CALIFORNIA STATE UNIVERSITY, LONG BEACH

**IS 645 – Internet Application Development**

## Spring 2021 Term – Section 01 (#10830) – Individual Assignment #3

## Due: February 9, 2021

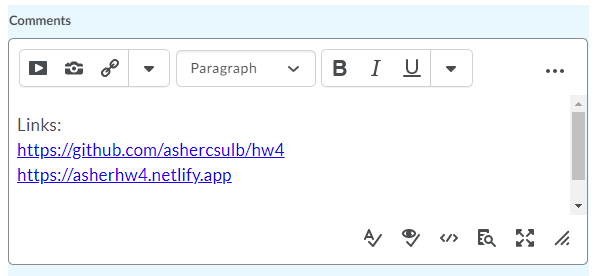
**Notes:**

* You will create a web site using tutorial 4 lab as a template
* **Submission requirements (two files)**

1. Zipped file containing the following
   1. The directory containing all your code   
      (these are the same files you push to GitHub)

Name the file as follows: yourLastNmae\_hw3.zip (e.g. asher\_hw3.zip)

1. Solution to questions following the programming exercises

* **Dropbox Requirement**
  + In the comments section, include the links to your GitHub Repository and Netlify application. For example:  
    

**Programming Assignment**

The programming assignment requires you to create solutions to several exercises below. Use tutorial 4 lab as a template, 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. Class Standing - The program has the following requirements:

Input

Ask the user for their name and number of units completed at college (use prompt).

Validate input (integer >= 0, assume no decimal data entry)

Output

Output the following message (Text in *Italics* will change depending on input)

Hello *NameEntered*

Your grade standing is *GradeStanding*

*NameEntered* – This is the name entered

*GradeStanding* – Calcluate as follows:

Number of units:

0 – 30: Freshman

31 – 60: Sophomore

61 – 90: Junior

> 91: Senior

1. Following Day - The program has the following requirements:

**Use the switch/case syntax NOT if/then**

Input

A day of the week

Valid input is three letter abbreviation in lower case (validate input):  
sun, mon, tue, wed, thu, fri, and sat

Output

Output the following message (Text in *Italics* will change depending on input)

You entered: *DayEntered*

The following day is: *FollowingDay*

1. Simple Calculation - The program has the following requirements:

Input

Two integer numbers (validate input, assume no decimal data entry)

Output

The following mathematical operations for the numbers entered

* Addition (e.g. num1 + num2 = sum; 3 + 4 = 7)
* Subtraction
* Multiplication
* Division
* Modulo

1. Password (use loop) - The program has the following requirements:

Input

A password

Output

Assume password is "secret"

If "secret" is not entered, prompt the user for a password again (up to 3 times)

If a correct password is entered, display the following message (# represents number of attempts):

You entered the correct password after # attempt(s)

If after three attempts, the user fails to enter the correct password, display the following message:

Your account is locked! You failed to enter the correct password # times

Note: Can hard code three for failure, but if you need to change this it's more difficult.

1. Multiplication Table (use loop) - The program has the following requirements:

Input

A number (assume valid input)

Output

The multiplication table for the input number multiplied by 0 – 10. For example, assume 3 is entered:

3 x 0 = 0

3 x 1 = 3

3 x 2 = 6

3 x 3 = 9

3 x 4 = 12

3 x 5 = 15

3 x 6 = 18

3 x 7 = 21

3 x 8 = 24

3 x 9 = 27

3 x 10 = 30

1. Following Second - The program has the following requirements:

Input

Time as three values: hours, minutes, seconds (validate input)

Output

Output the time entered and the time one second later.

Examples:

Time input: 14h17m59s

One second later: 14h18m0s

Time input: 6h59m59s

One second later: 7h0m0s

Time input: 23h59m59s

One second later: 0h0m0s

**Answer the following**

1. What are the links to your web site (examples below, use your links)?
   1. GitHub URL: [https://github.com/ashercsulb/hw](https://github.com/ashercsulb/hw4)
   2. Netlify URL: <https://asherhw.netlify.app>
2. What is the output of the following?

console.log(4 + 5);

console.log("4 + 5");

console.log("4" + "5");

console.log(2 + 3 \* 5);

console.log((2 + 3) \* 5);

console.log(10 % 3);

* 1. 9
  2. 4+5
  3. 45
  4. 17
  5. 25
  6. 1

1. Variable Scope: What is the output of the following?

let num1 = 0;

{

  num1 = 1;

  const num2 = 0;

}

console.log(num1);

console.log(num2);

* 1. Error – Does not work unless const num= 0; is outside of the brackets. Num2 was not defined.
  2. Otherwise:
     1. Num1 = 1
     2. Num2 = 0

1. Constants: What is the output of the following?

const pi = 3.14;

pi = 3.14159;

console.log(pi);

* 1. TypeError : Assignment to constant variable.
  2. Pi should be 3.14

1. What is the output of the following?

let a = 2;

a -= 1;

a++;

let b = 8;

b += 2;

const c = a + b \* b;

const d = a \* b + b;

const e = a \* (b + b);

const f = a \* b / a;

const g = b / a \* a;

console.log(a, b, c, d, e, f, g);

* 1. Going horizontally
     1. a = 2
     2. b= 10
     3. c = 102
     4. d = 30
     5. e = 40
     6. f = 10
     7. g 10

1. What is the output of the following?

console.log(true && "Hello");

console.log(false && "Hello");

console.log(undefined && "Hello");

console.log("" && "Hello");

console.log("Hello" && "Goodbye")

console.log(true || "Hello");

console.log(false || "Hello");

console.log(undefined || "Hello");

console.log("" || "Hello");

console.log("Hello" || "Goodbye")

* 1. Hello
  2. False
  3. Undefined
  4. Goodbye
  5. True
  6. Hello
  7. Hello
  8. Hello
  9. Hello

1. What is the output of the following?

console.log("0" == 0);

console.log("" == 0);

console.log("" == 1);

console.log(true == 0);

console.log(true == 1);

console.log("0" === 0);

console.log("" === 0);

console.log("" === 1);

console.log(true === 0);

console.log(true === 1);

* 1. True
  2. True
  3. False
  4. False
  5. True
  6. False
  7. False
  8. False
  9. False
  10. False

1. Short Circuit Test
   1. What is the output of the following?

let i = 1;

if ((1 > 2) && i++) {

   //Nothing.  Want to test condition

}

console.log(`The value of i is: ${i}`);

1. The value of i is: 1

* 1. What is the output of the following?

let i = 1;

if ((1 < 2) && i++) {

   //Nothing.  Want to test condition

}

console.log(`The value of i is: ${i}`);

1. The value of i is: 2
2. Break Test
   1. What is the output of the following?

const x = "abc";

switch (x) {

  case "abc":

    console.log("x = abc");

    break;

  case "def":

    console.log("x = def");

    break;

}

* + 1. X=abc
  1. What is the output of the following?

const x = "abc";

switch (x) {

  case "abc":

    console.log("x = abc");

    //no break

  case "def":

    console.log("x = def");

    break;

}

* + 1. X=abc
    2. X=def

1. What is the output of the following?

if (x > 2) {

   if  (y > 2) {

      z = x + y;

      console.log("z is: ", z);

   }

} else {

   console.log("x is: ", x);

}

* 1. When x = 2 and y = 3
     1. x is 2.
  2. When x = 3 and y = 2
     1. No output
  3. When x = 3 and y = 3
     1. z is 6

1. What is the output of the following, if any (indent this properly)?

if (x > 2) {

if  (y > 2) {

z = x + y;

console.log("z is: ", z);

}

else {

console.log("x is: ", x);

}

}

* 1. When x = 2 and y = 3
     1. No output
  2. When x = 3 and y = 2
     1. No output
  3. When x = 3 and y = 3
     1. Z Is: 6

1. How many times does this loop run and what is the output?
   1. While loop

let number = 1;

while (number <= 5) {

  console.log(number);

  number++;

}

1. Loop runs 5 times.
2. Output is
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5
   6. While loop

let number = 1;

while (number <= 5) {

  console.log(number);

}

1. Loop runs infinitely until forced stopped.
2. Output is 1 continuously until the program is forcibly stopped.
3. How many times does this loop run and what is the output?
   1. For loop

for (let i = 1; i <= 5; i++) {

   console.log(i);

 }

* + 1. 5 times loop.
    2. Output is
       1. 1
       2. 2
       3. 3
       4. 4
       5. 5
  1. For loop

for (let i = 1; i <= 5; i++) {

   console.log(i);

   i++;

 }

1. 3 times loop
2. Output is:
   1. 1
   2. 3
   3. 5