CSCI 3901 Assignment 2(Problem 1)

Name – Yogish Honnadevipura Gopalakrishna(B00928029)

Test Cases

Public Sudoku(int size)

Input validations:

- size is zero
- size is negative
- size is other than “int” type
- size is null

Boundary cases:

- size is zero
- size is one
- size is max value possible

Control flow:

- size is between 1 to n2

Data flow:

- Call Sudoku at the beginning
- Call Sudoku again but with different inputs

Public boolean setPossibleValues(String values)

Input validations:

- Values is null
- Values is empty string
- Values not in the range of 1 to n2
- Passing same values again
- Values not of String type

Boundary cases:

- Values is 1
- Values is n2
- Values is 0
- Values is n2+1

Control flow:

- passing range in 1 to n2

Data flow:

- Invoke the method before Sudoku
- Invoke the method multiple times

Public Boolean setCellValue(int x, int y, char letter)

Input validations:

- x and y are negative
- x and y are zero
- x and y are not in the range of 1 to n2
- x and y are not int type
- letter is null
- letter is empty string
- letter is non-integer string
- letter not in the range of 1 to n2

Boundary cases:

- x and y are 1
- x and y are n2
- letter is 1
- letter is n2

Control flow:

- x and y are in the range of 1 to n2
- Passing existing letter values in the row, column or in the grid
- Input insufficient
- Input not provided
- Invalid input

Data flow:

- Invoke the method before sudoku
- Invoke the method before setPossibleValues
- Invoke the method with same inputs for x and y but different for letter

Public Boolean Solve()

Control flow:

- Grid with one multiple solutions
- Unsolvable grid

Data flow:

- Calling solve multiple times
- Calling Solve before setCellValue
- Calling Solve before setPossibleValues
- Calling Solve before Sudoku

Public String toPrintString(char emptyCellLetter)

Input validations:

- emptyCellLetter is null
- emptyCellLetter is empty
- emptyCellLetter is non-integer char
- emptyCellLetter is not char type

Boundary cases:

- emptyCellLetter is 1
- emptyCellLetter is 0
- emptyCellLetter is n2
- emptyCellLetter is n2+1

Control flow:

- emptyCellLetter is in the range of 1 to n2
- emptyCellLetter is not in the range of 1 to n2

Data flow:

- Call the method before solve
- Call the method before sudoku
- Call the method before setPossibleValues and setCellValue