International Coding Contest
16th November 2018

event organizer

Catalysts

Intro

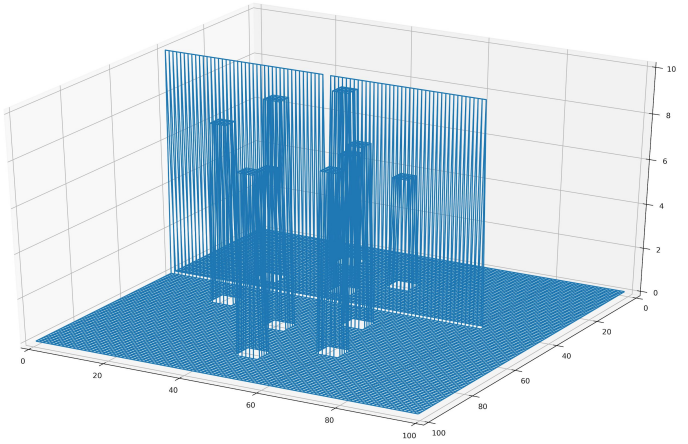
December 2020
location: classified
G13 summit

A crucial turning point in history is expected!

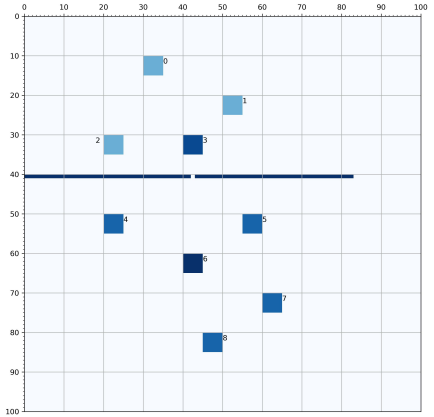
BUT: The atmosphere is heated up. Attacks on life of the leaders are very likely!

Attacks must be prevented in any case. To fail is not an option!

Your task



- Secure the summit by showing where possible hazard zones - tall rooftops with large overviews - are
- Drones delivered a very accurate 3d point data set of the wider area around the summit
- Your goal is to assess the security threats and make recommendations based on this data set



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Level 1

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You are provided a rudimentary 2D representation of the site plan

While our drones can provide very accurate pictures of the site, sometimes the pictures get corrupted. Your first task is to filter out any picture that has no building in it.

Output whether or not there are any buildings in the perimeter

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- The world is a 2D cell grid
- A building spans one or more cells, having a certain, constant, height
- The ground height is zero
- Given a site plan, output whether or not it contains any buildings

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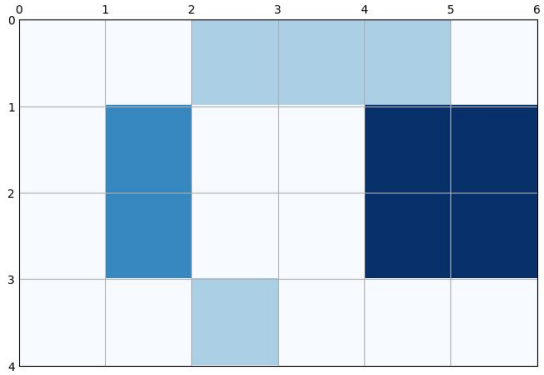
Input format:

<number_of_rows> <number_of_columns>
<height> <height> ....
<height> <height> ....
....

Example: (The site plan has 4 rows with 6 columns and there are 2 buildings with height 1, 1 with height 2, and 1 with height 3)

4 6
0 0 1 1 1 0
0 2 0 0 3 3
0 2 0 0 3 3
0 0 1 0 0 0

output:
1



The heights are non negative integers. The ground has height 0, thus any positive height denotes a building. There is one site plan per test case.

> Level 1

Output format:

1 (if there are any buildings)

0 (if there are no buildings)