For my project I decided to make a Sudoku game prototype. It’s a prototype because as of the moment it does not generate different grids. I generated one already solved puzzle and hardcoded it into the grid, only removing a few cells for the player to fill. A future potential feature would be change of difficulty, where more cells are empty and it is more challenging to solve, but for now for demo purposes it is just a few. I used Java AWT, Java Swing, Java AWT Color and Font and Java SWING JTextField for the GUI of the application. As well as Java AWT Event for handling the events created via the rest of the AWT components I used. Furthermore, I customized the JTextField component for the sake of making it into a grid that looks the way I wish instead of the pane that it gives by default. I also used JPanel and JFrame to hold the GameBoardPanel.

The classes I created have the following functions:

Class CellStatus is an enum class that holds four enums which correspond to the status of the cells – basically whether the player has input a digit inside, it has already been given, it is wrong or correct.

Class Cell is a class where I have modified the JTextField into a grid and colored it to my liking, and it also contains the method by which cells will paint themselves according to their status.

In the class Puzzle I declare the grid, check if the number is given in the cell and the code that follows is basically the already solved randomly generated Sudoku and how many of its cells I have decided to show. Cells I want to keep are marked with true and the ones I want empty and for the player to guess are marked with false. For the sake of the demo I randomly chose where to put false.

The class GameBoardPanel consists of further layout edits and action listeners, as well as initialization of the puzzle and a function which checks if the puzzle is solved.

Lastly, in the main class SudokuMain, where I make some final work on the GUI, I add a button that, as stated in the file, does nothing for now, and run the program.

For more details about every block of code, I have commented the entire code. I also used NetBeans to code this project.

I used tutorials by FreeCodeCamp and www3 as guidelines throughout the process.