JavaScript Labs

Over the course of the next few labs, you will be creating a simple role-playing game. The game involves two players - the prompted user (you!) and the Almighty Grant. The game consists of simulated attacks that reduce the total health points of each player.

The game will be built in 4 stages:

1. Set up the basic functionality of the game
2. Complicate the game by adding **fun**ction**ality**
3. Convert characters to objects
4. Add a front-end to your game

JavaScript Lab Part One

Task: Prompt the user if they would like to play the game with two characters - the user and the Almighty Grant. If yes, prompt the user to name their character. Run a while loop that will iterate until either the character has beat Grant three times or the character has been defeated.

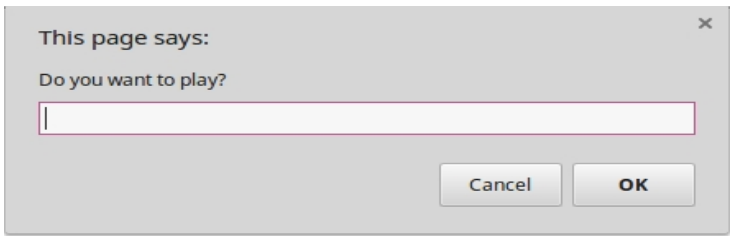
What does the application do?

1. The user is prompted to play a game. If the user chooses yes, the user is prompted to enter his or her name.
2. The game will use a `while loop` to simulate a turn-based fight between the user and Grant.
3. Each iteration of the `while loop` will remove a random number of health points (either 1 or 2) from both the user and Grant until either the user or Grant has no health points remaining.
4. When health points for either the user is at 0, the round ends.
5. The game ends either when a) Grant has been defeated 3 times (has hit 0 health points 3 times) or b) the user has been defeated (hit 0 health points).
6. When the game is over, the application logs the winner.

Build Specifications:

1. The application must prompt the user for his or her name and use it throughout the game.
2. The user starts with 40 "health points." Grant starts with 10 "health points."
3. For each time that Grant's health points hit 0, he is "defeated" and the user gains 1 "win."
4. Grant's health points are reset to 10 after each time he hits 0 points. The user's health points never reset.
5. The application tracks the number of times the user has won.
6. The application logs the progress of the fight after each iteration of the loop.

Console Preview:



JavaScript Lab Part Two

Task: Expand on the game by adding functions that allow the user to start the game and get a number to use as damage.

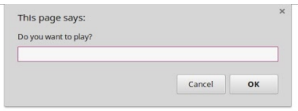
What does the application do?

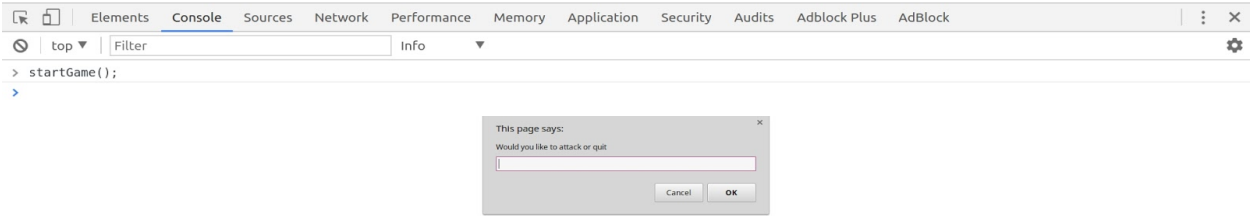
1. The application now has a startGame function, which will prompt the user if they would like to play. Call the startCombat function after the user enters a character's name.
2. There is a startCombat function. When executed, this will run the loop you created in Part One.
3. There is a getDamage function. This will return a number between 1 and 5 that will be used to decide how much damage the user and Grant will deal each round.

Build Specifications:

1. Each iteration of the loop will include a prompt that will ask the user if they would like to "attack" or "quit".
2. If the user decides to attack, adjust the character's health points and Grant's health points based on the getDamage function.
3. If the user decides to quit, figure out a way to exit out of the loop and function.

Console Preview:





JavaScript Lab Part Three

Task: Convert the variables relating to Grant and the user's character into objects. Add a heal method to the character's object. The user can only heal two times throughout the duration of the game.

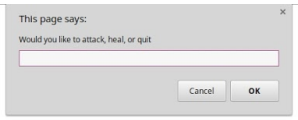
What does the application do?

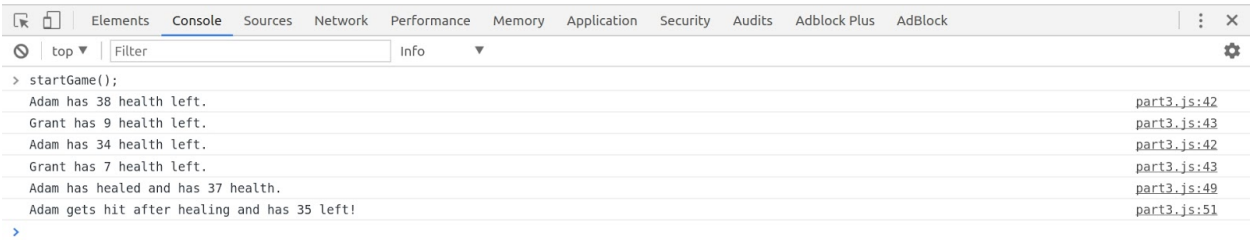
1. The character is now an object.
2. Grant is now an object.
3. The properties attack and heal are methods for the character object, and attack is a method for the Grant object.
4. Make sure the game tracks the character's heal usage.

Build Specifications:

1. The character must have the following properties
    a. name, health, wins, healCount, attack, and heal
2. Grant must have the following properties
    a. name, health, attack
3. The user's attack method should return a number between 1 and 3 (this has changed from the original numbers).
4. The user's heal method should add a number between 1 and 10 to the character's health and change the healCount number.
5. Grant's attack method should return a number between 1 and 5.

Console Preview:





JavaScript Lab Part Four

Task: Implement a front-end for your game based on the wireframes given to you.

What does the application do?

1. Displays the character's name, health, heal count, and wins.
2. Displays Grant's name and health.
3. Allows the user to click a button to:
    a. Start the game
    b. Choose to attack
    c. Choose to heal
    d. Choose to quit
4. Each time the user selects an action, the app will display text to let the user know what has happened that round.

Build Specifications:

1. The start button will execute the startGame function, which creates the character and Grant object.
2. The attack, heal, and quit buttons will execute the startCombat function with an argument describing what action they have chosen, which will no longer contain the while loop.
3. The startCombat function will execute two functions:
    a. One function will update the character and Grant's information within the DOM
    b. One function will update the text relating to what has happened during the round

Wireframe Preview: