Level Class Documentation

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Global Summary: Level.cs defines a level of a console game with players, enemies, coins, a play area, and its own music

External dependencies: Player class, GameArea class, Coin class, Enemy class.

Backing fields/Properties

Private SoundPlayer \_music = new SoundPlayer() (get/set): The music player for the level.

Private Random \_rnd (get/set): The random number generator used for generating coordinates.

Private Player \_player1 (get/set): The player that will be used in the level.

Private GameArea \_area (get/set): The area that the level takes place in graphically.

Private Coin[] \_coins (get/set): The array of coins that are placed around the level’s play area.

Private Enemy[] \_enemies (get/set): The array of enemies that are moving around the screen in waves.

Private int \_difficulty (get/set): The amount of times the game loop needs to run before moving enemies.

Public constants:

Public const int DEFAULT\_NUMBER\_OF\_COINS

Public const int DEFAULT\_NUMBER\_OF\_ENEMIES

Public const int DEFAULT\_DIFFICULTY

Public const int DEFAULT\_SOUNDLOCATION: Specifies a default file path for the music

Constructors

Default() constructor summary: Takes no arguments. Initializes Rnd, Player1, and Area with their default constructors. Coins and Enemies are initialized using their initializer method (GenerateCoinArray, GetArrayOfEnemies) overloads that use the default contructor for both objects. Difficulty and Music.SoundLocation are defined using their public constants.

5-Parameter constructor/Simple editor constructor(int width\_, int height\_, int numberOfCoins\_, int numberOfEnemies\_, int difficulty\_) summary: Initializes Rnd and Player1 with their default constructors, initializes Area with its dual-parameter/simple editor constructor (see GameArea.cs). Generates the number of coins and enemies based on the parameters provided (both using their initializer overloads that use default constructors for each object). Difficulty is set using the argument provided and Music.SoundLocation is set to its default value. Used only with Simple Editor Mode in the Custom Level Editor

23-Parameter constructor/Advanced editor constructor (char playerChar\_, int playerStartingLives\_, ConsoleColor playerForeColor\_, ConsoleColor playerBackColor\_, char screengrassChar\_, char borderChar\_, ConsoleColor screengrassForeColor\_, ConsoleColor screengrassBackColor\_, ConsoleColor borderForeColor\_, ConsoleColor borderBackColor\_, int width\_, int height\_, int borderWidth\_, char coinChar\_, ConsoleColor coinForeColor\_, ConsoleColor coinBackColor\_, int numberOfCoins, int numberOfEnemies\_, char enemyChar\_, ConsoleColor enemyForeColor\_, ConsoleColor enemyBackColor\_, int difficulty\_, string soundLocation\_) summary: Initializes Rnd with its default constructor. Initializes Player1 and Area using their Advanced Editor Constructors. Initializes Coins and Enemies using their initializer overloads that use their advanced editor constructors as well. Difficulty and Music.SoundLocation are set to their provided parameters.

External Methods

Public static Level[] GenerateLevels() summary: Takes no arguments, returns an array of Levels based on the parameters provided in the LevelBuilder struct (see LevelBuilder.cs).