

5COSC023W - Tutorial 4 Exercises

As part of this tutorial for this week, you should complete **ALL** the tasks described in the following specification: (**make sure that you ask questions to your tutor for anything that you do not understand or if you are stuck at any point**):

The Memory Game

You will be developing a game that help users to improve their memory.

The game is based on a grid. A grid of empty squares is presented to the user for 5 seconds. Following this, some random cells of the grid will be highlighted as green for 5 seconds. The aim of the game is that the user memorises these green cells and be able to recall them.

1. A random empty grid is presented to the user. The size of the grid will be selected randomly and its size will be 3×3 , 3×4 , 4×3 , 5×5 , 4×5 , or 5×4 .
After 5 seconds, a random number of cells (4, 5, or 6 cells) will be presented to the user highlighted as green. These should be displayed for 5 seconds and after this time the grid will display as empty again.
2. Extend the app, so that the user clicks on each of the buttons that were presented to them as green earlier. Each correct guess (click) will highlight the cell as green. Each incorrect guess will highlight the cell as red with an X letter displayed on the cell itself.
3. Extend the app so that the user can click only for a limited number of times. The limit of how many clicks the user can do, is the same as the number of green cells presented earlier. After the maximum number of tries is attempted, the game restarts itself and it displays a new set of 4, 5 or 6 green cells that the user needs to memorise. The whole process is repeated again.
4. Extend the app so that it keeps a score of how many correct cells were guessed by the user and it displays the score in the top right corner of the activity. For example, if during the app, the user was presented in total with 27 green cells that were supposed to be memorised and the user guessed 21, then the score 21/27 should be displayed on the top right corner of the activity.
5. Extend the app so that it updates the score of the game after each click by the user. You might have already implemented this.