CE218 Video Game Assignment

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**HEINZ: CURSE OF DOOFENSMIRTZ**

* The Game starts of at the initial screen which displays the controls, the aim of the game and the name of the game.  
  
* Here I use a boolean called gamestarted to check if enter has been pressed and when it has been pressed the boolean is set to true and the game begins.
* After pressing Enter, you would begin to play the game and at the top of the screen, your score, number of lives, level and the number of enemies left in this level are all displayed to help know how close you are to winning the game.
* In the instructions the game tells you that you are to use your arrow keys to control your spaceship and your spacebar to fire bullets towards oncoming enemies. It also tells you to press enter to begin the game.
* I have used a key adapter to get the code of the arrow keys, spacebar and enter key. When the up arrow is pressed, the spaceship moves upwards and, when the right key is pressed the spaceship moves forward, when the left arrow key is pressed, the spaceship moves backwards and when the down arrow key is pressed, the spaceship moves downward. All arrow keys can be held for continuous movement.
* When the spacebar is pressed, the spaceship fires bullets in a straight line, the spacebar can be held for auto-fire.



* As you fire towards the enemies, the total number of enemies left reduces and your score increases by 1. When a bullet hits an enemy, the enemy disappears from the screen. To achieve this, I have created a collision function which checks if the bullet and the enemy intersect and when they intersect, it sets the visibility of both the bullet and the enemy to false and deletes them from the screen.
* I have also added some power ups to the game. The yellow coin gives you more lives while the white and red coin gives you a temporary shield.
* These were achieved using a boolean in my collision function to check if the ship had collided with any of the power ups after which it would set the boolean to true and do the necessary calculations and update the screen.



* Also, if you crash into an enemy, if you still have some lives left, the number of lives would decrease and if you have no lives left, you will lose the game.
* When you have beat all the oncoming enemies in the current level, the screen shows:



* This lets you know that you have reached a new level of the game. I achieved this by putting a conditional statement in my check collision function that checks if all the enemies have been deleted and when this happens, I set the boolean gamestarted to false and the boolean newlevel to true(newlevel is a boolean that checks if the player has entered a new level).
* After pressing enter to begin the new level, the number of enemies increases by 5 and the speed at which the enemies approach you also increases.
* There are a maximum of 6 levels in this game and the sixth level is the Boss level. After beating the level before the fifth level you would see:



* Playing the boss level: hitting the boss with bullets increases your score by 2 but the boss has a health bar of 20 so you would have to hit him 20 times to beat the boss. The boss also fires bullets at intervals so you should also avoid being hit as if you are hit by the boss’ bullets, both your score and the number of lives you have left will decrease. Also, the boss is moving towards you and if he should come in contact with you, your score is reduced by 5 and you lose the game.
* At the end of the game, your score and the current high scores are all displayed on the screen:



* If you do manage to beat the boss the game over screen would let you know that you have beat the game:



**MANUAL**

* **Welcome to Heinz: Curse of Doofenshmirtz.**
* **Run Main.java**
* **Press Enter to begin the game, enter is also used to begin new levels.**
* **Use arrow keys to control your ship.**
* **Get yellow coins to gain lives.**
* **Get the yellow and white coin to gain a a shield that protects you 3 times.**
* **Use the spacebar to fire bullets.**
* **Stay away from oncoming enemies. They reduce your lives.**
* **Kill all the enemies to beat the level.**
* **Beat the boss to WIN the game.**