

Number of Islands

Given a grid of size $n \times m$ (n is the number of rows and m is the number of columns in the grid) consisting of '0's (Water) and '1's (Land). Find the number of islands.

Note: An island is either surrounded by water or boundary of grid and is formed by connecting adjacent lands horizontally or vertically or diagonally i.e., in all 8 directions.

Example 1:

Input:

```
grid = {{0,1},{1,0},{1,1},{1,0}}
```

Output:

1

Explanation:

The grid is-

```
0 1
```

```
1 0
```

```
1 1
```

```
1 0
```

All lands are connected.

Example 2:

Input:

```
grid = {{0,1,1,1,0,0,0},{0,0,1,1,0,1,0}}
```

Output:

2

Expanation:

The grid is-

```
0 1 1 1 0 0 0
```

```
0 0 1 1 0 1 0
```

There are two islands :- one is colored in blue and other in orange.

Your Task:

You don't need to read or print anything. Your task is to complete the function **numIslands()** which takes the grid as an input parameter and returns the total number of islands.

Expected Time Complexity: $O(n*m)$

Expected Space Complexity: $O(n*m)$

Constraints:

$1 \leq n, m \leq 500$