

COMP1206 Coursework: MathDoku

Mark Scheme

Functionality	Marks
Part One: A Skeleton GUI	
GUI can be compiled and run on a lab machine according to provided README.txt file	1
All controls are present: <ul style="list-style-type: none"> - Undo / redo actions - Clear the board - Load a game from file - Load a game from text input - Option to show mistakes on grid 	1
There is a designated area for the grid	1
The UI is resizable	1
Part Two: The Grid	
There is a square grid with distinct cells	1
Cages are highlighted with thick borders	1
One label is displayed per cage	1
The grid resizes correctly with the entire application to fill the available space	1
Part Three: Cell Completion	
Values can be entered into individual cells via keyboard	1
Values can be deleted again via keyboard	1
Values can be entered into individual cells via mouse	1
Values can be deleted again via mouse	1
Part Four: Win and Mistake Detection	
Win condition can be detected and an appropriate message is shown	2
Mistakes in rows and columns are highlighted when the appropriate option is selected (entire row / column is highlighted)	1
Mistakes in cages are highlighted when the appropriate option is selected (entire cage is highlighted)	1
Application can handle cages with the - and ÷ operators that consist of more than 2 cells	1
Part Five: Clearing, Undo, Redo	
Clearing the board works and a confirmation dialog is shown first	1
Undo works	1
Redo works	1
Undo / redo buttons are disabled / enabled appropriately	1
Part Six: Loading Files	
Loading puzzle works	3
There are two ways of loading puzzles (both from file or from text input)	1
Application can identify puzzles in the wrong input format and notify the user	3
Part Seven: Font Sizes	
Font for grid can be adjusted to one of at least three sizes	1

Text remains centred for cell values and appropriately aligned for cage targets when font size is changed	1
Part Eight: Winning Animation	
There is some animation on detecting a win	2
Part Nine: Solver	
Application can solve puzzles	3
Hint functionality works	1
Part Ten: Random Game Generator	
Application can generate random puzzles	2
Generated puzzles can be solved	1
Generated puzzles have exactly one solution	1