DP-S011 (E037)

Solved Challenges 0/1



Back To Challenges List





Largest Square Sub Matrix with 1s

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The program must accept an integer matrix of size **RxC** containing only **0s** and **1s** as the input. The program must print the size of the largest square sub matrix containing all the elements as 1 in the given matrix. **Note:** There is always at least one square sub matrix containing all the elements as 1 in the given matrix.

Boundary Condition(s):

2 <= R, C <= 1000

Input Format:

The first line contains R and C separated by a space.

The next R lines, each containing C integers separated by a space.

Output Format:

The lines containing the largest square sub matrix containing all the elements as 1 in the given matrix.

Example Input/Output 1:

Input:

7 5

11101

11010

01111

11111 11111

11111

00000

Output:

Explanation:

In the given 7x5 matrix, the largest square sub matrix with 1s is highlighted below.

11101

11010

01111

11111

11111

11111

00000

The size of the largest square sub matrix is 4.

Hence the output is 4

Example Input/Output 2:

Input:

7 6

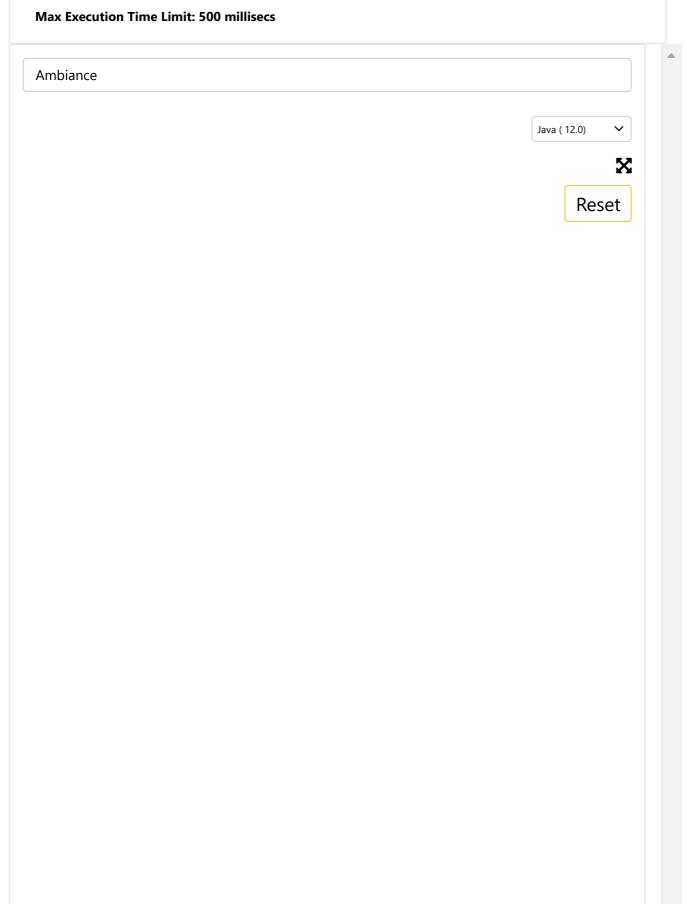
110111

110111

000111

Output:

3



```
import java.util.*;
 1
 2 public class Hello {
 3
        public static void main(String[] args) {
 4
 5
             Scanner sc = new Scanner(System.in);
 6
             int R = sc.nextInt();
 7
             int C = sc.nextInt();
 8
 9
             int matrix[][] = new int[R][C];
10
11
             for(int row=0;row<R;row++)</pre>
12
                 for(int col=0;col<C;col++)</pre>
13
14
                 {
15
                     matrix[row][col] = sc.nextInt();
16
                 }
             }
17
18
19
             int max = matrix[0][0];
20
             for(int row=1;row<R;row++)</pre>
21
                 for(int col=1;col<C;col++)</pre>
22
23
                 {
                      if(matrix[row][col]>0)
24
25
                          matrix[row][col] += Math.min(matrix[row-1]
26
                              matrix[row][col-1],
                          matrix[row-1][col-1]));
27
28
                      }
29
30
                      if(matrix[row][col]>max)
31
                          max = matrix[row][col];
32
                 }
             }
33
34
             System.out.println(max);
35
36
37
38
39
        }
40
```

Code did not pass the execution

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