Problem Specification File Documentation

The following will explain the contents and options of the Problem Specification File. Quotation marks are used to denote the text in the file. Quotes should not be found in the input file.

**Note: All input files should be contained in a folder titled “TextFiles” ; this folder should be located in the same directory as main.cpp**

Line 1 – The Search Strategy

* “DFS” – Depth-First Search
* “BFS” – Breadth-First Search // Decide UCS after she emails back
* “A\*” – A\* Search
* “GBFS” – Greedy Best-First Search
* “IDS” – Iterative Deepening Search
* “DLS” – Depth Limited Search
* “IDA\*” – Iterative Deepening A\* Search

Note: An input file for Heuristic must also be input when running the program if any of the following options is selected: GBFS, A\*, IDA\*

Line 2 – Depth Cutoff

* “0” – Used when Strategy is not DLS
* “(integer > 0)” – Used when strategy is DLS

Line 3 – The Exploration Cutoff

* “(integer > 0)” – represents the number of nodes to be expanded before the user is asked if they want the program to keep searching for the solution. If 0 is entered, no cutoff is used.
  + Note: some knowledge of the problem is recommended to choose an appropriate value.

Line 4 – Problem

* “MCP” - Missionaries and Cannibals Puzzle
* “Pegs” – Peg Solitaire game.

Line 5 – Problem Modifications

This is a problem specific option. Only one format will work for each problem. Formats are as follows.

* “(integer 1-6)” – Board shape for Peg Solitaire
  + These board shapes are synonymous with the description of this game found on [Wikipedia](https://en.wikipedia.org/wiki/File:Peg_Solitaire_game_board_shapes.svg)
  + Also know that your initial and final state input files must match up exactly to the board game shape you pick.
* Do not enter any value on this line for the Missionaries and Cannibals Puzzle

Example files are listed below. Bold is used to denote the “standard” game state for each puzzle.

PegSpec1.txt

DFS

0

**0**

**Pegs**

**4**

MCPSpec1.txt

DFS

0

**0**

**MCP**

PegSpec2.txt

DLS

32

1000

Pegs

4

MCPSpec2.txt

A\*

0

1500

MCP

Initial State and Goal File Documentation

These files represent the data to be put into the