

Goal8: Assignment: easyLibrary (3hr)

easyLibrary Assignment

In this assignment you will be creating a simple library to demonstrate your ability to code a constructor & prototype. Then you will take your code and implement a factory pattern which is the beginnings of an easy library.

Objectives & Outcomes

Successful completion of this activity will show that you can:

- Understand the details of a "Library" (how it works, when to use it, understand the formatting/syntax).
- Exhibit working knowledge of "Libraries", by writing JavaScript code that sets up and uses a library and items in the library.
- Apply changes to the basic library to include changing the background colors of URL links, and adding an onclick event.

Level of Effort

This activity should take approximately 180m to complete. It will require:

- 0m Research
- 15m Prep & Delivery
- 165m Work

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

Reading & Resources

The Duel (part II) – Rubric *(necessary)*

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

Instructions

Getting Started:

- In your local branch of the PWA1 GIT repo, you will need to create a directory entitled "goal8_assign_library".
 - Download the .zip file from FSO for this assignment and unzip it in the directory above, "goal8_assign_library". This is where all your assignment development files will reside.
 - Using JavaScript comments, place your name, date and assignment at the top of the JavaScript file.
 - Make sure you adhere to proper folder constructs, if applicable (css, images, js, etc)
- (Online) Please watch the associated screencast that shows the finished assignment and explains the rubric and requirements

Criteria:

To obtain full credit on the assignment, the following criteria must be adhered to as well as satisfying all items on this assignment's rubric.

- This assignment will require the modification of two js files, **main.js** and **ryu.js (your library file)**

- There will be three steps to this assignment:
 - 1. Create the coded needed in both files to setup your initial library.
 - 2. Convert your code so the links have a background color of black.
 - 3. Convert your code so when a link is clicked (using onclick), the program will just console.log "this".
- **Step 1: Setup the Initial easyLibrary:**
 - I. Setup Your Library File:**
 - a. Your ryu.js file includes a template of a library. There are two sections, the constructor and the prototype.
 - b. Setup the constructor and include a parameter that will be used throughout the library. The main.js file will be passing an argument to this library.
 - c. Setup the prototype section. Make the necessary changes to the template to ensure the constructor can use the prototype.
 - d. Create within the prototype section a function named "init", and another called "each"
 - e. The "init" function will accept a parameter from the constructor. Set the prototypes ".elements" property to equal the parameter being passed into the "init" function.
 - f. Setup the "each" function with a "FOR" loop that when runs, console.log's the prototype's ".element" property. The proper item within the array needs to console.log based on the index number of the "FOR" loop.
 - II. Setup Your main.js File:**
 - a. Start your file with a self executing function.
 - b. Create a variable that stores ALL the anchor links in an array. (hint: use querySelectorAll)
 - c. Create a variable that will store the returned value (or results) from a call to your library. – Make a call to the library and pass into it an argument. The argument should be the variable above that stores ALL the anchor links.
 - d. Console.log the results that are sent back from the library using the variable from "c." (directly above)
 - e. Make a call to your library and pass into it the variable that stores all the anchor links (the variable from "b.", above), and run the .each prototype function that is in your library.
- **Step 2: Convert your code so the links have a background color of black:**
 - I. Changes to Your Library File:**
 - a. Add a parameter named "callback" to the "each" function. This will pass into the "each" function, all items that are in the function that calls this "each" function (from main.js).
 - b. In the "for" loop for the "each" function, add the following: callback.call(this.elements[i]);
 - II. Change to Your main.js File:**
 - a. Add to the ryu.each function a style that changes the background color of the links to black. (i.e "this.style.backgroundColor = 'black';"
- **Step 3: Convert your code so when a link is clicked (using onclick), the program will just console.log "this":**
 - Changes to Your main.js File:**
 - Add an "onclick" event to the ryu.each function. When the "onclick" occurs, console.log the "this" item.

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.