In this challenge, the task is to debug the existing code to successfully execute all provided test files.

There are n boxes in front of you. For each i, box i contains r_i red balls, g_i green balls, and b_i blue balls.

You want to separate the balls by their color. In each operation, you can pick a single ball from some box and put it into another box. The balls are separated if no box contains balls of more than one color.

Debug the given function `min_operations` and compute the minimal number of operations required to separate the balls.

Note: In this problem you can modify at most *six* lines of code and you cannot add any new lines.

To restore the original code in the editor, create a new buffer by clicking on the top left icon in the editor.

Input Format

The first line contains a single integer n. The next n lines contain three space-separated integers, the i^{th} line containing r_i, g_i, and b_i, respectively.

Constraints

$1 \leq n \leq 100$
$0 \leq r_i,\ g_i,\ b_i \leq 105$

Output Format

Print the minimal number of operations required to separate the balls. If this is impossible, return -1.

Sample Input

```
3
1 1 1
1 1 1
1 1 1
```

Sample Output

```
6
```

Explanation

In this case let the first box contain only red balls, the second box only blue balls, and the third box only green balls.
So from the first box 1 blue ball should be moved to the second box and 1 green ball should be moved to the third box.
From the second box 1 red ball should be moved to the first box and 1 green ball should be moved to the third box. Likewise for the third row. So the number of operations is 6.