

JAVASCRIPT LABS

The JavaScript section includes four labs. It is comprised of two projects, each with two parts.

The first project is 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 2 stages:

1. Set up the basic functionality of the game
2. Complicate the game by adding **functionality**

The second project is an address book. It is built in 2 stages:

1. Use objects, arrays, and object-oriented programming to construct the logic of the address book.
2. Add an HTML & CSS user interface to the address book using JavaScript DOM manipulation.



JAVASCRIPT GAME LAB PART 1

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, and the battle begins. Otherwise nothing else happens.
2. The game will use a `while` loop to simulate a turn-based fight between the user and Grant.
3. The user starts with 40 “health points.” Grant starts with 10 “health points.”
4. Each iteration of the `while` loop will remove random numbers of health points (either 1 or 2) from both the user and Grant.
5. Each time Grant’s health points hit 0, he is “defeated” and the user gains 1 “win.” But Grant’s health points are reset to 10. Note: the user’s health points never reset.
6. The game ends when either a) Grant has been defeated 3 times (i.e. user has 3 wins) or b) the user has been defeated (hit 0 health points).
7. 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 application logs the progress of the fight after each iteration of the loop.
3. **Hint:** Save asking the user if they want to play for the last part of the code you write. This way you won’t have to type “yes” every time you test your program.

Console Preview:

This page says: ×

Do you want to play?

```
Elements Console Sources Network
top Filter
Adam has 38 health left.
Grant the Mighty Chicken has 8 health left.
Adam has 36 health left.
Grant the Mighty Chicken has 7 health left.
Adam has 34 health left.
Grant the Mighty Chicken has 5 health left.
Adam has 33 health left.
Grant the Mighty Chicken has 3 health left.
Adam has 31 health left.
Grant the Mighty Chicken has 2 health left.
Adam has 30 health left.
Grant the Mighty Chicken has 1 health left.
Adam has 29 health left.
```



JAVASCRIPT GAME LAB PART 2 - FUNCTIONS

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

Functions:

Rearrange your code to include these functions.

1. `startGame` function. This function will
 - a. Prompt the user if they would like to play, and if they say yes...
 - i. Allow the user to enter the character's name.
 - ii. Call the `startCombat` function.
2. `startCombat` function. When executed, this will run the entire loop you created in Part One.
3. `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.

Additional Changes:

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.

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