

Objectives

- Practice creating JavaScript functions and control structures.
- Become familiar with the JavaScript scope chain, closures and IIFEs.

Instructions

Write a JavaScript program that creates and tests three functions named: `setClassName`, `setCurveBaseline`, and `computeGrade`.

- `setClassName(...)` takes one string parameter and saves it to a class name variable.
- `setCurveBaseline(...)` takes one numeric parameter in the range [0, 100] and saves it to a baseline variable. This variable will be used to compute a curved grade. The curved grade is calculated from the baseline and original grade using the following formula:
$$\text{curved} = \text{baseline} + (1 - \text{baseline}/100) * \text{grade};$$
- `computeGrade` takes a numeric grade parameter in the range [0, 100], computes the curved grade using the formula above, translates the curved grade into a letter grade using standard ranges, and returns a string containing the current class name and letter grade.

The three functions should be created simultaneously by a master function and returned in an array or object. By creating these function simultaneously the scope of the master function becomes part of the scope chain of all newly created functions. The master function scope must be used to share variables between all three new functions.

The master function itself should be an anonymous function that is invoked immediately using an IIFE pattern. The result should contain the three function and assigning them to the names `computeGrade`, `setCurveBaseline`, and `setClassName`.

After invoking the IIFE and assigning the three resulting functions to variables, test the functions. For example, see the following tests. I set the default class name to "Not Set" and the default baseline to 0.

```
console.log( computeGrade(89) );           // prints "Not Set: B+"
setCurveBaseline(20);
setClassName("CSC470");
console.log( computeGrade(89) );           // prints "CSC470: A"
```

Finishing Up

- You MUST enter header comments into your JavaScript file including (1) File name, (2) Your name, (3) Description and or purpose of the assignment
- You MUST comment your code, explaining what your code does in each section.
- Submit your single JavaScript file using Canvas under the appropriate assignment name.