Assignment

// Assignment 1

// 1. What will be the output of the following code snippet?
```
function isTwoPassed() {
    var args = Array.prototype.slice.call(arguments);
    return args.indexOf(2) != -1;
}
isTwoPassed(1, 4); // output : false
isTwoPassed(5, 3, 1, 2); // output : true
```

// 2. Which value of a will be logged?
```
var a = 1;
function b() {
    a = 10;
    return;
    function a() { }
}
b(); // undefined
console.log(a); // output : a = 1
```

// 3. Write a multiplication function which will produce the following outputs when invoked:

// Simple function
```
const multiplication = (x, y, z) => x * y * z;
console.log(multiplication(2, 3, 4)); // output : 24
```

// arrow function
```
const multiplication = x => y => z => x * y * z;

console.log(multiplication(2)(3)(4)); // output : 24
console.log(multiplication(4)(3)(4)); // output : 48
```

// 4. How to empty an array in JavaScript?
```
var arrayList = ['a', 'b', 'c', 'd', 'e', 'f'];
```

```javascript
console.log(arrayList); // output : ['a', 'b', 'c', 'd', 'e', 'f']

// 1. Assign empty array
arrayList = [];
console.log(arrayList); // output : []

// 2. Set the length to 0
arrayList.length = 0
console.log(arrayList); // output : []

// 3. pop() method
for (let i = 0; arrayList.length > 0; i++) {
    arrayList.pop(i);
}
console.log(arrayList); // output : []

// 5. What will be the output of the following code?
var output = (function (x) {
    delete x;
    return x;
})(0);
console.log(output); // output : 0  (x is the local varibale so there is no affect on it)

// 6. Write code for merge two JavaScript Object dynamically.

var obj1 = { firstName: 'Ashutosh', lstName: 'Pipriye' };
var obj2 = { age: 21 };

var merge = { ...obj1, ...obj2 } // using spread operator

console.log(merge); // output : { firstName: 'Ashutosh', lstName: 'Pipriye', age: 21 }

// 7. Find output of the following:
var strA = "hi there";
var strB = strA;
```

```javascript
strB = "bye there!";
console.log(strA); // output : hi there

// 8. How to empty an array javascript
arrayList = [];
console.log(arrayList); // output : []

// 9. Calculate the length of an object by iterating through the object
var emp_details = {
    firstname: "Ashutosh",
    lastname: "Pipriye",
    id: 100
};

console.log(emp_details); // output : { firstname: "Ashutosh", lastname:
"Pipriye", id: 100 }
console.log(`Length is ${Object.keys(emp_details).length}`); // output : 3

var size = 0;
for (let i in emp_details) {
    if (emp_details.hasOwnProperty(i)) {
        size++;
    }
}
console.log(size); // output : 3

// 10. Write an example of promise.

var promise = new Promise(function (resolve, reject) {
    const x = "xyz";
    const y = "xyz"
    if (x === y) {
        resolve();
    } else {
        reject();
    }
});
```

```
promise.
   then(function () {
      console.log('Success'); // if x===y true then success
   }).
   catch(function () {
      console.log('Some error'); // if x===y false then error
   });
```

// Assignment 2

// 1.   Declare a variable hello. Assign a function to it returning 'Hello world!'.

```
const hello = () => 'Hello world!'
console.log(hello()) // output : Hello world!
```

// 2.   Write a Javascript program which takes n as input and consoles the addition of the even and odd numbers from 1 to n as 'Even Sum' and 'Odd Sum'. Do not use more than one loop.

```
// var n = Number(prompt("Enter the number"));
var n = Number(prompt("Enter the number")) // take the number from user
var evenSum = 0;
var oddSum = 0;
for (let i = 0; i <= n; i++) {
   // check the number is even or odd
   if (i % 2 == 0) {
      // if even
      evenSum += i;
   } else {
      // if odd
      oddSum += i;
   }
}
console.log(`Even number sum is ${evenSum} and odd number sum is ${oddSum}`);
```

```javascript
// Types & Coercion

// 1.   Write a function equals that checks two values for strict equality. If the
two values are equal, the string 'EQUAL' should be returned. If they are
unequal, you should get 'UNEQUAL'. The call equals(1, 1) should return
'EQUAL', the call equals(1, '1') should return 'UNEQUAL'.

function equals(a, b) {
   // equality operator (strict ===)
   if (a === b) {
      console.log('EQUAL')
   } else {
      console.log('UNEQUAL')
   }
}
equals(1, 1); // output : EQUAL
equals(1, '1'); // output : UNEQUAL

// 2.   Write a JavaScript program to create a new string from a given input
changing the type to string and changing the position of first and last characters.
The string length must be greater than or equal to 1."

const first_last = str => {
   // check the string
   if (str.length <= 1) {
      return str;
   }
   // split the string
   const str1 = str.split('')
   // swap the element
   swap = str1[0];
   str1[0] = str1[str.length - 1]
   str1[str.length - 1] = swap
   console.log(str)
   // join the string
   const swift = str1.join('');
   return swift;
```

```
}
console.log(first_last('ashutosh')); // output : hshutosa
console.log(first_last('yapph')); // output : happy
```

```
// Assignment 3
// 1.   Write a program that asks the user for two numbers and the operation to
be performed. Based on the input operation performs the mathematical
operation on the two numbers.
// For Example:
// Perform(1,2,'SUM') Returns 3
// Perform(5,3,'DIFF') Returns 2

// arrow function to perform operation
const perform = (num1, num2, opertor) => {
   let ans;
   // switch case
   switch (opertor) {
     case 'ADD':
        var sum = num1 + num2;
        ans = `Additopn is ${sum}.`
        break;
     case 'SUB':
        var sub = num1 - num2;
        ans = `Substraction is ${sub}.`
        break;
     case 'MUL':
        var mul = num1 * num2;
        ans = `Multiplication is ${mul}.`
        break;
     case 'DIV':
        var div = num1 / num2;
        ans = `Division is ${div}.`
        break;
     case 'MOD':
        var mod = num1 % num2;
        ans = `Modulus is ${mod}.`
```

```javascript
        break;
    }
    // value return
    return ans;
}
// take input from user
num1 = prompt("Enter the first number")
num2 = prompt("Enter the second number")
operation = prompt("Enter which operation you have to performed")
// function calling
const answer = perform(Number(num1), Number(num2), operation);
console.log(answer);


// 2.    Write an optimized function to return the sorted list for an array of
numbers"

// without sort method
const number = [10, 20, 5, 2, 1, 30, 25, 11, 15, 22]
console.log(number);

function sorter(arr) {
    var swap, flag = false;
    // is it done?
    while (!flag) {
        flag = true;
        for (var i = 1; i < arr.length; i++) {
            // comapre the value
            if (arr[i - 1] > arr[i]) {
                flag = false;
                // swap element
                swap = arr[i - 1];
                arr[i - 1] = arr[i];
                arr[i] = swap;
            };
        };
    };
    return arr;
```

```javascript
};
console.log(`Ascending order ${sorter(number)}`);
console.log(`Descending order ${number.reverse()}`);

// using sort method

const num = [10, 20, 5, 2, 1, 30, 25, 11, 15, 22]
console.log(num);

const asending_order = num.sort((a, b) => a - b)
console.log(asending_order);

const desending_order = num.sort((a, b) => b - a)
console.log(desending_order);


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// For Example:
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// Using HTML

<html lang="en">
   <head>
      <title>Assignment</title>
             <link
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.2/css/bootstrap.min.css"
rel="stylesheet">
        </head>
        <body>

                <div class="row">
                        <div class="col-md-5"></div>
```

```html
                <div class="col-md-5"><h1>Assignment</h1></div>
                <div class="col-md-5"></div>
            </div>
                <br>
                <div class="row">
                <div class="col-md-4"></div>
                <div class="col-md-4">
                    <form class="form-horizontal">
                        <div class="form-group">
                            <label class="control-label
col-xs-3">Number1 :</label>
                                <div class="col-xs-7">
                                    <input class="form-control
num1">
                                </div>
                        </div>
                        <div class="form-group">
                            <label class="control-label
col-xs-3">Number2 :</label>
                                <div class="col-xs-7">
                                    <input class="form-control
num2">
                                </div>
                        </div>
                        <div class="form-group">
                    <label class="control-label
col-xs-3">Operation:</label>
                        <div class="col-xs-7">
                        <select class="form-control operation">
                        <option>ADD</option>
                        <option>SUB</option>
                        <option>MUL</option>
                        <option>DIV</option>
                     <option>MOD</option>
                        </select>
                        </div>
                </div>
```

```html
                        <div class="form-group">
                        <div class="col-xs-offset-5 col-xs-9">
                        <button class="btn btn-success">Perform</button>
                        </div>
                            </div>
                </form>
        </div>
    </div>
        </body>
    <script src="script.js"></script>
</html>
```

```javascript
// javascript code

'use strict';

// decalre variable
var number1 = document.querySelector('.num1');
var number2 = document.querySelector('.num2');
let operation = document.querySelector('.operation');
const submit = document.querySelector('.btn-success');
let output;
let ans;

// arrow function to perform operation
const perform_operation = (opertor, num1, num2) => {
   // switch case
   switch (opertor) {
      case 'ADD':
         var sum = num1 + num2;
         ans = `Additopn of ${num1} and ${num2} is ${sum}.`
         break;
      case 'SUB':
         var sub = num1 - num2;
         ans = `Substraction of ${num1} and ${num2} is ${sub}.`
         break;
```

```javascript
        case 'MUL':
            var mul = num1 * num2;
            ans = `Multiplication of ${num1} and ${num2} is ${mul}.`
            break;
        case 'DIV':
            var div = num1 / num2;
            ans = `Division of ${num1} and ${num2} is ${div}.`
            break;
        case 'MOD':
            var mod = num1 % num2;
            ans = `Modulus of ${num1} and ${num2} is ${mod}.`
            break;
    }
    // value return
    return ans;
}

// event click function
submit.addEventListener('click', function () {
    var num1 = Number(number1.value);
    var num2 = Number(number2.value);
    let opertor1 = operation.value;
    // function calling
    output = perform_operation(opertor1, num1, num2);
    // Display answer
    alert(output);
});
```