
Rock-paper-scissors

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Catorzè Concurs de Programació de la UPC - Final (2016-09-21)

You probably know about the rock-paper-scissors game, where two players choose among rock, paper and scissors, and rock beats scissors, paper beats rock, and scissors beats paper. If both oponents choose the same, the game is tied. You are going to play several rounds, and you will earn two points for every round that you win, and one point for every tie.

Your oponent has decided to write all his decisions on paper before the start of the game, and he will follow those decisions no matter what. However, you cheated and could read all his decisions. To compensate for such a huge advantatge, you decide to play between r_1 and r_2 rocks, between p_1 and p_2 papers, and between s_1 and s_2 scissors. Under those restrictions, can you maximize the points that you will earn?

Input

Let r , p and s be respectively the number of rocks, papers and scissors of your oponent. Input consists of several cases, each with r , p and s , followed by r_1 , r_2 , p_1 , p_2 , s_1 and s_2 . You can assume $r_1 \leq r_2$, $p_1 \leq p_2$, $s_1 \leq s_2$, and $r_1 + p_1 + s_1 \leq r + p + s \leq r_2 + p_2 + s_2 \leq 10^8$.

Output

For every case, print the maximum number of points that you can earn.

Sample input

```
3 0 0 1 1 1 1 1 1
3 0 0 0 1 0 1 3 3
3 0 0 0 2 0 2 0 2
5 7 8 3 5 0 9 2 6
```

Sample output

```
3
0
5
33
```

Problem information

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Generation : 2024-04-30 19:18:33

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