# Object Oriented Software Development

Project-06

## Introduction:

The bug we found out during the testing was the function to assign a new tile to the player. Initially we were picking a random number between 0 and 107 (because the board has 108 tiles). We found the row and column number by dividing the number by 12 and 9. But the problem we found during testing was if more tiles were placed on the board the function took almost forever to give the next tile and it got identified as infinite recursion by the system.

## Fixes:

The fix we implemented involved a fundamental change in our approach. Instead of selecting a random number from the entire range of tiles and then attempting to allocate a corresponding tile, we've adopted a more systematic strategy. We now maintain a list of available tiles, comprising only those that are valid for placement on the board. When it comes to selecting a tile, we generate a random number within the range of indices corresponding to the valid tiles list.

This adjustment ensures that each random selection will yield a valid tile. By limiting our selection to only those tiles that can be placed on the board, we effectively eliminate the possibility of encountering invalid choices. Consequently, we can confidently assert that the bug causing erroneous tile placements has been rectified.

To validate the robustness of our solution, we've introduced stress tests that simulate scenarios where the availability of suitable tiles for placement is severely constrained. These tests serve to challenge the system by placing it under conditions where the selection of available tiles becomes particularly challenging. Through this rigorous testing process, we can ensure that our revised approach can consistently deliver accurate tile selections, regardless of the complexity of the scenario.