Find number of closed islands
Given a binary matrix **mat[][]** of dimensions **N X M** such that 1 denotes land and **0** denotes water. Find the number of closed islands in the given matrix.
An island is a 4-directional (up, right, down and left) connected part of 1's.
Note: A closed island is a group of **1s** surrounded by only **0s** on all the boundaries **(except diagonals)**. In simple words, a closed island is an island whose none of the **1s** lie on the edges of the matrix.

Example 1:
Input:
N = 5, M = 8
mat[][] = {{0, 0, 0, 0, 0, 0, 0, 1},
{0, 1, 1, 1, 1, 0, 0, 1},
{0, 1, 0, 1, 0, 0, 0, 1},
{0, 1, 1, 1, 1, 0, 1, 0},
{1, 0, 0, 0, 0, 1, 0, 1}}
Output:
2
Explanation:
mat[][] = {{0, 0, 0, 0, 0, 0, 0, 1},
{0, **1, 1, 1, 1,** 0, 0, 1},
{0, **1**, 0, **1**, 0, 0, 0, 1},
{0, **1, 1, 1, 1,** 0, **1**, 0},
{1, 0, 0, 0, 0, 1, 0, 1}}
There are 2 closed islands. The islands in dark are closed because they are completely surrounded by 0s (water). There are two more islands in the last column of the matrix, but they are not completely surrounded by 0s. Hence they are not closed islands.

Example 2:
Input:
N = 3, M = 3
mat[][] = {{1, 0, 0},
{0, 1, 0},
{0, 0, 1}}
Output:
1
Explanation:
mat[][] = {{1, 0, 0},
{0, **1**, 0},
{0, 0, 1}}
There is just a one closed island.
Constraints:
$1 \leq N,M \leq 500$

A. **Build**

1. Download and setup JDK (Java Development Kit).

   https://www.oracle.com/java/technologies/downloads/

2. Download and setup Maven.

   https://maven.apache.org/download.cgi

3. Open terminal and type the command to go to the root directory of the project. pom.xml is located) and run the command:

   cd /PATH/TO/THE/PROJECT/

4. Build the project with the command:

   mvn clean install

B. **Run**

1. Run the command and go to the directory of the compiled jar file. {{PROJECT_DIRECTORY}} is the path to the project root directory:

   cd {{PROJECT_DIRECTORY}}/target

2. Run the command to start the application. {{PATH/TO/THE/INPUT_FILE}} is the path to the data:

   java -jar closed-islands-1.0.jar {{PATH/TO/THE/INPUT_FILE}}