Challenge 1

```
1)function fahrenheitToCelcius (a){
    var b = (a - 32) * 5/9;
    return b;
}
var a =prompt("Enter a fahrenheit:");;
var c = fahrenheitToCelcius(a);
console.log(c);

2)function reverseNumber(a) {
    var b = a + "";
    var reversed = "";
    for (let i = b.length - 1; i >= 0; i--) {
        reversed += b[i];
    }
console.log(reversed);
}var a = prompt("Enter a number:");;
reverseNumber(a);


3)function isVowelOrConsonant(a){
    if (a.length !== 1) {
        return "Please enter a single character.";
    } else if (a.match(/[aeiou]/)) {
        return a + " is a vowel.";
    } else if (a.match(/[a-z]/)) {
```

```
        return a + " is a consonant.";
    } else {
        return a + " is not a valid letter.";
    }
}
var a = prompt("Enter a character:");
var result = isVowelOrConsonant(a);
console.log(result);
```

4)

```
var a=6;
var b=9;
a = a+b;
b = a-b;
a = a-b;
console.log("a="+a+" b="+b);
```

5)

```
function primeOrNot(a){
    var b = 0;
    if(a == 0){
        console.log(a+" is not a prime");
    }else{
    for(let i = 1; i <= a;i++){
        if(a%i==0){
            b++;
        }
    }
        if(b == 2){
```

```
            console.log(a+" is a prime number");
        }
        else{
            console.log(a+" is not a prime number");
        }
}
}
var a = prompt("Enter a number:");
primeOrNot(a);
```

Program to Practice

```
1)function fahrenheitToCelcius (a){
    var b = (a - 32) * 5/9;
    return b;
}
var a =prompt("Enter a fahrenheit:");;
var c = fahrenheitToCelcius(a);
console.log(c);

2) var a = prompt("enter a year:");
findLeapYear(a);
function findLeapYear(a){
```

```
    if (a%4==0){
        console.log(a+ " is a leap year");
    }
    else{
        console.log(a+ " is not a leap year");
    }
}
```

3)
```
var a = prompt("enter a string:");
findLength(a);
function findLength(a){
var b = a+"_";
var c = "_";
var d=b.indexOf(c);
console.log(d);
}
```

4)
```
var a = prompt("enter 1st number:");
var b = prompt("enter 2nd number:");
arithmeticOperations(a,b);
function arithmeticOperations(num1, num2) {
    var sum = num1 + num2;
    console.log("sum : "+sum);
    var difference = num1 - num2;
    console.log("difference : "+difference);
    var product = num1 * num2;
```

```
    console.log("product : "+product);
    var quotient = num1 / num2;
    console.log("quotient : "+quotient);
}

5) function calculateAverage(a) {
    if (a.length === 0) {
        return 0;
    }
    var sum = a.reduce((acc, num) => acc + num, 0);
    return sum/a.length;
}
var Array = [10, 20, 30, 40, 50];
var average = calculateAverage(Array);
console.log("Average of the numbers is: " + average);

6) var a = "hello world";
stringReverse(a);

function stringReverse(a) {
    let reversedString = "";
    for (let i = a.length - 1; i >= 0; i--) {
        reversedString += a.charAt(i);
    }
    console.log(reversedString);}
```

7) var a = "hello world ";

var b = "have a nice day";

console.log(a.concat(b));

8) function countVowels(inputString) {

    var lowercaseString = inputString.toLowerCase();

    let vowelCount = 0;

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

        if ('aeiou'.includes(lowercaseString[i])) {

            vowelCount++;

        }

    }

    return vowelCount;

}

var userInput = prompt("Enter a string:");

var vowelsCount = countVowels(userInput);

console.log("Number of vowels in the string: " + vowelsCount);

9) function findShortestAndLongest(strings) {

    if (strings.length === 0) {

        return "The array is empty.";

    }

    let shortest = strings[0];

    let longest = strings[0];

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

        var currentString = strings[i];

```
        if (currentString.length < shortest.length) {
            shortest = currentString;
        }
        if (currentString.length > longest.length) {
            longest = currentString;
        }
    }
    return {
        shortest,
        longest
    };
}
var stringArray = ["apple", "banana", "cherry", "date", "fig"];
var result = findShortestAndLongest(stringArray);
console.log("Shortest string: " + result.shortest);
console.log("Longest string: " + result.longest);

10) function findLargest(a, b, c) {
    if (a >= b && a >= c) {
        return a;
    } else if (b >= a && b >= c) {
        return b;
    } else {
        return c;
    }
}
```

```
var a = 10;
var b = 20;
var c = 15;
var largest = findLargest(a, b, c);
console.log("The largest number is: " + largest);
```

11)
```
var a=6;
var b=9;
a = a+b;
b = a-b;
a = a-b;
console.log("a="+a+" b="+b);
```

12)
```
function countWordsWithSpaces(inputString) {
    var wordCount = 0;
    var isInsideWord = false;
    for (let i = 0; i < inputString.length; i++) {
        if (inputString[i] !== ' ' && !isInsideWord) {
            wordCount++;
            isInsideWord = true;
        } else if (inputString[i] === ' ') {
            isInsideWord = false;
        }
    }
    return wordCount;
```

```
}

var userInput = prompt("Enter a string:");

var wordCount = countWordsWithSpaces(userInput);

console.log("Number of words (including spaces) in the string: " + wordCount);
```