# 6. Image Editing

There a square image made up of black and white pixels represented as *0* and *1* respectively. As part of an image analysis process, the size of the largest square area of white pixels must be determined. Given a *2*-dimensional square matrix that represents the image, write a function to determine the length of a side of the largest square area made up of white pixels.

**Example**

*n x n = 5 x 5* matrix of pixels is represented as

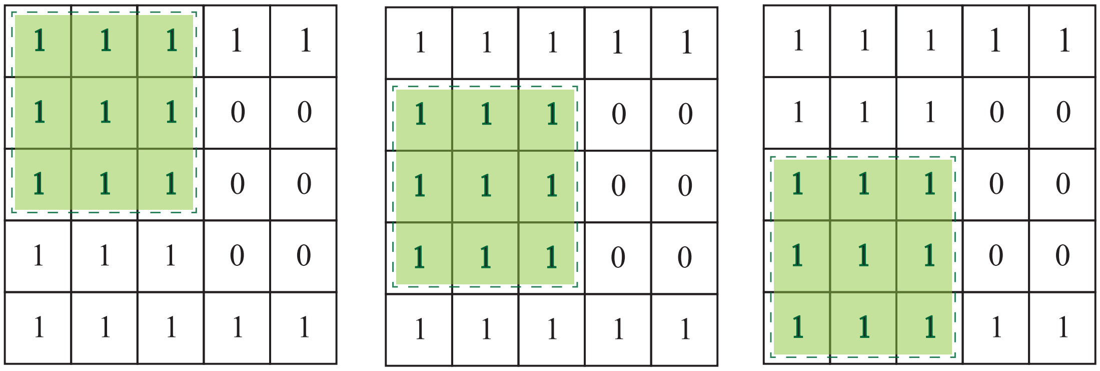
*arr = [[1,1,1,1,1],*

*[1,1,1,0,0],*

*[1,1,1,0,0],*

*[1,1,1,0,0],*

*[1,1,1,1,1]].*



| | | | | |
|---|---|---|---|---|
| **1** | **1** | **1** | 1 | 1 |
| **1** | **1** | **1** | 0 | 0 |
| **1** | **1** | **1** | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 |

| | | | | |
|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 |
| **1** | **1** | **1** | 0 | 0 |
| **1** | **1** | **1** | 0 | 0 |
| **1** | **1** | **1** | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 |

| | | | | |
|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 |
| **1** | **1** | **1** | 0 | 0 |
| **1** | **1** | **1** | 0 | 0 |
| **1** | **1** | **1** | 1 | 1 |

The largest square sub-matrix is *3 x 3* in size starting at position *(0, 0), (1, 0),* or *(2, 0)*. The size of the sub-matrix is *3*.

**Function Description**

Complete the function *largestMatrix* in the editor below.

*largestMatrix* has the following parameter:

*arr[n][n]:* a 2D array of integers

Returns:

*int:* an integer that represents the width of the largest square sub-matrix of white pixels.

### Constraints

- $0 \leq n \leq 500$
- *arr[i][j]* is in the set *{0, 1} (0* denotes a black pixel and *1* denotes a white pixel*)*

### Input Format For Custom Testing

The first line contains an integer, *n*, the number of *rows*.

The second line contains an integer, n, the number of columns.

Each line *i* of the *n* subsequent lines (where $0 \leq i < n$) contains *n* space-separated integers that describe *arr[i]*.

### Sample Case 0

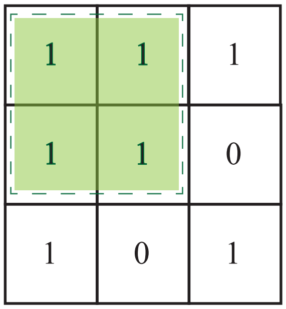
### Sample Input For Custom Testing

```
STDIN       Function
-----       --------
3       →   arr[] size n = 3
3       →   arr[i][] size n = 3
1 1 1   →   arr=[[1,1,1],[1,1,0],[1,0,1]]
1 1 0
1 0 1
```

### Sample Output

```
2
```

### Explanation



| | | |
|---|---|---|
| 1 | 1 | 1 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

The maximum square sub-matrix that contains all white pixels is [[1,1],[1,1]]. It is 2 *x 2* in size starting at position *(0, 0) to (1, 1))*.

The size of the sub-matrix is 2

### Sample Case 1