

# VMSS Pre-Pre-Windsor P6 - InterNAV

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**Time limit:** 1.0s    **Memory limit:** 128M  
Python 3: 2.5s

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Henry Two had been working on a GPS system for the school itself, and after years of hard work, he realizes that what he had been making already exists. Therefore, he needs to make his better. Given an  $m$  by  $n$  grid, where each position is either a numbered room, an empty space, or a wall, determine which rooms Henry can go to. Henry starts at room 1 and can only move up, down, left, or right.

## Input Specification

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The first line will contain the integer  $m$ , representing the width of the map of the school ( $2 < m < 1\,000$ ).

The second line will contain the integer  $n$ , representing the height of the map of the school ( $2 < n < 1\,000$ ).

The next  $n$  lines will each contain  $m$  characters, where `#` represents a wall, `0` represents an empty space, and a number will represent a room. There will be no more than 9 rooms.

## Output Specification

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Output the list of room numbers Henry is able to travel to (including room 1), separated by spaces and sorted in ascending order.

## Sample Input 1

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```
5
4
03002
0000#
1###4
#5000
```

## Sample Output 1

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```
1 2 3
```

## Sample Input 2

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7  
8  
000#20#  
10000#3  
000000#  
0007000  
0000000  
##000#0  
04#0#50  
60#0000

## Sample Output 2

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1 2 5 7