Problem C
Connect the Dates
Time limit: 12 seconds

John got a neat new calendar toy that makes use of the pieces shown in Figure **??**:

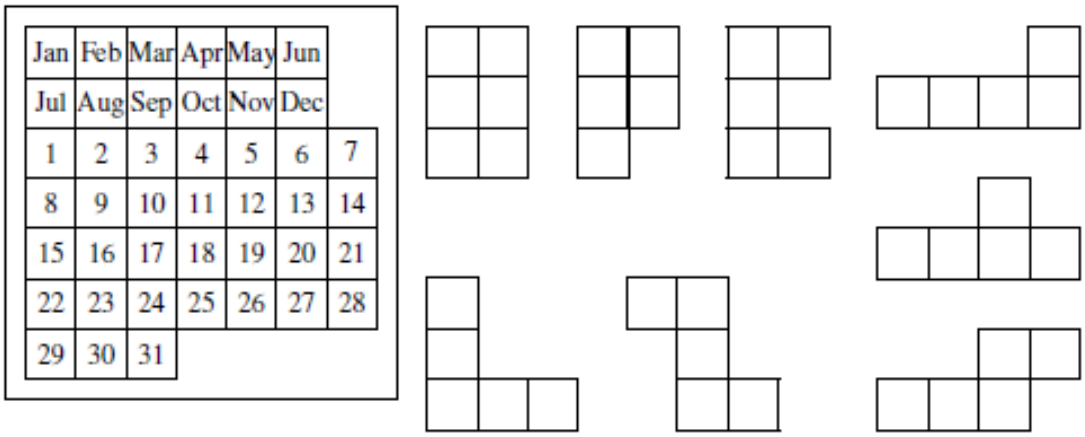


Figure C.1: Calendar toy pieces.

The eight shapes on the right can be placed on the grid on the left in a variety of ways, always leaving two empty spaces. Shapes can be rotated and flipped over. It turns out that for any month-day combination, there is a way to place the shapes so that the two open spaces show that month and day. Now John has a little puzzle to solve every day – good for him! For example, on April 18, John was able to come up with the solution shown on the left in Figure **??**.

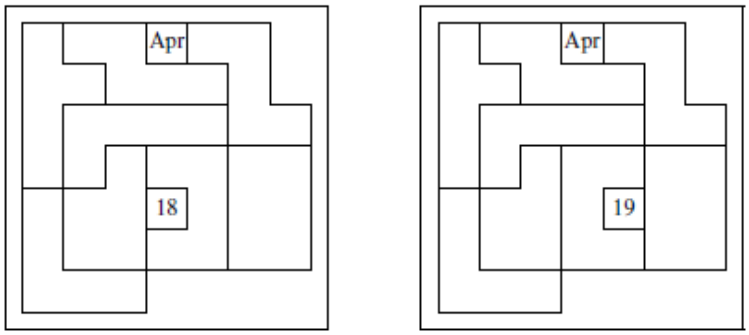


Figure C.2: Solutions for April 18 and April 19.

John noticed something interesting the next day – he only had to move one piece to convert his solution for April 18 to a solution for April 19 (shown on the right in Figure **??**). In fact, he only had to move two pieces after that to get a solution for April 20, and then one after that to get a solution for April 21. That got him thinking: given two dates, what would be the set of solutions spanning those dates that would result in the minimum total number of pieces that need to be moved? That got us judges thinking too.

Input

Input consists of a single line containing three integers n m d, where n ($1 \leq n \leq 366$) is the number of consecutive days to consider, and m d ($1 \leq m \leq 12, 1 \leq d \leq 31$) is the month and day of the starting date. This date will always be a valid calendar date, and you may assume that you're dealing with a non-leap year.

Output

Output the minimum number of board piece moves needed as you convert one solution to another over the span of dates specified.

Sample Input 1	Sample Output 1
4 4 18	4

Sample Input 2	Sample Output 2
3 2 28	5

Sample Input 3	Sample Output 3
10 12 25	29