

Test Cases : Problem 1

Input Validation

- boolean loadPuzzle(BufferedReader stream):
 - Passing stream as “null”. Return False.
 - Passing an empty file. Return False.
 - File contain some data that are not enough to solve the puzzle. Return True.
 - File contain enough data to solve the puzzle. Return True.
 - File contain data that are separated with tab space or single space. Return True.
 - File contain data that are not separated by space. Return True.

Boundary Cases

- boolean loadPuzzle(BufferedReader stream):
 - Passing a file that does not exist. Return False.
 - Passing a file which contains data that can create puzzle of 25X25. Return True.
 - Passing a file which contains data that can create puzzle of 1X1. Return True.
- boolean readyToSolve():
 - Contains no data. Return False.
 - Contains operators that are not acceptable. Return False. For example, if there is %(Mod) as operator.
 - Contain input, where each character is not an alphabet. Return False. For example, characters are digits. 1 2 3.
 - Does not contain any operators. Return False.
 - Contain special characters as operators. Return False.
 - Providing an operator for a character which is not present in the grid. Return False.
 - Character present in the group whose operator is not provided. Return False.
- String print():
 - Print an empty puzzle. Output blank.
 - Print a puzzle of 1X1 size. Output matrix.
 - Print a puzzle of bigger size. Output matrix.

- `int choices()`:
 - Choices returned in an empty puzzle. Return 0.

Control Flow

- `boolean readyToSolve()`:
 - Containing all the needed information to solve the puzzle. Return True.
 - Containing all the information to solve 4X4 puzzle. Return True.

Data Flow

- Calling choices method before loadPuzzle method. Return 0.
- Calling choices method before solve method. Return 0.
- Calling choices method before readyToSolve method. Return 0.
- Calling solve method before loadPuzzle method. Return False.
- Calling solve method before readyToSolve method. Return False.
- Calling solve method after loadPuzzle, readyToSolve method. Return True if it can be solved or False.
- Calling solve method more than once. Return True.
- Calling print method before loadPuzzle, readyToSolve method. Return blank string.
- Calling readyToSolve method before loadPuzzle. Return False.
- Firstly, calling loadPuzzle, readyToSolve, solve and then calling print and choices method. Return True for all the methods if satisfy the conditions and will print the solution.