Requirements

Functional

- The system will read Sudoku files from five text files (i.e, puzzle1.txt)
- The system will interpret '_' or '0' as blank cells and 1-9 as clues.
- The system will print the puzzle file name and original puzzle layout before solving
- The system will use a backtracking depth-first solving algorithm to attempt to solve the puzzle
- The system will print all valid solutions to the puzzle, and if no valid solutions are found, it will print "No solutions found
- The system will solve the puzzle based on rules for a 9x9 Sudoku grid

Non-Functional

- The program uses object-oriented design
- The program uses recursion and backtracking as the primary solving condition

Use Case

Actor: Student or user
Preconditions: Puzzle text files are in the working directory
Main Flow:
1. User runs the program
2. Prompted for which puzzle to choose
3. File is loaded and parsed through
4. If a solution is found, it will print the original grid and the solution
5. If no solution is found, the message will be printed