DP-S011 (E037)

Solved Challenges **0/1**

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Largest Square Sub Matrix with 1s

ID:11134 **Solved By 547 Users**

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
1 1 1 0 1
1 1 0 1 0
0 1 1 1 1
1 1 1 1 1
1 1 1 1 1
1 1 1 1 1
0 0 0 0 0

Output:
4

Explanation:
In the given 7x5 matrix, the largest square sub matrix with 1s is highlighted below.
1 1 1 0 1
1 1 0 1 0
0 **1 1 1 1**
1 **1 1 1 1**
1 **1 1 1 1**
1 **1 1 1 1**
0 0 0 0 0
The size of the largest square sub matrix is 4.
Hence the output is 4

Example Input/Output 2:
Input:
7 6
1 1 0 1 1 1
1 1 0 1 1 1
0 0 0 1 1 1

0 0 0 0 0 0
0 0 0 0 0 0
1 1 0 0 1 1
1 1 0 0 1 1

Output:
3

Max Execution Time Limit: 500 millisecs

Ambiance

Java (12.0)

Reset

```java
import java.util.*;
public class Hello {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int R = sc.nextInt();
        int C = sc.nextInt();

        int matrix[][] = new int[R][C];

        for(int row=0;row<R;row++)
        {
            for(int col=0;col<C;col++)
            {
                matrix[row][col] = sc.nextInt();
            }
        }

        int max = matrix[0][0];
        for(int row=1;row<R;row++)
        {
            for(int col=1;col<C;col++)
            {
                if(matrix[row][col]>0)
                {
                    matrix[row][col] += Math.min(matrix[row-1]
                        matrix[row][col-1],
                    matrix[row-1][col-1]));
                }

                if(matrix[row][col]>max)
                    max = matrix[row][col];
            }
        }

        System.out.println(max);


    }
}
```

Code did not pass the execution

TestCase ID: 64030

Input:

```
7 5
1 1 1 0 1
1 1 0 1 0
0 1 1 1 1
1 1 1 1 1
1 1 1 1 1
1 1 1 1 1
0 0 0 0 0
```

Expected Output:

```
4
```

Your Program Output:

```
11101
11010
01111
11111
11111
11111
00000
```

Save Run

Run with a custom test case (Input/Output)