Lab 6 Instructions, Selection, Group A
CS 133JS, Beginning Programming: JavaScript

Overview

The objective of this lab is to give you practice using:

- Creating objects
- Working with object properties
- Working with object methods
- Using object constructors
- Working with complex objects

Part 1: Object Exercises

A web page, *ObjectExercises.html*, has been written for you that contains code to call functions and use code that you will write in a file named *ObjectExercises.js*. The instructions for writing your functions and the code to test your functions are in *ObjectExercises.html*, but all the code you write will go in *ObjectExercises.js.*

Part 2: Web Apps

You will create two web apps. The HTML page for each of these has already been written for you. You will just write the JavaScript file.

<u>Web App I for Group A – Grade Book</u>

This web app displays a list of students and allows an instructor to add names to the list and enter grades.

This is a new version of the Grade Book app you made previously using arrays. This one will use objects.

Implementation:

1. Declare a one-dimensional global array named *students*. This will hold *Student* objects.
2. Define an object constructor named *Student* with the following properties:
    a. name
    b. grade
3. Write three functions:
    a. *addStudent*
       This function adds a student to the gradebook by adding an element containing a *Student* object to the *students* array. The function:
       - Has one parameter: a student's name.
       - Returns nothing.
       - When creating a *Student* object, set the *grade* property to a default value of "U".
    a. *removeStudent*
       This function removes a student from the gradebook by removing their element from the *students* array. The function:
       - Has one parameter: an array index for the *students* array.
       - Returns true if the index is valid.
         (Valid means the index is greater than zero and less than the length of the array.)
       - Hint: Use the *splice* method to remove the element from the array.
    b. *changeGrade*
       This function changes a student's grade. The function:
       - Has two parameters: a student's name and grade.
       - Returns true if the student's name was found in the gradebook.
       - Hint: Use a loop to find the student object with the correct *name* property, then change the value of the *grade* property.

This is a screenshot of a working Grade Book web app. Before the screenshot, the first three students were shown. Two more were added before taking the screenshot.

Grade Book

Student			Grade		
1	Lucy Pevensie	Delete	A	A	Enter
2	Jill Pole	Delete	B+	B+	Enter
3	Eustace Scrubb	Delete	B	B	Enter
4	Edmond Pevensie	Delete	A-	A-	Enter
5	Polly Plumber	Delete	U		Enter

Polly Plumber | Add Student

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<u>Web App II for Group A – Coming Soon</u>

I'm still working on the instructions for this one. I'll have them ready later today.

Submitting your lab work on Moodle

<u>Beta Version</u>

Post the following in the *Lab Beta forum*:

1. The web pages you created for part 2.
   (Zip the files for you web pages and attach them to the post.)
2. A code review of your lab partner's web page for part 2.
   (Review the part 2 web apps for one of your lab partners using the Code Review Form provided.)

<u>Code Review</u>
1. Submit a copy of the code review above to the *Lab Code Review assignment*.

<u>Production Version</u>
You may revise your beta version before submitting the production version. On the code review form you received from your lab partner, complete the "Production" column to show what you did or did not revise.

Upload the following to the *Lab Production Version* assignment:

1. A zip file containing the two files (.html and .js) for part 1.
2. A zip file containing the four files for part 2.
3. The code review <u>from</u> your lab partner with the <u>"Prod" column filled in by you</u>.