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CMPU 203

game1 Justification

**Introduction:**

The assignment was largely open, with 6 requirements:

1. A field of play where blocks move
2. A set of "live" blocks that are player controlled. (This "set" may contain one block.)
3. A set of "dead" blocks that are no longer player controlled.
4. A scoring system
5. A win or fail state
6. A control mechanism

So for my game the field of play where the blocks move is a 7x7 grid, the player controls one block that can only move horizontally in the bottom row of the field of play. The dead blocks are obstacles that spawn randomly in the top row and slowly fall straight down. The scoring system is such that whenever an enemy block would move off the grid it instead is destroyed and the score increments by 1. The fail state is when an enemy block and the player block would collide. The player can control their object using the left and right arrow keys to move left and right. The project uses the GameWorlds library that handles graphics and player input.

**Broad View of Code Architecture:**

The first building block of the game is the grid like architecture, which is represented in data by an array of data structures called DataStructs which each contain 4 ints: x, y, key, & delay. X and Y represent the DataStruct’s x and y coordinates on the world’s grid, the key defines what type of object occupies the space, either a 0, representing a blank space, a 1, representing the obstacle objects, or a 2, the player object.

The GameWorlds system determines much of game1’s code since it is the engine which handles graphics, time, and player input. The GameWorld model is based on the World class which has several methods.