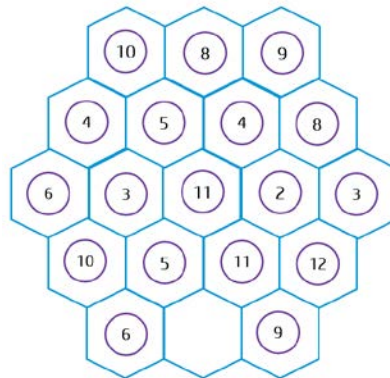
24 points



Introduction

Do you know the multiplayer board game Settlers of Catan? With more than 22 million copies sold in 30 different languages, it is one of the most popular board games in the world.

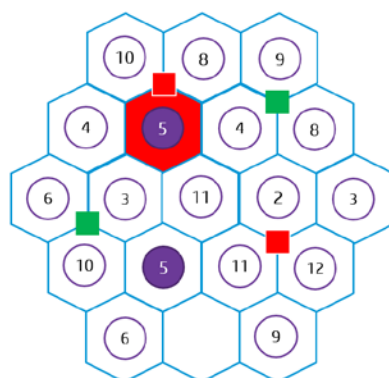
A Catan board is made up of hexagonal shaped tiles that fit together. Each tile is assigned a number between 2-12 (not including 7), and a resource. In addition to these, there will be one blank line called a desert, which we will refer to as the number 0. For the purpose of this problem, we will only focus on the number of the tile and ignore the resource.



Catan always starts the same way. Each player needs to choose two crossroads of the board. A crossroads is the point where three tiles intersect.

Like many board games, Catan is played with by rolling two dices, each die having six faces. The result of a roll determines which players can get resources. Thus, you can increase your chances of getting at least one resource per roll if your chosen crossroads target the major variety of numbers. Follow the examples to get a better understanding about the results of a roll and how players can get resources.

Example 1

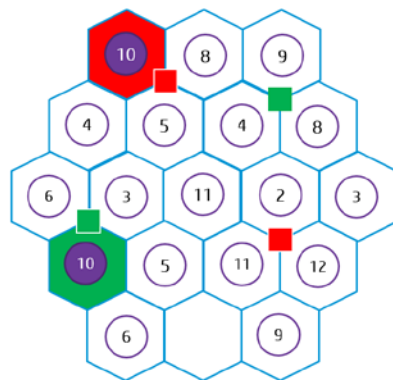


Two players choose two crossroad each. The roll of dice is:



Red Player can get a resource from tile "5"

Example 2



Two players choose two crossroad each. The roll of dice is:



Red Player can get a resource from tile "10".
Green Player can also get a resource from another tile "10".

But, what are the two best crossroads to choose?

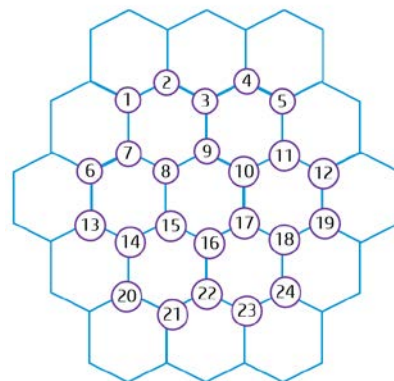
Your objective is to build a program that, given a Catan board, computes which two crossroads, combined, maximizes the chances of getting at least one resource per roll. These must be inner crossroads (ones where 3 tiles intersect).

Input

The input of your program is a sequence of numbers, in different lines, which make up the board according to the numbers of each tile. Each number is separated by a single token. The first line has 3 numbers, the second 4 numbers, the third 5 numbers, the fourth 4 numbers and last line 3 numbers again.

Output

The output must be two numbers, separated by a single token and sorted in ascending order, each one referring to a crossroad identifier. Those two crossroads are the best initial choice. Check the figure below to see the map of crossroad identifiers.



If there is more than one best choice, separate them with a space. Sort the results in ascending order with respect to the first number of each choice (see Example 2).

Example 1

Input

```
11 12 9
4 6 5 10
0 3 11 4 8
8 10 9 3
5 2 6
```

Output

```
20 24
```

Example 2

Input

```
12 5 11
9 0 2 3
8 3 6 4 9
10 4 5 11
8 10 6
```

Output

```
6 16
6 17
6 23
```

Example 3

Input

```
11 4 5
10 5 11 9
9 3 6 3 4
6 2 0 8
12 8 10
```

Output

```
9 19
```

