Program Name: SudokuInterface

|  |  |  |
| --- | --- | --- |
| Scenario | *Program Input* | ***Expected output*** |
| Valid File | Sudoku.txt | Type Q at any time to exit the game, S to save the game or U to undo your last move. |
| File not found | 123 | The file was not found, please try again. |
| Invalid File Format | Sudoku.txt | The file format is invalid, please try again. |
| Solved or unsolvable file | Sudoku.txt | The puzzle is already solved, please try another file. |
| Quit | Q | See you next Time! |
| Undo | U | The last move was successfully undone |
| Save | S | The game was successfully saved |
| Undo twice | U  U | The last move was successfully undone  Unable to undo last move |
| Correct input | 1  3  1 | [1,3] has been set to 1 |
| Invalid Character | T | Input must be either a number between 1 and 9 or a command character (q, s, u) |
| More than 1 character | 123 | Input must be one single character |
| Out of range | 0 | The number is out of range, please try again. |
| Illegal Move  (row) | 1  3  5 | 5 is already present on the same row, please try again |
| Illegal Move  (col) | 1  3  5 | 5 is already present on the same column, please try again |
| Illegal Move  (3x3 grid) | 1  3  5 | 5 is already present on the same 3x3 grid, please try again |
| Number already on square | 1  2  3 | There is already a number there. |
| Win | 1  3  1 | Congratulations, you have completed the puzzle |
| Lose | 1  3  1 | Sorry, you have failed |

Program Name: SudokuFrame

|  |  |  |
| --- | --- | --- |
| Scenario | *Program Input* | ***Expected output*** |
| Valid File | Sudoku.txt | The game frame appears |
| File not found | 123 | Error pop-up: The file was not found, please try again. |
| Invalid File Format | Sudoku.txt | Error pop-up: The file format is invalid, please try again. |
| Solved or unsolvable file | Sudoku.txt | Error pop-up: The puzzle is already solved, please try another file. |
| Quit | Quit menu Item | The frame closes |
| Undo | Undo menu Item or Undo button | Information pop-up: The last move was successfully undone |
| Save | Save menu Item or Save Button | Information pop-up: The game was successfully saved |
| Undo twice or before entering a move | Undo button  Undo button | Information pop-up: The last move was successfully undone  Error pop-up: Unable to undo last move |
| Correct input | 1 | The number that was just entered on the grid becomes not editable |
| Invalid Input | T | Error pop-up: Input must be either a number between 1 and 9 |
| Illegal Move  (row) | 5 | Error pop-up: 5 is already present on the same row, please try again |
| Illegal Move  (col) | 5 | Error pop-up: 5 is already present on the same column, please try again |
| Illegal Move  (3x3 grid) | 5 | Error pop-up: 5 is already present on the same 3x3 grid, please try again |
| Win | 1 | Information pop-up: Congratulations, you have completed the puzzle |
| Lose | 1 | Information pop-up: Sorry, you have failed |

Program Name: Sudoku

|  |  |  |
| --- | --- | --- |
| Scenario | *File Input* | ***Expected output*** |
| Valid File | 5~3~\*~\*~7~\*~\*~\*~\*~  6~\*~\*~1~9~5~\*~\*~\*~  \*~9~8~\*~\*~\*~\*~6~\*~  8~\*~\*~\*~6~\*~\*~\*~3~  4~\*~\*~8~\*~3~\*~\*~1~  7~\*~\*~\*~2~\*~\*~\*~6~  \*~6~\*~\*~\*~\*~2~8~\*~  \*~\*~\*~4~1~9~\*~\*~5~  \*~\*~\*~\*~8~\*~\*~7~9~ | Returns 0 (valid code) |
| File with incorrect characters | 5~3~\*~@~7~\*~\*~\*~\*~ | Returns 1 (file invalid code) |
| Incorrect number of elements per line | 5~3~7~\*~\*~\*~\*~ | Returns 1 (file invalid code) |
| Incorrect number of lines | 5~3~\*~3~7~\*~\*~\*~\*~  5~3~\*~3~7~\*~\*~\*~\*~  5~3~\*~3~7~\*~\*~\*~\*~  5~3~\*~3~7~\*~\*~\*~\*~  5~3~\*~3~7~\*~\*~\*~\*~ | Returns 1 (file invalid code) |