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Introduction to Programming Concepts

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Exam 4-IPO Chart

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| --- | --- | --- |
| **Input** | **Process** | **Output** |
| The user inputs:   * A number corresponding to the 4 menu functions * Input #1 Starts the game * Input #2 Attacks the Boss * Input #3 Heals the Hero * Input #4 Quits the program | When the program starts, a loop adjusts an artistic printf statement to give the illusion of motion for a brief period before revealing the menu.  When the user uses the Game Start / Restart function, the Boss Health and Player Health are each set to 1000.  When the user uses the Attack Boss function, the hero’s attack value is randomly generated between 100 and 200. If the randomly generated number is equal to any number in the criticalAttackArray, then the attack value is doubled, indicated by a printf statement.  When the user uses the Heal function, the hero’s health gained is randomly generated between 100 and 200. If the randomly generated number is equal to any number in the criticalHealArray, then the amount healed is doubled, indicated by a printf statement.  If the user chooses to quit, then the program leaves a printf statement and quits.  If the user enters anything other than those choices, choice = 4, an “INVALID CHOICE” message is displayed, and the game quits. | **Before user input in main menu, display Laughing Boss character.**  Main menu displays boss health, hero health, and choice options.  When the user enters choice 2, the program displays the hero’s attack value, the boss attack value, and returns to the main menu.  When the user enters choice 3, the program displays the hero’s health gain value, the boss attack value, and returns to the main menu.  When the user enters choice 4, the program displays, “THE HERO GAVE UP... you should feel ashamed.” and the program ends.  If the Boss Health <= 0 and the Hero’s Health > 0, then a victory message is displayed  If the Boss Health <= 0 and the Hero’s health <= 0, then an alternate victory message is displayed  If the Boss Health > 0 and the Hero’s health <= 0, then a Game Over message is displayed |