835. Image Overlap

Description

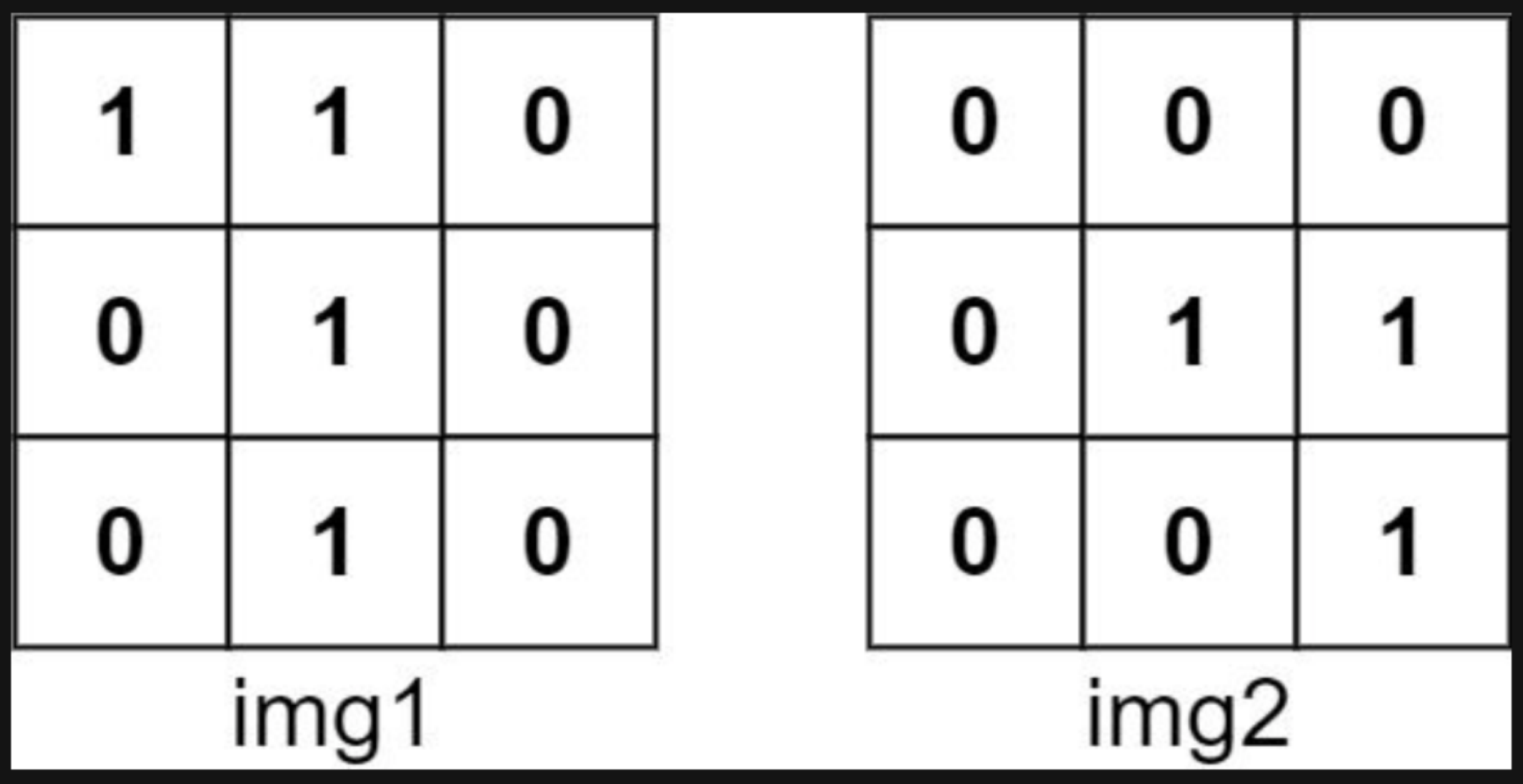
You are given two images, `img1` and `img2`, represented as binary, square matrices of size `n x n`. A binary matrix has only `0`s and `1`s as values.

We **translate** one image however we choose by sliding all the `1` bits left, right, up, and/or down any number of units. We then place it on top of the other image. We can then calculate the **overlap** by counting the number of positions that have a `1` in **both** images.

Note also that a translation does **not** include any kind of rotation. Any `1` bits that are translated outside of the matrix borders are erased.

Return *the largest possible overlap*.

Example 1:



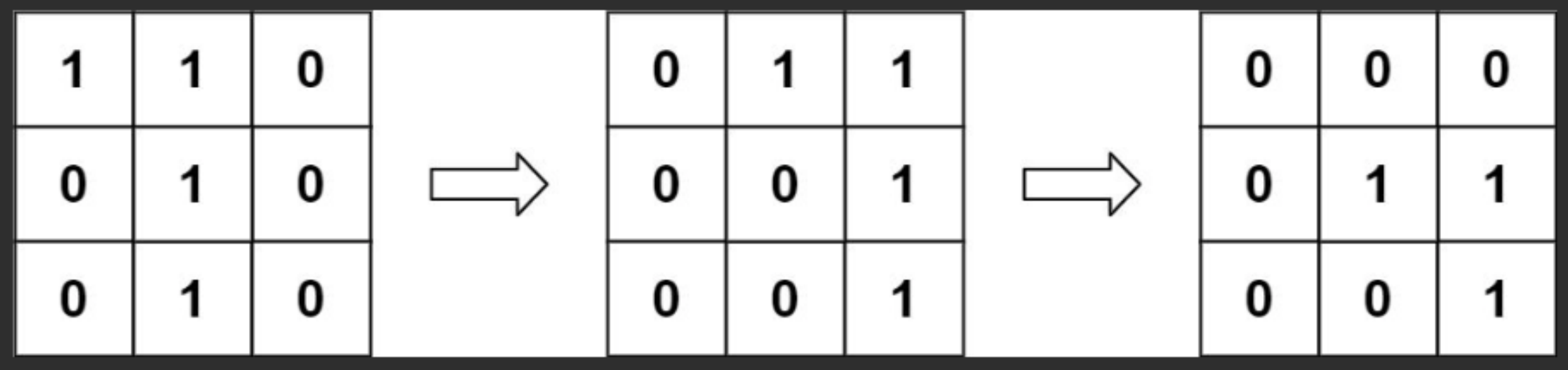
img1

1	1	0
0	1	0
0	1	0

img2

0	0	0
0	1	1
0	0	1

```
Input: img1 = [[1,1,0],[0,1,0],[0,1,0]], img2 = [[0,0,0],[0,1,1],[0,0,1]]
Output: 3
Explanation: We translate img1 to right by 1 unit and down by 1 unit.
```



1	1	0
0	1	0
0	1	0

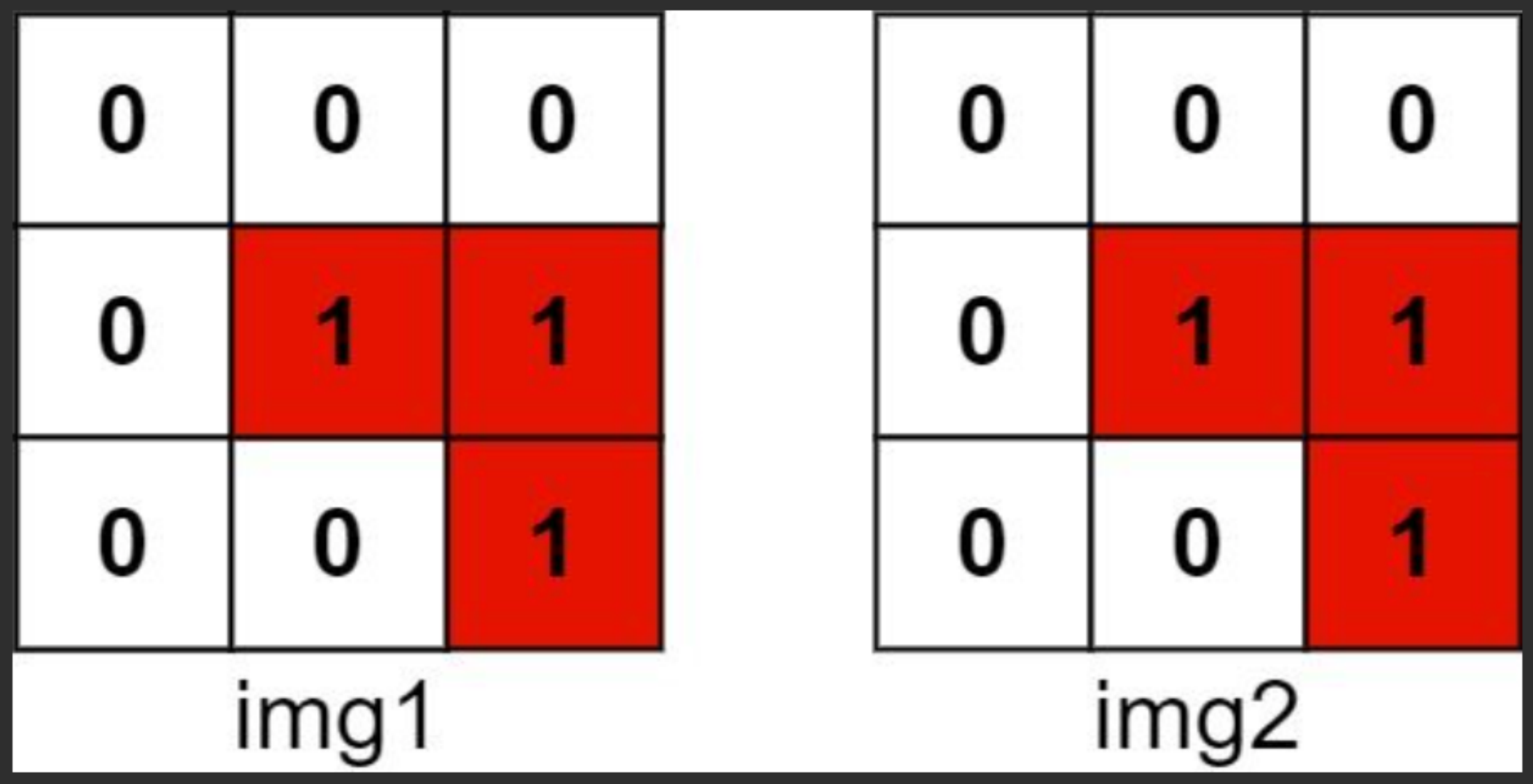
⇨

0	1	1
0	0	1
0	0	1

⇨

0	0	0
0	1	1
0	0	1

```
The number of positions that have a 1 in both images is 3 (shown in red).
```



img1

0	0	0
0	1	1
0	0	1

img2

0	0	0
0	1	1
0	0	1

Example 2:

```
Input: img1 = [[1]], img2 = [[1]]
Output: 1
```

Example 3:

```
Input: img1 = [[0]], img2 = [[0]]
Output: 0
```

Constraints:

- `n == img1.length == img1[i].length`
- `n == img2.length == img2[i].length`
- `1 <= n <= 30`
- `img1[i][j]` is either `0` or `1`.
- `img2[i][j]` is either `0` or `1`.