

Goal11: Assignment: Final Practical (4hr)

Final Practical

You will take a copy of your Mid Term and refactor it to implement a "constructor" (for the name, GPA, and date) and a "prototype" (which will be used to determine the student's average GPA). You will demonstrate your ability to add a new student object to the array of students, using the constructor. As well as, demonstrate your ability to calculate the average GPA using a "prototype" method.

Objectives & Outcomes

Successful completion of this activity will show that you can:

- Assess your skills and comprehension of the materials taught up to this point. (Objects, Arrays, Functions, Conditionals, Methods, Scoping, Debugging, DOM, regular expressions, constructors, and prototypes).
- Assess your ability to analyze existing code and refactor it.
- Assess your ability to logically separate code and implement a constructor.
- Assess your ability to logically separate code and implement a prototype.
- Employ solid craftsmanship.

Level of Effort

This activity should take approximately 240m to complete. It will require:

- 0m Research
- 15m Prep & Delivery
- 225m Work

If you find that this activity takes you significantly less or more time than this estimate, please contact me for guidance.

Reading & Resources

Final – Rubric *(necessary)*

This rubric outlines the points for the assignment. Make sure you check off each one as done before submitting your assignment.

Assignment Files *(necessary)*

You will use a copy of your Mid Term for this assignment.

Instructions

Getting Started:

- This FINAL is OPEN... to a point.
 - There will only be 2 restrictions.
 1. You will work on your own to accomplish the programming tasks in this FINAL.
 2. You can use the web as a reference only. You cannot use any technology to ask for help. (i.e. NO iChat, screen shares, texting, document sharing, etc...)
- You may ask for help, guidance and direction from others (other students, Lab Instructor(s), or Course Director), but

they may not help with coding, nor share code.

- In your local branch of the PWA1 repo, you will need to create a directory entitled "goal11_assign_FINAL".
- Make a copy of your Mid Term files and put them in the directory "goal11_assign_FINAL/". This is where all your assignment development files will reside & be graded.
- In addition to your main.js file, you will create a file entitled "js/studentObject.js". This is where your constructor and prototype will be stored. You will need to create a script tag for this file in your .html file.
- Make sure you adhere to proper folder constructs, if applicable (css, images, js, etc).

Criteria:

To obtain full credit on the assignment your submission should match the functionality of the demonstration. The following criteria must be adhered to and you must satisfy all items on this assignment's rubric.

- You will refactor your Mid Term files using the following updates documented below. The items you are adding / changing to this refactoring process are as follows: 1. add and use a constructor, 2. add and use a prototype:

- (Same as the Mid-Term) If you don't already have one, create an empty students array.
- (NEW for the final) Replace the student objects you created in the Mid Term, with a call to the constructor. The constructor will create each student object, you will then need to programmatically insert the student object into the student's array. An example of your call to the constructor can be as follows:

new Student('James Bond', '123 Test Dr', 'Orlando', 'Florida', [2.5, 4.0, 2.2], new Date());

- (NEW for the final) Just like the Mid Term, you will first populate the array of students with at least 2 objects of information. Each student object will need to be created using the constructor.
- (Same as the Mid-Term) Console.log ALL the information in ALL objects on 4 lines.

1. name
2. address
3. GPA
4. date

Example:

- Name: James Bond
 - Address: 123 Test Dr, Orlando, Florida
 - GPA: [2.5, 3.5, 4.0]
 - Date: 05/02/13
- (NEW for the final) Add a new object (using a constructor) to the array of student objects above. Use the same technique used above to add the new object.
 - (Same as the Mid-Term) Console.log ALL the information in ALL objects on 4 lines. This should display with the new object that was just added directly above. Use the same output display as the previous console.log
 - (NEW for the final) Before displaying the "Average GPA" using the innerHTML from the Mid Term, a prototype method will be used to calculate each student's Average GPA and return the results.
 - There should not be any duplicate code in the main.js or the studentObjects.js file. If there is, you will need to refactor the code by creating a function for the duplicate code and then call the function when it is needed.
 - All global variables should be located at the very top of the program.
 - All function calls should be at the bottom of the program.
 - Make sure to put comments throughout your code.

Extra Credit:

Create a function that will validate the "basic" GPA format '#.##'. This function will need to run before the first console.log displays the information. If a GPA does not meet the format, just stop the program and display a console.log error message. You may NOT use regular expression for this extra credit.

GOOD LUCK!!!

Deliverables

You will submit your project via Git and github.com. This is where your work will be graded from. As part of your grade you are required to make at least 6 meaningful commits.