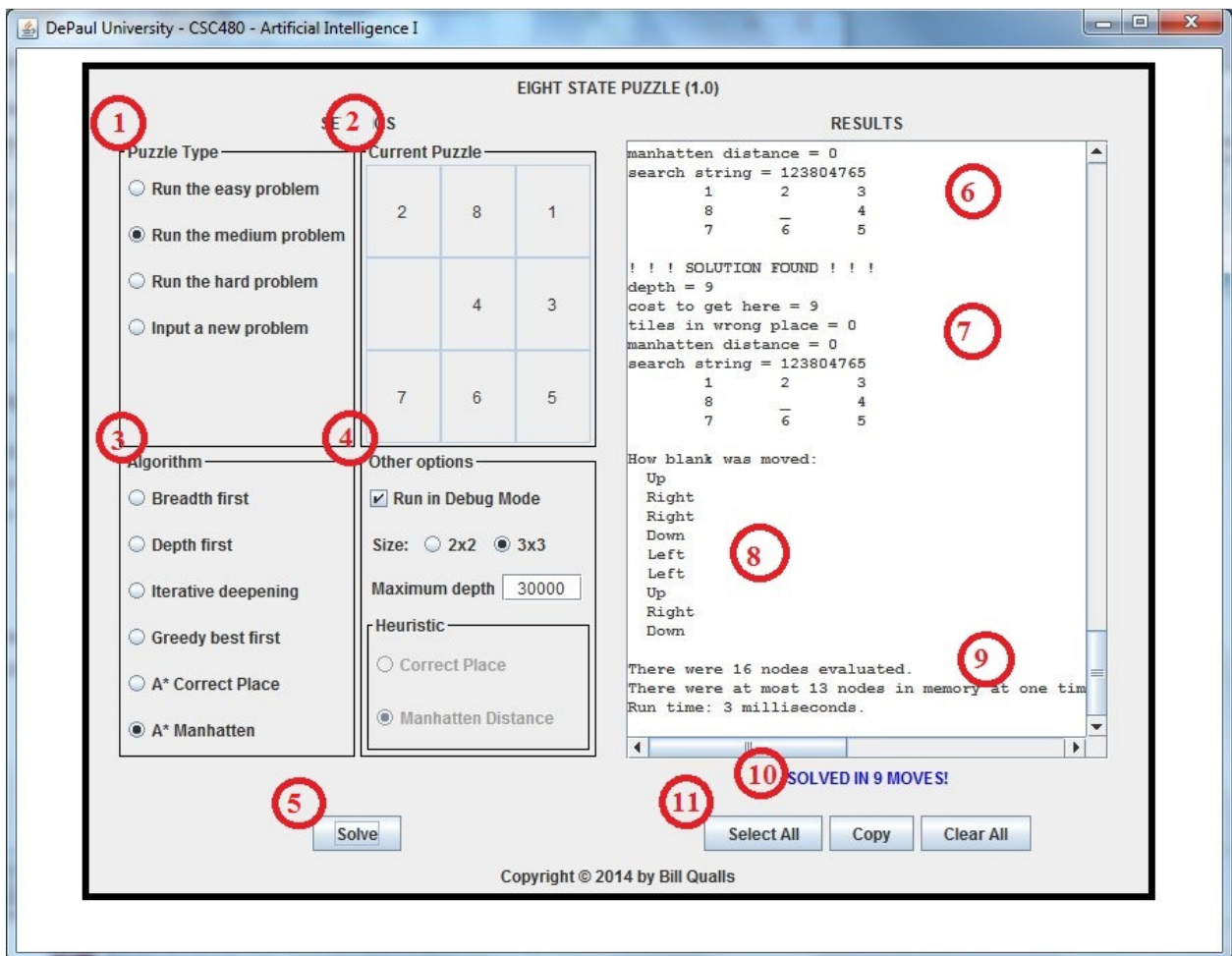


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Running the program

- Download or copy the jar file to your local machine.
- Navigate to the folder where you placed the jar.
- Try double-clicking on it: that might be all that is necessary.
- Otherwise, open a DOS command window and CD to the jar's folder.
- Type: `java -jar puzzle.jar`
- That should get it started.

About the puzzle



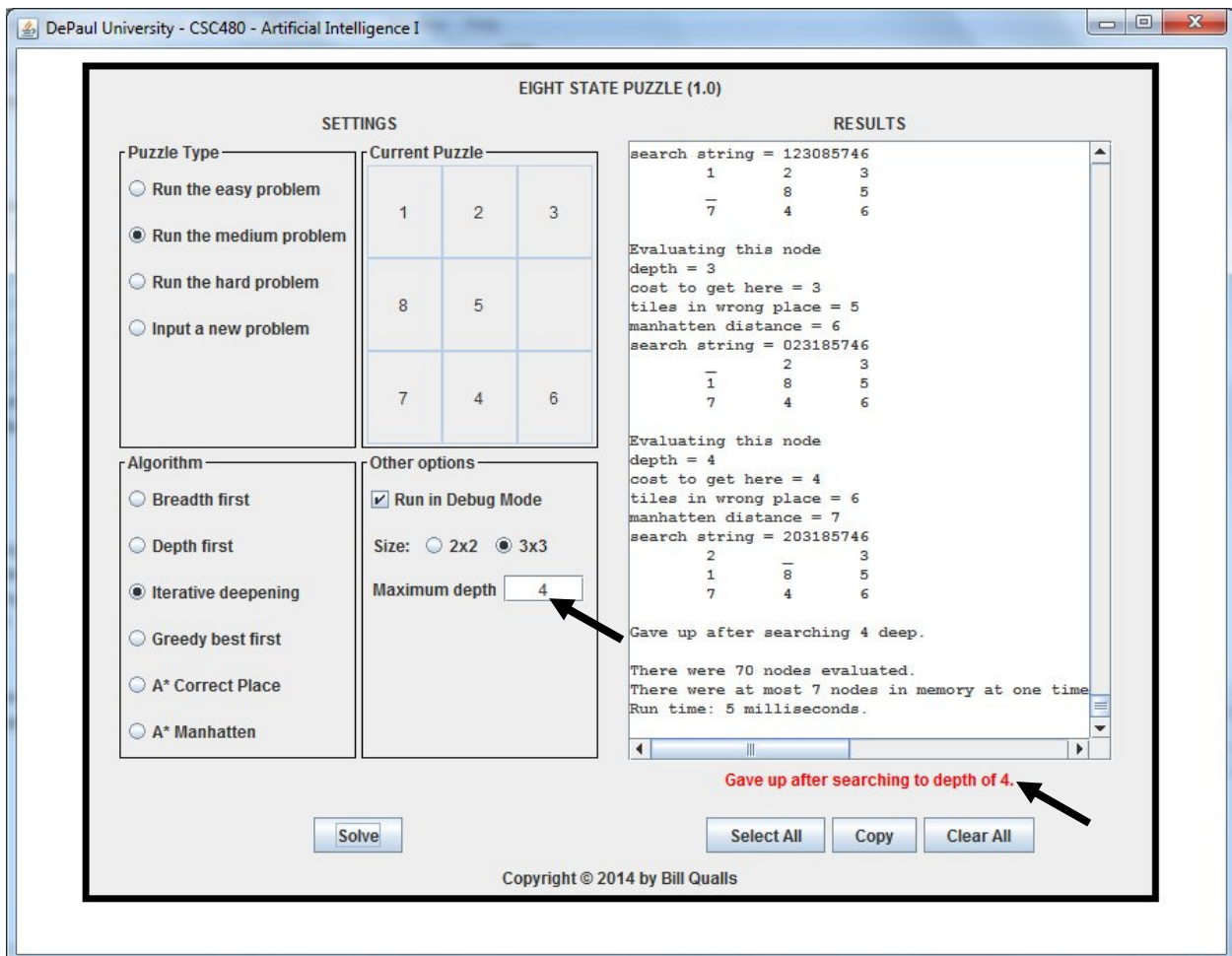
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1. Puzzle type - Choose from any of three pre-programmed puzzles or enter your own.
2. Current puzzle - Displays selected puzzle, and if you select "Input a new problem" it will be unprotected so that you may do so here.
3. Algorithm - Select one of six search algorithms to be used in solving the puzzle.
4. Other settings
 - a. Run in Debug mode - When checked it will display each evaluated Node in the Results box.
 - b. Size - dynamically change from 3x3 puzzle to 2x2 puzzle and back. (I found 2x2 useful in testing the program logic, especially "no solution found".)
 - c. Maximum depth - Maximum search depth. Keep this small if Run in Debug mode is selected.
 - d. Heuristic
 - i. Visible only when algorithm is Greedy Best First or one of the A* algorithms.
 - ii. Editable only when algorithm is Greedy Best First.
5. Solve button - Attempt to find the solution to the puzzle.
6. Results box
 - a. If Run in Debug mode, show every evaluated state
 - b. If not Run in Debug mode, show summary information only
7. Whenever a state is shown you will see
 - a. its depth
 - b. its cost to get here (currently same as depth)
 - c. the number of tiles in the wrong place
 - d. the Manhattan distance to the solution state
 - e. a search string which simplifies finding a particular state if the log is copied to an editor or word processor
 - f. an image of the state, with an underscore representing the blank spot
8. When a solution is found, the moves necessary to reach that solution will be shown. Note this is showing how the blank space was moved.
9. Some summary information appears at the bottom of each run.

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10. An easy to find summary of the solution status appears here.
11. Results box buttons
 - a. Select all - Select all of the text in the Results box
 - b. Copy - Copy the selected text to the clipboard
 - c. Clear the contents of the text in the Results box

This example shows using Iterative Deepening and having given up after 4 levels, as instructed. (This is one of my own puzzles, and the solution is at level five.)



(BQ-01/19/2014)