Coin Class Documentation

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Global Summary: Class defines a Coin that can be used in a console game. It can be drawn on screen, collected, and put into an array generated by the class.

External Dependencies: Player.cs, GameArea.cs

Backing fields/Properties:

private char \_coinChar (get/set): The ASCII character that represents the coin.

Corresponding public const default: DEFAULT\_COIN\_CHAR.

private ConsoleColor \_coinForeColor (get/set): The foreground color of the coin character.

Corresponding public const default: DEFAULT\_COIN\_FORECOLOR.

private ConsoleColor \_coinBackColor (get/set): The background color of the coin character.

Corresponding public const default: DEFAULT\_COIN\_BACKCOLOR.

Private int \_coinXPos (get/set (value cannot be < 0)): The horizontal position of the coin on the screen.

Private int \_coinYPos (get/set (value cannot be < 0)): The vertical position of the coin on the screen.

Private bool \_collected (get/set): Determines whether the coin has already been collected by the player or not (see Player.cs).

Corresponding public const default: DEFAULT\_COLLECTED\_VALUE

Constructors

Default constructor() summary: Sets the \_coinChar, \_coinForeColor, \_coinBackColor, and \_collected properties to their default values. Sets X and Y positions to 0.

Advanced editor constructor (char coinChar\_, ConsoleColor coinForeColor, ConsoleColor coinBackColor\_) summary: Sets \_coinChar, \_coinForeColor, \_coinBackColor to the arguments provided, sets X and Y positions to 0 and the \_collected status to its default value.

External Methods

Public void WriteOnScreen() summary: Takes no arguments. Checks to see if the coin has been collected already, and if not, writes it on screen in the correct colors. Returns void.

Public void Collect(Player player) summary: Takes a player instance as its only argument. Sets the coin’s Collected status to true, and increases the player’s coins collected by one.

Public static Coin[] GenerateCoinArray(int numberOfCoins, Random rnd, GameArea area, Player player) summary: Overload takes the number of coins, a Random class instance, the game’s play area and the player object, and generates an array of coins of the specified size numberOfCoins. All of the coins are initialized using the default constructor. Ensures no coins spawn on top of the player. Returns the array.

Public static Coin[] GenerateCoinArray(int numberOfCoins, Random rnd, GameArea area, Player player, char coinChar, ConsoleColor coinForeColor, ConsoleColor coinBackColor) summary: Overload takes the number of coins, a Random class instance, the game’s play area and the player object, a coin character along with a coin foreground and background color. Generates an array of coins of the specified size numberOfCoins. All of the coins are initialized using the triple-parameter constructor. Ensures no coins spawn on top of the player. Returns the array.

Public static void Render(Coin[] coins) summary: Takes an array of coins as an argument, and writes all of the elements of the array in their correct positions and correct colors. Returns void.

Public static void Reset(Coin[] coins) summary: Takes an array of coins as an argument, and sets each element’s Collected property to false. Returns void.