

Bomberman Game README

Team Members

- Elena Hu - Chengyu Yu

Changes

Gamestate Field Modification

Removed the `boom-cor` field from the `gamestate` structure. This change was made after realizing that handling the countdown (from 2 to 0) for bomb explosions directly within the `layout` field simplifies the implementation. Retaining `boom-cor` to pass explosion ranges introduced bugs, which were resolved by this adjustment.

Additionally, since the explosion effects are now directly updated in the `layout`, we adjusted the bomb countdown settings to start at 3 seconds and explode at 0 seconds, instead of the previous setup starting at 5 seconds, exploding at 2 seconds, and ending at 0 seconds.

Chained Explosions

We identified an issue in the previous implementation of the `boom` function, which failed to recursively compute chained explosions correctly. The function was rewritten to ensure that all chained explosions are properly handled. For example, a bomb at coordinate (0,0) cannot directly trigger a bomb at (0,4), but it can trigger a bomb at (0,2), which subsequently triggers the bomb at (0,4). The new implementation ensures that all affected bombs explode simultaneously through recursive propagation.

Updated Symbol System

The symbol system was updated to provide a clearer representation of the game state: - ****Single-letter symbols****: Represent cells without players. For example: - 'W: Walkable cell. - 'I: Indestructible wall. - 'D: Destructible wall. - ****Three-letter symbols****: Represent cells occupied by players. The rules are: - The first letter indicates the cell type (e.g., W, B for bombs). - The second letter indicates the player (1 for Player 1, 2 for Player 2). - The third letter indicates the player's current direction (U, D, L, R). - Example: 'W1L means Player 1 is on a walkable cell facing left. - ****Two-letter symbols****: Always start with 'E and represent the explosion effect's countdown timer. - Example: 'E2 indicates the explosion effect will last for 2 more ticks.

This system simplifies state management and improves the consistency of symbol updates during gameplay.