# CS 312: Artificial Intelligence Laboratory

## Task 1: Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample Input 1 (BFS):**  0   |  | | --- | | +--+--+--+--+  | | | + + + + + | | | +--+--+ +--+ | | | + + +--+ + | | \* +--+--+--+--+ | | **Sample Output 1:**  42  24  0--+--+--+--+ 00 |0000 | | +0 +0 +0 + + |0000 |0 | +--+--+0 +--+ | |0000 | + + +--+0 + | | 000 +--+--+--+--+ |  |
| **Sample Input 2 (DFS):**  1   |  | | --- | | +--+--+--+--+  | | | + + + + + | | | +--+--+ +--+ | | | + + +--+ + | | \* +--+--+--+--+ | | **Sample Output 2:**  24  24  0--+--+--+--+  00 |0000 | |  +0 +0 +0 + +  |0000 |0 |  +--+--+0 +--+  | |0000 |  + + +--+0 +  | | 000  +--+--+--+--+ | **Sample Output 2 (Alternate)**  46  26  0--+--+--+--+  000| 0000| |  + 0+ 0+ 0+ +  | 0000|00 |  +--+--+0 +--+  | |00000|  + + +--+ 0+  | | 00  +--+--+--+--+ |
| **Sample Input 3 (DFID):**  2   |  | | --- | | +--+--+--+--+  | | | + + + + + | | | +--+--+ +--+ | | | + + +--+ + | | \* +--+--+--+--+ | | **Sample Output 3:**  621  24  0--+--+--+--+  00 |0000 | |  +0 +0 +0 + +  |0000 |0 |  +--+--+0 +--+  | |0000 |  + + +--+0 +  | | 000  +--+--+--+--+ | **Sample Output 3 (Alternate)**  862  24  0--+--+--+--+  000| 0000| |  + 0+ 0+ 0+ +  | 0000| 0 |  +--+--+ 0+--+  | | 0000|  + + +--+ 0+  | | 00  +--+--+--+--+ |

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample Input 4 (BFS):**  0   |  | | --- | | +--+--+--+--+--+  | | |  +--+ + + + +  | | | |  + +--+ +--+ +  | | | |  + +--+--+--+ +  | | |  + +--+ + + +  | | | \*  +--+--+--+--+--+ | | **Sample Output 4:**  59  33  0--+--+--+--+--+  00000 | | |  +--+0 + + + +  | 000 | | |  + 0+--+ +--+ +  | 0| | |  + 0+--+--+--+ +  | 000000 |0000 |  + +--+0 +0 +0 +  | |0000 |000  +--+--+--+--+--+ |  |
| **Sample Input 5 (DFS):**  1   |  | | --- | | +--+--+--+--+--+  | | |  +--+ + + + +  | | | |  + +--+ +--+ +  | | | |  + +--+--+--+ +  | | |  + +--+ + + +  | | | \*  +--+--+--+--+--+ | | **Sample Output 5:**  41  33  0--+--+--+--+--+  00000 | | |  +--+0 + + + +  | 000 | | |  + 0+--+ +--+ +  | 0| | |  + 0+--+--+--+ +  | 000000 |0000 |  + +--+0 +0 +0 +  | |0000 |000  +--+--+--+--+--+ | **Sample Output 5 (Alternate)**  82  37  0--+--+--+--+--+  000000| | |  +--+ 0+ + + +  |00000| | |  +0 +--+ +--+ +  |00| | |  + 0+--+--+--+ +  | 0000000| 0000|  + +--+ 0+ 0+ 0+  | | 0000| 00  +--+--+--+--+--+ |
| **Sample Input 6 (DFID):**  2   |  | | --- | | +--+--+--+--+--+  | | |  +--+ + + + +  | | | |  + +--+ +--+ +  | | | |  + +--+--+--+ +  | | |  + +--+ + + +  | | | \*  +--+--+--+--+--+ | | **Sample Output 6:**  1358  33  0--+--+--+--+--+  00000 | | |  +--+0 + + + +  | 000 | | |  + 0+--+ +--+ +  | 0| | |  + 0+--+--+--+ +  | 000000 |0000 |  + +--+0 +0 +0 +  | |0000 |000  +--+--+--+--+--+ | **Sample Output 6 (Alternate)**  2172  33  0--+--+--+--+--+  00000 | | |  +--+0 + + + +  | 000 | | |  + 0+--+ +--+ +  | 0| | |  + 0+--+--+--+ +  | 0000000| 0000|  + +--+ 0+ 0+ 0+  | | 0000| 00  +--+--+--+--+--+ |

To test your solutions, you can generate more mazes from [here](http://www.delorie.com/game-room/mazes/genmaze.cgi). (Put the type of maze as text.)

**Note:** For submission, use this preference order for adding neighbours:

DOWN > UP > RIGHT > LEFT.

**Deadline:** 11:55 PM, 15 Jan 2021

**For Reference:**

State-space search: https[://youtu.be/52nI2IPyOu8](https://youtu.be/52nI2IPyOu8)

BFS and DFS: <https://youtu.be/TMLyKcBtHuo>

DFID: <https://youtu.be/xIEe0yK1VL4>