

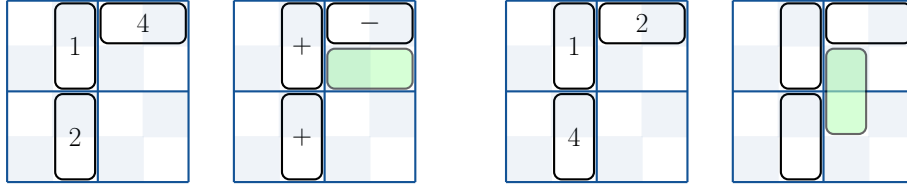
Continuing where we left off, with the second half of the case below.

- Here $gpos = Z$ and $dgpos = Z$ and $position$ is horizontal and $dualPosition$ is vertical and the pair domino (occupying square $(x - 1, y - 1)$) is vertical. Adding this number has either created a new Type II boxed cycle or opened a type II boxed cycle into a larger Type II cycle and a Type I cycle nested in the Type II cycle.

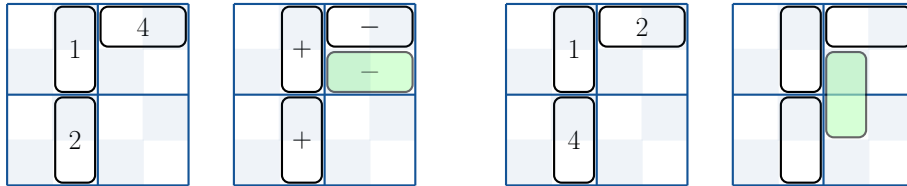
Here we'll do the rest of the cases, that is, where we don't immediately add the next domino, under the assumption that we are creating a new cycle (not breaking a cycle). In these cases, as usual, we're adding one domino and then calling `addNumberSign()`.

Note, there are six cases (counting that the fifth has two examples). They are paired by interchanging sides and then flipping whether the new domino is horizontal or vertical. The pairing is $1 \leftrightarrow 5$, $2 \leftrightarrow 6$, and $3 \leftrightarrow 4$.

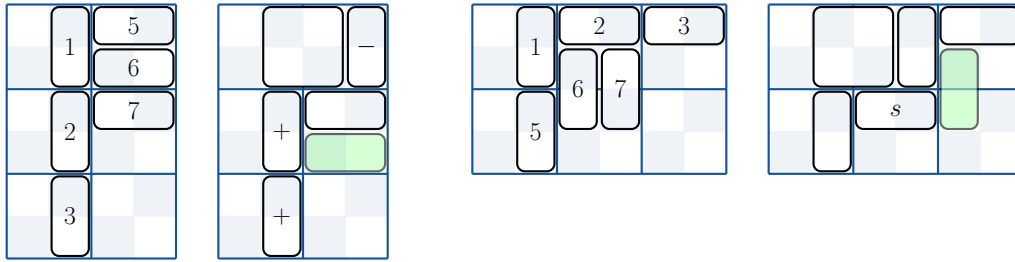
- ▷ Here the corner domino has a $+$ sign, the top domino has a $-$ sign, and the column to the left has all $+$ signs. We give the new domino a $-$ sign and then add a $+$ sign below.



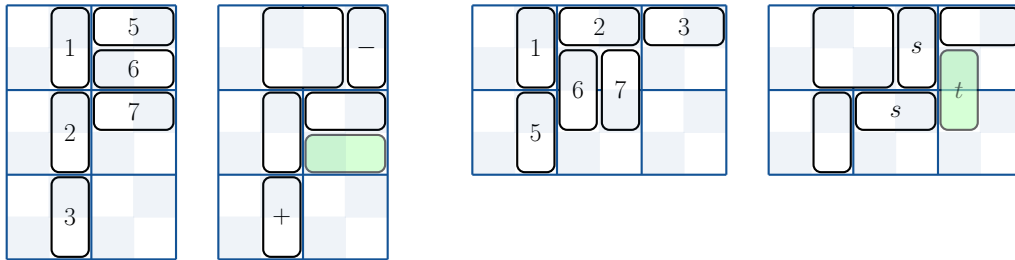
goes to



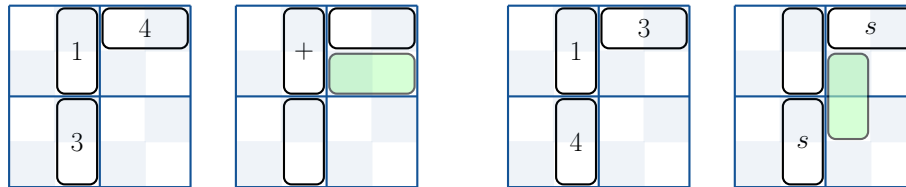
- ▷ Here the corner domino has a $+$ sign, the top domino is blank (with dual sign s), and the column to the left has all $+$ signs. We give the added domino a $-$ sign and then blank it and the corner domino. Then we add a $+$ sign below.



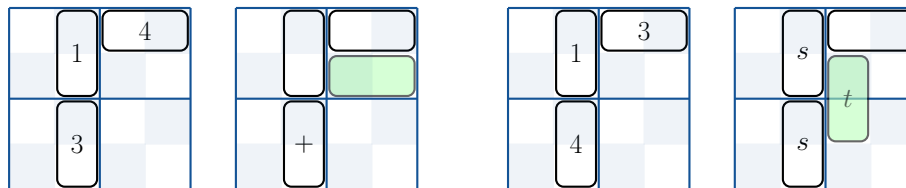
goes to



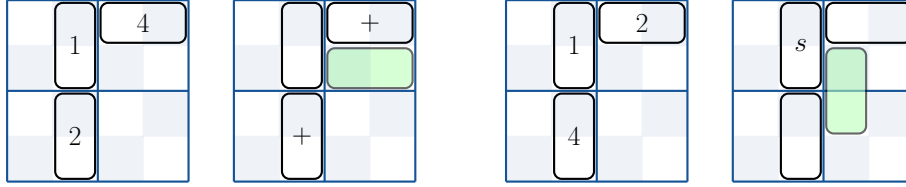
- ▷ Here the corner domino has a + sign, the top domino is blank (with dual sign s), the column to the left has a blank with an s sign, and the row on top has no other signs in it. We'll swap the + with the blank in its column, using `prepareForSign()`. Then we'll give the new domino a t sign, and add an s sign below on the dual side.



goes to



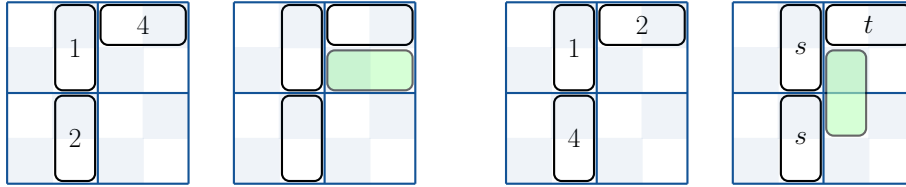
- ▷ Here the corner domino is blank, there is a (+) sign in the top row, and all the dominoes in the column below the corner domino contain + signs. We'll swap the signed domino with the corner domino, using `prepareForSign()` on the dual side. Then we'll proceed as in two cases ago.



goes to



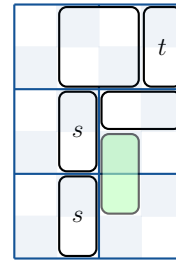
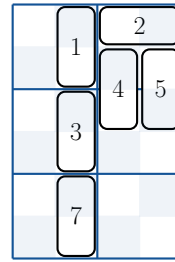
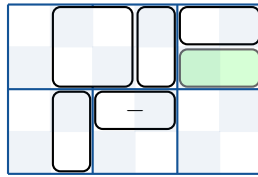
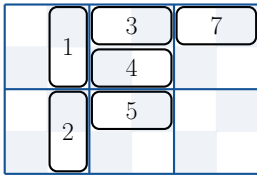
- ▷ Here there is no sign in the top row. In this case, on the dual side, the column is filled with (*s*) signs. We give the new domino a *t* and go down with an *s* on the dual side.



goes to



Here is another example. (The column need not be all blanks.)



goes to

