RAVI HAMMOND

Object Oriented Programming project

P's get Degrees

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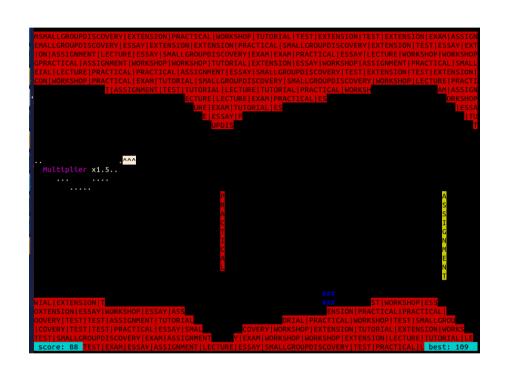
What This Program Does

What it is

My program is a side-scrolling computer game. The aim of the game is to survive as long as possible.

Creating the scroll effect

I create the side scrolling effect By printing everything on the screen according to their coordinates in a loop. Every loop iteration I move all of the objects coordinates left by 1.

Dealing with collision

The player holds an array containing all of its coordinates and every iteration of the refresh loop, those coordinates are checked against the coordinates of the objects moving left. If any of those coordinates are equal, it activates the collision method of that obstacle

Memory Management

Allocation

All Obstacles that move left are held in a single array of pointers. Whenever a new obstacle spawns on the right, it is added to the array the *new keyword.*

Avoiding Memory Leaks

Every refresh, I check if any of the objects coordinates are off the screen and delete them.

Arrays

The letters in the border are stored in an array, to create their scrolling effect I use a circular array. A circular array is when I starting printing the contents from an arbitrary point, and wrap the print when it gets to the end. Every refresh iteration the starting point is incremented by 1.

Input / Output

Input

The game accepts input in different ways. When playing the game, the user presses buttons to change the players direction. When the user first logs in they are prompted to enter their name. And all of the highscores files are read from a file using file input.

Output

Every aspect of the game uses output. I clear the screen, and reprint everything each refresh. The score and multiplier counters are dynamically displayed mid-game the highscores and instructions are displayed in the main menu.

Class Hierarchy

The hierarchy is a tree of all objects in the game that move towards
the player. All of the objects on the right kill the player upon inpact, and all
 of the objects on the left aid the player.