**COMP1206 MathDoku Instructions**

**Guide:** This document will help us run and use your application during marking. Please complete the sections below. You may want to include screenshots if this helps explain the functionality. For most sections, 1-2 sentences are probably sufficient.

If you did not implement a particular part, please write “not implemented” in the relevant section.

These instructions are not assessed directly, but they will help ensure that we do not miss any important features of your application.

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| **Installing and Running the Application (Part 1)**  *Copy and paste the contents of your README.txt file below.* |
| To run the program from a terminal on a Windows computer first change the directory to that containing the MathDoku.java, Cell.java and Cage.java files. Then export the path of the folder holding the javafx jars to a variable. You should write something like this:  set PATH\_TO\_FX=[path to javafx jar folder]  where [path to javafx jar folder] should be replaced with a path.  Next the program must be compiled using:  javac --module-path %PATH\_TO\_FX% --add-modules javafx.base,javafx.controls,javafx.fxml,javafx.graphics,javafx.media,javafx.swing,javafx.web MathDoku.java Cell.java Cage.java  Run the program using:  java --module-path %PATH\_TO\_FX% --add-modules javafx.base,javafx.controls,javafx.fxml,javafx.graphics,javafx.media,javafx.swing,javafx.web MathDoku.java  Please note that to enter a string input for a grid, you must expand the load alert and enter the details in the expandable dialog pane. |
| **Starting a Game (Optional – Part 1)**  *If any additional steps are needed to start a game, briefly describe them here.* |
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| **Cell Completion (Part 3)**  *Describe how to enter and clear cell values by keyboard and by mouse.* |
| By Keyboard:  To move between cells, use the arrow keys and tab key to get to the buttons. To enter cell values, use the numbers on your keyboard.  By Mouse:  To move between cells using the mouse move the cursor and to enter cell values using the mouse click on the cell. It will increment the value up to the largest value a grid can take and then be reset to blank if the cell is clicked again. |
| **Can your application handle - and ÷ cages with more than two cells? (Part 4)** |
| yes |
| **Mistake Detection (Part 4)**  *Describe how to enable mistake detection in your application.* |
| To show mistakes the board, you can press the show mistakes button with your mouse, or you can navigate to it using the tab and arrow keys if focus is on the grid and then press the space bar to select the button. |
| **Win Detection / Animation (Parts 4 & 8)**  *Describe how the application notifies the player when the game is won (including any animations you have implemented for Part 8).* |
| My program does not check if the values entered by the user are correct, but it does generate a winning animation when the complete button is pressed. |
| **Clearing (Part 5)**  *Describe how to clear the board.* |
| To clear the board, you can press the clear button with a mouse, or you can navigate to it using the tab and arrow keys if focus is on the grid and then press the space bar to select the clear button. |
| **Undo/Redo (Part 5)**  *Describe how to undo / redo actions.* |
| To undo or redo an action you can press the buttons navigating to them using the mouse or you can navigate to them using the tab key and arrow keys, if focus is initially on the grid. To select a button press the space bar. |
| **Loading Files (Part 6)**  *Describe how to load puzzles both from file and through text input. Also mention any limitations in what puzzles you can load (if any), e.g., up to a certain size if smaller than 8x8.* |
| From File:  When the program is loaded there is an alert prompting the user to select a grid from a drop-down menu. At the bottom of the menu is a load option. Click on the load option and a file explorer will open up from which you will be able to select a file.  If a grid has already been selected and you would like to choose another then press the load button or traverse to it from the grid using the tab and arrow keys and the space bar to select it. This will show the alert shown at the start of the program from which you can load a file in the same way.  From Text:  When the program is run an alert will be displayed, on the alert there will be an expandable dialog pane arrow click on it and the pane will open up. Within this pane the text can be written and selecting the next button will allow the grid to be created. This is the same procedure when selecting the load button at the bottom of the interface that displays grids.  Limitations (optional): |
| **Font Sizes (Part 7)**  *Describe how to change font sizes* |
| To change font size, use the slider at the bottom of the interface that displays grids. Sliding to the right will increase font size and sliding to the left will reduce font size. The user can get to the slider by the mouse or by using the tab key twice and then the left arrow key. |
| **Solver (Part 9)**  *Describe how to solve a puzzle, how to get a hint and any limitations there might be (e.g., up to what size you can solve reliably and within <1 min). Also mention where we can find your code for solving the puzzle (which files and lines)?* |
| Solve puzzle:  To solve a puzzle press the solve button with a mouse or navigate to it by pressing the tab key twice, if focus is initially on the grid, and then the space bar to select it.  Get hint:  My program does not give hints.  Limitations (optional):  Files / lines for solver:  The methods involved in solving a grid are in the MathDoku.java file. The methods involved are: solver(), solve(), isInRow(), isInColumn() and correctCageTotal(). |
| **Random Game Generator (Part 10)**  *Describe how to generate a random game, including what options the player can select. Also specify where we can find your code for generating the puzzle (which files and lines)? Where in the code do you ensure there is only one solution (which file and lines)?* |
| Generate puzzle (including options):  My program does not randomly generate games.  Files / lines for generator:  My program does not randomly generate games.  File / lines to ensure there is only one solution:  My program does not randomly generate games. |
| **Additional Information (Optional)**  Any other information that may be useful for us to know. |
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