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CST-239: Activity 2-1

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A screenshot of a computer

Description automatically generated with medium confidence

Text

Description automatically generated

Theory of operation write-ups

The hero game in this activity begins in the Game (Main) class, where two random numbers are generated (health1 & health2) between 1 – 1000 to determine the starting health for Batman and Superman. The objects, Batman and Superman, are created in the main program, and they are assigned a health status. A while loop is executed, which checks if either superhero is dead, and if not, a subsequent attack method is called. Once isDead is true for either superhero, the program prints to the console which superhero defeated the other.

The Batman and Superman classes in the program extend to the superhero class to which their name and health statuses are passed. The superhero class begins by initializing the private variable's - name, health, and isDead. The constructor method, superhero, set the superhero's name and health status to the corresponding variables. The methods, attack, isDead, and determineHealth are also in the superhero class. The attack method receives the superhero object as a parameter and generates a random number from one through 10 to account for the damage inflicted by the attack. The determineHealth method receives damage as a parameter and checks if the superhero's health subtracted from the damage is less than or equal to 0; if so, the method isDead receives boolean true; if not, the damage is subtracted from the superhero's current health.