CALIFORNIA STATE UNIVERSITY, LONG BEACH

**IS 445/545 – Internet Application Development**

## Fall 2020 Term – Section 01 (#7818/7354) – Individual Assignment #4

## Due: September 29, 2020

**Notes:**

* You will create a web site using tutorial 4 lab as a template
* **Submission requirements.**   
  A zipped file containing the following:

1. Web site directory containing all your code
2. A file containing the following:
   1. Links to your GitHub repository and to your Netlify application.   
      For example (below are not valid, use your own):

[https://github.com/ashercsulb/hw](https://github.com/ashercsulb/hw4)4

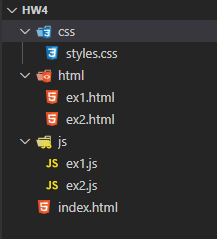
<https://asherhw4.netlify.app>

* 1. Solution to questions following the programming exercises

Name the file as follows:

1. yourLastNmae\_hw4.zip (e.g. asher\_hw4.zip)

**Programming Assignment**

The programming assignment requires you to create solutions to several exercises below. Use tutorial 4 lab as a template (see image to the right as an example with two solutions), that is

* Create the directory structure as in tutorial 4 (html, js, and css)
* Create an index.html file
  + It will have links to the solution for each exercise
* For each exercise, create two files (replace # with the exercise number)
  + ex#.js (placed in js directory)
    - Contains JavaScript code
  + ex#.html (placed in html directory)
    - Runs the JavaScript code
    - Contains link back to index.html
* styles.css (optional)
  + Optional style sheet

1. Calculator

Input

Ask the user for the following

* Number1
* Number2
* Mathematical Operation (+, -, \*, /)

Assume valid input

Output

The result of the mathematical operation in the following format:

Number1 operation Number2 = result.

Examples:

Input: 1, 2, +

Output: 1 + 2 = 3

Input: 12, 3, /

Output: 12 / 3 = 4

1. Modeling a circle (Reference text chapter 06)

Complete the following program to add the circle object definition. Its radius value is input by the user.

const r = Number(prompt("Enter the circle radius:"));

// TODO: create the circle object here

console.log(`Its circumference is ${circle.circumference()}`);

console.log(`Its area is ${circle.area()}`);

1. Arrays

Write a program the creates the following array, then calculates and shows the following:

* Sum of all array values
* Minimum value
* Maximum value

const values = [3, 11, 7, 2, 9, 10];

1. List of words

Write a program that asks the user for a word until the user types "stop" (case insensitive: e.g.: STOP, stop, Stop, StOp, …). The program then shows each of these words, except "stop". If "stop" is the first word entered, display an appropriate message.

Notes:

* Use a loop to accept user input and exit when "stop" is entered (case insensitive)
* If "stop" is not entered, add the words to an array
* When "stop" is entered, display the words in the array.
* If "stop"

Examples:

Input: hello, goodbye, JavaScript, stop

Output:  
You entered the following words:  
hello

goodbye

JavaScript

Input: Stop

Output (below or similar):

No words to display, Stop was the first word entered.

1. Write a program that asks the user for a word. It then displays the following:

* Number of vowels in the word (a, e, i, o, u, and y)
* Whether your word is a palindrome or not
  + A palindrome is a word that is spelled the same way both forward and backwards (e.g. radar, level, madam)

Note: Make the program case insensitive

Examples:

Input: Madam

Output: Madam contains 2 vowels and is a palindrome

Input: JavaScript

Output: JavaScript contains 3 vowels and is not a palindrome

1. Guess Number

Write a program that generates a random number between 1 and 100, inclusive.

It then prompts the user to guess the number (assume valid entry).

The program will provide the following feedback after each guess:

* Too low, guess again
* Too high, guess again
* Correct

If correct, also display how many attempts it took. For example:

Correct! It took you 7 attempts to guess the correct number.

**Answer the following**

1. What are the links to your web site (see notes on first page)?
   1. GitHub URL:
   2. Netlify URL:
2. What is the output of the following?

let x = 7;

function myFunction(x) {

    x = 10;

    console.log(`x = ${x}`);

}

console.log(`x = ${x}`);

myFunction(x);

console.log(`x = ${x}`);

1. What is the output of the following?

let x = 7;

function myFunction(x) {

    x = 10;

    console.log(`x = ${x}`);

    return x;

}

console.log(`x = ${x}`);

x = myFunction(x);

console.log(`x = ${x}`);

1. What is the output of the following?

let x = 7;

function myFunction(x) {

    x = 10;

    return x;

    console.log(`x = ${x}`);

}

console.log(`x = ${x}`);

x = myFunction(x);

console.log(`x = ${x}`);

1. What is the output of the following?

let x = 7;

let y = 8;

function myFunction(x) {

    console.log(`x = ${x}`);

    x = 10;

    return x;

}

console.log(`x = ${x}`);

console.log(`y = ${y}`);

x = myFunction(y);

console.log(`x = ${x}`);

console.log(`y = ${y}`);

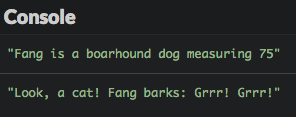
1. Modeling a dog (Reference text chapter 6)

Complete the following program to add the dog object definition.

// TODO: create the dog object here

console.log(`${dog.name} is a ${dog.species} dog measuring ${dog.size}`);

console.log(`Look, a cat! ${dog.name} barks: ${dog.bark()}`



1. What is the output of the following?

const foods = ["Pizza", "Burger", "Hot Dog", "Taco"];

console.log(foods.length);

console.log(foods[2]);

console.log(foods[4]);

foods.push("Lasagna");

console.log(foods[4]);

foods.unshift("Chicken");

console.log(foods[0]);

foods.pop();

foods.splice(1,3);

console.log(foods.length);

console.log(foods[1]);

1. What is the output of the following?

const myString = "JavaScript is fun!";

console.log(myString.length);

console.log(myString[1]);

console.log(myString.indexOf("i"));

console.log(myString.indexOf("e"));

console.log(myString.indexOf("a", 2));

console.log(myString.lastIndexOf("i"));

console.log(myString.substring(4,10));