Assignment 02 (Due: Friday, October 9, 2020, 11 : 59 : 00PM Central Time)

CSCE 322

1 Instructions

In this assignment, you will be required to write JavaScript functions that simplify playing of the Boss Puzzle.

1.1 Data File Specification

An example of properly formatted files is shown in Figure 1. The first file encodes a list of moves: (u)p, (d)own, (l)eft, and (r)ight. The second file encodes the rows of the puzzle. You may assume that the puzzle is valid.

```
u,u,u,u

21,31,37,17,4
43,39,41,35,14
34,11,38,6,29
25,28,10,13,20
36,24,23,26,33
42,32,15,1,8
27,19,44,7,40
22,12,3,18,0
16,5,9,2,30
```

Figure 1: A properly formatted Boss Puzzle encoding

2 One Move

The first part (`oneMove` in the file `csce322hmwrk02prt01.js`) will take in one argument (the puzzle) and return a function that takes in one argument (u, d, l, or r), and returns the result of making a slide (in that direction) on the puzzle. If the move is not valid, the board is unchanged.

3 Many Moves

The second part (`manyMoves` in the file `csce322hmwrk02prt02.js`) will take in one argument (the puzzle) and return a function that takes in one argument (an array of u, d, l, and r values) and returns the result of making the sequence of slides. If a move in a sequence is not valid, the board will be unchanged for that move.

4 Solvable Puzzle (10% Extra Credit)

The third part (`puzzleSolvable` in the file `csce322hmwrk02prt03.js`) will take in one argument (the puzzle) and return `true` if the puzzle is solvable (according to this tutorial) and `false` otherwise.

5 Naming Conventions

Your files should follow the naming convention of
`csce322hmwrk02prt01.js`, `csce322hmwrk02prt02.js` and (maybe) `csce322hmwrk02prt03.js`.

5.1 `helpers.js`

A file named `helpers.js` has been provided with the functionality to read the `.bpf` files into numerical matrices. If a modified `helpers.js` file is not included with your submission, the default will be used in its place.

6 webgrader Note

Submissions will be tested with `node.js`, not the browser. `cse.unl.edu` is currently running version 8.17.0 of `node`.

7 Point Allocation

Item	Points
`csce322hmwrk02prt01.js`	
Test Cases	1×30
Code	10
Total	40
`csce322hmwrk02prt02.js`	
Test Cases	1×50
Code	10
Total	60
Total	100

8 External Resources

JavaScript Tutorial