Client Engineer Test

You should be using the latest version of Unity 2019

You are given

- A gem sprite sheet (Gems_Sheet.png)
- A cell background image (Cell_Background.png)
- A starting distribution of gem weights
    - Blue: 1.0
    - Yellow: 1.0
    - Red: 2.0
    - Purple: 0.5
    - Green: 0.1

Game Rules

- Any three of a given gem color in a row would create a match
- Any four of a given gem color in a row would create a small bomb
- Any five of a given gem color in a row would create a large bomb

You task is to build a non-interactive match 3 scene with the following

- Cells
    - Should be visible in the scene using the supplied cell background sprite
    - The board should support a variable number of cells (width and height)
        - There must be some way to easily modify the width and height of the board, either in the scene or through an editor control
- Gems
    - Should be visible using the supplied sprite sheet
    - Should appear centered in the cells
    - Should be added to the board using the supplied weighted distribution
        - There must be some way to easily modify the gem weights, either in the scene or through an editor control
- Validation
    - The board should never be generated with 3 or more of the same gem in a row (no matches already made on the board)
    - The board should always contain at least 1 possible move
    - Write a unit test to prove that this is true for n tests.
- There must be a button or keyboard key that can be pressed to regenerate the board

You must also determine the **best** and **second best** moves available to the player, and display this data. Moves that would create larger bombs should be considered “better”. Bombs to not need to appear on the board, only be used for best move calculations.

The Unity project containing the completed test should be packaged in a zip file.