Programming Assignment-3: Binary Matrix

Due on 2020-03-19, 23:59 IST

Given a matrix with \(N\) rows and \(M\) columns, the task is to check if the matrix is a Binary Matrix. A binary matrix is a matrix in which all the elements are either 0 or 1.

**Input Format:**
The first line of the input contains two integer numbers \(N\) and \(M\) which represents the number of rows and the number of columns respectively, separated by a space.
From the second line, take \(N\) lines input with each line containing \(M\) integer elements with each element separated by a space.

**Output Format:**
Print 'YES' or 'NO' accordingly

Example:

Input:
3 3
1 0 0
0 0 1
1 1 0

Output:
YES

**Sample Test Cases**

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part 01 (unit? unit=121&lesson=123)
O Snakes and Ladders - Not on the Board -
Part 02 (unit? unit=121&lesson=124)
O Snakes and Ladders - Not on the Board -
Part 03 (unit? unit=121&lesson=125)
O Snakes and Ladders - Not on the Board -
Part 04 (unit? unit=121&lesson=126)
O Snakes and Ladders - Not on the Board -
Part 05 (unit? unit=121&lesson=127)
O Snakes and Ladders - Not on the Board -
Part 06 (unit? unit=121&lesson=128)
O Spiral Traversing - Let's Animate
(unit? unit=121&lesson=129)
O Spiral Traversing - Let's Animate
Part 01 (unit? unit=121&lesson=130)
O Spiral Traversing - Let's Animate
Part 02 (unit? unit=121&lesson=131)
O Spiral Traversing - Let's Animate
Part 03 (unit? unit=121&lesson=132)
O Spiral Traversing - Let's Animate
Part 04 (unit? unit=121&lesson=133)

Test Case 1
5 3
1 2 3
4 5 6
7 8 9
1 0 0
1 1 1

NO

Test Case 2
4 6
1 1 0 1 1
1 1 1 1 1
0 0 0 1 0
1 0 1 0 1 0

YES

Test Case 3
1 1
0

YES

Test Case 4
2 2
1 0
0 1

YES

Test Case 5
3 3
1 0 0
2 0 0
1 1 1

NO

Test Case 6
4 4
1 1 1 1
0 0 0 0
1 1 1 1
0 0 0 0

YES

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.
Sample solutions (Provided by instructor)
```python
def isBinaryMatrix(mat, M, N):
    for i in range(M):
        for j in range(N):
            # Returns false if element
            # is other than 0 or 1.
            if ((mat[i][j] == 0 or mat[i][j] == 1) == False):
                return False;
            # Returns true if all the
            # elements are either 0 or 1.
    return True;

a, b = map(int, input().split())
m = []
for i in range(1, a + 1):
    l = list(map(int, input().split()))
m.append(l)
if (isBinaryMatrix(m, a, b)):
    print("YES")
else:
    print("NO")
```

https://onlinecourses.nptel.ac.in/noc20_cs35/progassignment?name=301
- Spiral Traversing - Let's Animate - Part 05 (unit? unit=121&lesson=134)
- Spiral Traversing - Let's Animate - Part 06 (unit? unit=121&lesson=135)
- Spiral Traversing - Let's Animate - Part 07 (unit? unit=121&lesson=136)
- GPS - Track the route (unit? unit=121&lesson=137)
- GPS - Track the route - Part 01 (unit? unit=121&lesson=138)
- GPS - Track the route - Part 02 (unit? unit=121&lesson=139)
- GPS - Track the route - Part 03 (unit? unit=121&lesson=140)
- GPS - Track the route - Part 04 (unit? unit=121&lesson=141)

Quiz:
- Assignment 7 (assessment? name=277)

Programming Assignment-1:
- Lower Triangular Matrix (/noc20_cs35/progassignment? name=299)

Programming Assignment-2:
- Symmetric (/noc20_cs35/progassignment? name=300)