## WRITE UP

## **Objective:**

Develop a smart 2048 AI agent using Expectimax and heuristics to maximize score and reach high-value tiles efficiently.

#### **MinMax Agent:**



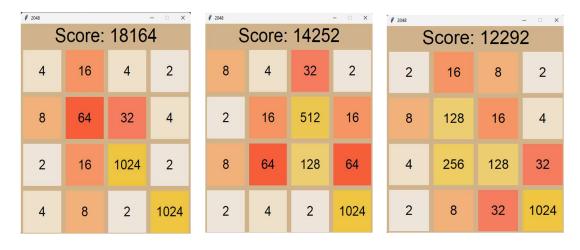
# **MyAgent(Version 1):**

An enhanced version of the MinMax agent, this updated MyAgent uses Expectimax with a refined heuristic focusing on corner anchoring, empty tiles, snake order, and monotonic rows for better 2048 gameplay.

**Heuristic improved**: From just score to a detailed function considering empty tiles, corner anchoring, snake pattern, monotonicity, and tile disruption.

**Move ordering added**: Prioritizes moves (D > L > U > R) to help with tile positioning.

minPlayer changed: From minimization to expectimax, using weighted average of outcomes.



### MinMax vs MyAgent (v1) Summary:

MyAgent improves MinMax by using Expectimax, adds smart move ordering , and a stronger heuristic focusing on empty tiles, corners, snake pattern, and monotonicity.

**Result**: Higher scores, better tile control, and more consistent 1024+ tiles.