**Assessment 2: Study Guide – JS**

**Javascript Fundamentals:**

* Declare and initialize variables with let and const
  + Let = Food = “Tacos”;
  + Const = Food = “Tacos”;
* Declare function declarations and arrow functions
  + Function greetClass (students) {  
     return Math.floor(Math.random(12)) ;  
     console.log(‘Hello ${student}!’);  
    }
  + Const greetClass = students => {  
     (Math.floor(Math.random(student));  
     console.log(‘Hello ${student}!’);  
    }
  + Call functions
    - greetClass(Jon);
  + Use parameter/arguments
  + Returning values
* Use if/else statements
  + If (true) {  
    } else {  
    }
* Use for loop (Use all three)
  + For
    - For (let i=0; i<=10, i++;) {  
       console.log(i);  
      }
  + For.. in (Arrays)
    - Const object = [a: 1, b: 2, c: 3];  
      for (const property in object) {  
       console.log(‘${property}’: ${object{property]}’);  
      }
    - Only iterates over enumerate, non-Symbol properties
    - Only used for debugging purposes and an easy way to check the properties of an object
  + For.. of (Objects)
    - Const array = [‘a’, ‘b’, ‘c’];  
      for (const element of array1) {  
       console.log(element);  
      }
    - Array.forEach ( item => {  
       console.log(item);  
      })
    - Creates a loop iterating over iterable objects including built-in String, Array, array-like objects
  + Difference between for/in and for/of loops
    - For in statement iterates over the enumerable properties of an object, in an arbitrary order
    - For of statement iterates over the values that the iterable object defines to be iterated over
* Declare a class and create an instance of the class
  + Class Jon {  
     constructor() {  
     this.name = ‘Jon’;  
     }

Speak() {  
 return ‘blah’;  
 }

}  
  
let jon = new Jon ();  
jon.speak();  
console.log(jon.name);

* + Create and call methods
  + Assign properties
* Declare an array and access/modify elements
  + Array methods to study
    - Array.find()
      * Returns the value of the first element in the provided array that satisfies the provided testing function
      * Const array1 = [5, 12, 8, 130, 44];  
        const found = array1.find(element => element > 10);  
        console.log(found); // 12
    - Array.push()
      * Adds one or more elements to the end of an array and returns the new length of the array
      * Const animals = [‘pig’, ‘goat’, ‘sheep’];  
        const count = animals.push(‘cow’);  
        console.log(count); // 4  
        console.log(animals); // [‘pig’, ‘goat’, ‘sheep’, ‘cow’];
    - Array.pop()
      * Removes the last element from an array and returns that element
      * Const plants = [‘broccoli’, ‘cauliflower’, ‘cabbage’, ‘kale’, ‘tomato’];  
        console.log(plants.pop()); // “tomato”  
        console.log(plants); // [‘broccoli’, ‘cauliflower’, ‘cabbage’, ‘kale’]  
        plants.pop();  
        console.log(plants); //[‘broccoli’, ‘cauliflower’, ‘cabbage’]
    - Array.shift()
      * Removes the first element from an array and returns that element
      * const array1 = [1, 2, 3];

const firstElement = array1.shift();

console.log(array1); // [2, 3]

* + - * console.log(firstElement); // 1
    - Array.unshift()
      * Adds one or more elements to the beginning of an array and returns a new length of the array
      * const array1 = [1, 2, 3];

console.log(array1.unshift(4, 5)); // 5

console.log(array1); // [4, 5, 1, 2, 3]

* + - Array.splice()
      * Changes the content of an array by removing or replacing an existing elements and/or adding new elements in place
      * const months = ['Jan', 'March', 'April', 'June'];

months.splice(1, 0, 'Feb'); // inserts at index 1

console.log(months); // ["Jan", "Feb", "March", "April", "June"]

months.splice(4, 1, 'May'); // replaces 1 element at index 4

console.log(months); // ["Jan", "Feb", "March", "April", "May"]