Game 2048

Follow the instructions in the file. This instruction might not be specific enough to cover all cases, feel free to do research on game 2048 to get more familiar with the rules and how you can visualize it. You will need to push your final code into your github account for grading, so please share the link in the doc to the drill platform.

You need to visualize the game 2048 in this project, which will be a 4 * 4 grid(matrix), initially there would be 2 random cells with a number 2 in it, the rest are empty(try to think about how to represent empty cells), and for each round, you generate a new random 2 for an empty cell. Users can press w, s, a, d to move up, down, left, or right. When users press any key, the elements of the cell move in that direction such that if any two numbers are at the same row when you move horizontally, or in the same column when you move vertically they get added up in that direction and fill itself with that number, the rest cells go empty again. If no numbers are the same and next to each other with one move, all numbers will move to the same direction to fill all the space at that row/column. If you reach 2048, you win the game, and can restart the game or end. If you cannot make further moves, end the game or restart the game.

In this project, you need to use exception handling to handle all invalid inputs. You need to include two files, the first file is the main file where you run all the codes and will import all functions from the second file, and the second python file contains all the functions you need. You need to create your own github account and push your code into your account, and leave your github account as a comment for HW submission.

Good luck and have fun.