**Exercise Set 1**

**Group #1**

**Problem 1:** write a function to check whether an input is an array or not

function arrayCheck(input){

if(Array.isArray(input) == true){

console.log("The input is an array");

} else {

console.log("The input is not an array");

}

}

arrayCheck([1,2,3,4]);

arrayCheck("1,2,3,4");

**Problem 2:** write a simple JavaScript program to join all elements of the following array into a string\

function arrayToString(arr){

let str = "";

for(i = 0; i < arr.length; i++){

str += arr[i];

}

console.log(str);

}

arrayToString([1,2,3,4]);

arrayToString(["dog","cat","bird"]);

**Problem 3:** write a JavaScript program which accept a number as input and insert dashes (-) between each two even numbers. For example, if you accept 542356688 the output should be 54-2356-6-8-8.

function numberDashes(num){

let numString = num.toString();

let newString = "";

for(let i = 0; i < numString.length; i++){

if((numString[i]%2 == 0) && (numString[i+1]%2 == 0)){

newString += numString[i];

newString += "-";

} else {

newString += numString[i];

}

}

console.log(newString);

}

numberDashes(6854536214879);

**Problem 4:** write a program to sort the items of an array

function sortArray(arr){

let newArr = arr.sort();

console.log(newArr);

}

sortArray([5,3,6,1,8,2]);

**Problem 5:** write a JavaScript program to find the sum of squares of a numeric vector.

let sum = 0;

l = arr.length;

while(l--){

sum += (arr[l] \* arr[l]);

}

return sum;

}

console.log(sumOfSquares([1,2,3,4]));

**Problem 6:** write a JavaScript program to compute the sum and product of an array of integers.

function arrSumProd(arr){

let sum = 0;

let product = 1;

for(let i = 0; i < arr.length; i++){

sum += arr[i];

product \*= arr[i];

}

console.log(`The sum of the integers is: ` + sum);

console.log(`The product of the integers is: ` + product);

}

arrSumProd([1,2,3,4,5]);

**Exercise Set 2**

**Group #1**

**Problem 1:** implement a function like Math.max() that takes in any number of parameters and returns the maximum from them.

function maxVal(arr){

let max = arr[0];

for(let i = 1; i < arr.length; i++){

if(arr[i] > max){

max = arr[i]

}

}

return max;

}

console.log(maxVal([6,8,3,9,4,12,14,11]));

**Problem 2:** implement a program that takes in a number from user and reverses the digits. So 123 is printed as 321, 25 as 52, 0 as 0, -43 as -34, and so on.

function flipNum() {

let num = prompt("Enter a number to be reversed: ");

let flippedNum = "";

for (let i = num.length - 1; i >= 0; i--){

flippedNum += num[i];

}

if(flippedNum[flippedNum.length-1] == "-"){

flippedNum = "-" + (flippedNum.slice(0,flippedNum.length-1));

}

return flippedNum;

}

console.log(flipNum());

**Problem 3:** implement a function that converts a string to uppercase. For example, “I am Daniel” is converted to “I AM DANIEL”. Implement your own function for this. Don’t use the built in toUpperCase function.

function toCapitalLetter(str){

let cap = "";

for(let i = 0; i < str.length;i++){

if((str[i] >= "a") && (str[i] <= "z")){

cap += String.fromCharCode(str.charCodeAt(i) - 32);

}else{

cap += str[i];

}

}

return cap;

}

console.log(toCapitalLetter("test"));

**Problem 4:** implement a function that inverts the case of a string. For example, BanANa is converted to bANanA

function invertLetters(str){

let inv = "";

for(let i = 0; i < str.length; i++){

if(str[i] < "a"){

inv += str[i].toLowerCase();

}else{

inv += str[i].toUpperCase();

}

}

return inv;

}

console.log(invertLetters("BanANa"));