Assignment 1 :

1)

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<input id="val">

<input type="Submit" onclick="run();">

<p id="results"></p>

<script >

function numberSum(N) {

var total = 0;

for(var i = 1; i <= N; i++){

total += i;

}

return total;

}

function run(){

val = document.getElementById("val").value;

document.getElementById("results").innerHTML=" "+numberSum(val)

}

</script>

</body>

</html>

2)

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<input id="val">

<input type="Submit" onclick="run();">

<p id="results"></p>

<script >

function numberSum(N) {

var total = 0;

for(var i = 1; i <= N; i++){

if (i % 3 === 0 || i % 5 === 0) {

total += i;

}

}

return total;

}

function run(){

val = document.getElementById("val").value;

document.getElementById("results").innerHTML=" "+numberSum(val)

}

</script>

</body>

</html>

3)

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<input id="val">

<input type="Submit" onclick="run();">

<p id="results"></p>

<script >

function numberSum(N) {

if(N % 2 == 0) {

document.write("The number is even.");

}

else {

document.write("The number is odd.");

}

}

function run(){

val = document.getElementById("val").value;

document.getElementById("results").innerHTML=" "+numberSum(val)

}

</script>

</body>

</html>

4)

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<script >

function coinFlip() {

return(Math.random() < 0.5) ? 'Heads' : 'Tails';

}

var total=1000000;

var countHeads=0;

for (var i=0;i<total;i++)

{

if (coinFlip()==='Heads'){

countHeads++;

}

}

alert("HeadsRatio "+(countHeads/total) +"");

</script>

</body>

</html>

5)

<html>

<head>

<title>Sum </title>

</head>

<body>

<script>

var year = parseInt(prompt('Enter the year'));

var count = 0;

document.write("20 leap years from ",year," are: ");

while (count < 20) {

if (year % 4 == 0) {

if (year % 100 != 0 || year % 400 == 0) {

++count;

document.write(year," ");

}

}

++year;

}

</script>

</body>

</html>

6)

<head>

<title> Frame</title>

</head>

<body>

<script>

var theArray = prompt('Enter the array ');

var array = theArray.split(" ");

//document.write("array: ",array);

document.write("\*\*\*\*\*\*\*\*\*\*\*\*\*<br>");

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

document.write("\*",array[i],"\*<br>");

}

document.write("\*\*\*\*\*\*\*\*\*\*\*\*\*");

</script>

</body>

</html>

7)

<html>

<head>

<title>Currency </title>

</head>

<body>

<script>

var dollar = parseInt(prompt('Enter amount in dollar'));

document.writeln(dollar,"dollar in other currencies: <br>");

var rupee = dollar\*74.20;

var euro = dollar\*0.85;

var yen = dollar\*109.841;

document.writeln(rupee,"Rs is ",dollar,"$ <br>");

document.writeln(euro,"Pound is ",dollar,"$.<br>");

document.writeln(Math.round(yen),"Yen is ",dollar,"$.<br>");

</script>

</body>

</html>

8)

<head>

<title>alt arrays</title>

</head>

<body>

<script>

var array1 = prompt(" string1 ");

var array2 = prompt(" string2 ");

var newarr = concat(array1,array2);

document.writeln("merged array: ",newarr);

function concat(a,b){

return a.concat(b);

}

</script>

</body>

</html>

9)

html>

<head>

<title>Array</title>

</head>

<body>

<script>

var array1 = ["bat","cat","mat"];

var array2 = [11,22,33];

var newarr = merge(array1,array2);

document.writeln("merged array: ",newarr);

function merge(a,b){

let l = a.length+b.length;

let r = [];

let j=0,k=0;

for(let i=0; i<l;i++) {

if(i%2==0) {

r[i]=a[j++];

} else {

r[i]=b[k++];

}

}

return r;

}

</script>

</body>

</html>

10)

<html>

<head>

<title>Fib no.'s</title>

</head>

<body>

<script>

let n1 = 0, n2 = 1, n3;

document.writeln('Fibonacci Series:<br>');

for (let i = 1; i <= 100; i++) {

document.writeln(n1,",");

n3 = n1 + n2;

n1 = n2;

n2 = n3;

}

</script>

</body>

</html>

11)

<html>

<head>

<title>reversing array</title>

</head>

<body>

<script>

var arr = [123, 987, 788, 999];

var new\_arr = arr.reverse();

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

{

document.writeln(arr[i]);

}

</script>

</body>

</html>

12)

<head>

<title>sequence</title>

</head>

<body>

<script>

var string = prompt("Enter single string");

var output ="", temp = "";

document.write(string," type: ",typeof(string));

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

if(string.charAt(i) == "a" || string.charAt(i) == "b" ){

//document.write("before temp ",i," : ",temp," output : ",output,"<br>");

if(temp.length> output.length)

output = temp;

temp = "";

//document.write("after temp ",i," : ",temp," output : ",output,"<br><br>");

}

else{

temp = temp.concat(string.charAt(i));

//document.write(" temp ",i," : ",temp," output : ",output,"<br>");

}

}

document.write('final output: "',output,'"');

</script>

</body>

</html>

13)

<html>

<head>

<title>Sum of N numbers</title>

</head>

<body>

<script>

var number =prompt('Enter multiple integer string: ');

number = number.split(" ");

var array = new Array();

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

array[i] = parseInt(number[i]);

}

var sum = 0, i =0;

document.write("Sum of : <br> For Loop: ",For(sum, i,array));

document.write("<br> While Loop: ",While(sum, i,array));

document.write("<br> Do While Loop: ",DoWhile(sum, i,array));

function For(sum, i, array){

for (i; i < array.length; i++) {

sum += array[i];

}

return sum;

}

function While(sum, i, array){

while(i<array.length){

sum += array[i];

i++;

}

return sum;

}

function DoWhile(sum, i, array){

do{

sum += array[i];

i++;

}while(i<array.length)

return sum;

}

</script>

</body>

</html>

14)

<html>

<head>

<title>Sum of N numbers</title>

</head>

<body>

<script>

document.write("Array of random numbers");

var array = new Array();

for (i = 0; i < 100; i++) {

array[i] = Math.floor((Math.random() \* 1000) + 1);

}

document.write("<br>Array: ",array.toString());

document.write("<br>Max of array: ",Max(array));

document.write("<br>Min of array: ",Min(array));

document.write("<br>Even or Odd: ",Count(array));

document.write("<br>Sum: ",Sum\_Avg(array)[0]," and Average: ",Sum\_Avg(array)[1]);

function Max(array){

var max = 0;

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

max = ( max > array[i] ? max : array[i]);

}

return max;

}

function Min(array){

var max = 1000;

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

max = ( max < array[i] ? max : array[i]);

}

return max;

}

function Count(array){

var even = 0, odd = 0;

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

if(array[i] % 2 == 0)

even++;

else

odd++;

}

return (even>odd?"Even!":"Odd!");

}

function Sum\_Avg(array){

var sum = 0, avg =0, SumAvg = [];

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

sum += array[i];

}

SumAvg = [sum, sum/100] ;

return SumAvg;

}

</script>

</body>

</html>

15)

<html>

<head>

<title>Sum of N numbers</title>

</head>

<body>

<script>

var array = new Array();

for (i = 0; i < 20; i++) {

array[i] = Math.floor((Math.random() \* 50) + 1);

}

document.write("Array of random numbers");

document.write("<br>Array: ",array.toString());

BubbleSort(array);

Sort(array, 0, array.length-1);

function BubbleSort(arr){

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

for(var j = 0; j < ( arr.length - i -1 ); j++){

if(arr[j] > arr[j+1]){

var temp = arr[j]

arr[j] = arr[j + 1]

arr[j+1] = temp

}

}

}

document.write("<br>sorted of array: ",arr);

}

function merge( arr, l, m, r){

var n1 = m - l + 1;

var n2 = r - m;

var L = new Array();

var R = new Array();

for (var i = 0; i < n1; ++i)

L[i] = arr[l + i];

for (var j = 0; j < n2; ++j)

R[j] = arr[m + 1 + j];

var i = 0, j = 0;

var k = l;

while (i < n1 && j < n2) {

if (L[i] <= R[j]) {

arr[k] = L[i];

i++;

}

else {

arr[k] = R[j];

j++;

}

k++;

}

while (i < n1) {

arr[k] = L[i];

i++;

k++;

}

while (j < n2) {

arr[k] = R[j];

j++;

k++;

}

document.write("<br>Merge sorted array: ",arr);

}

function Sort(arr, l, r)

{

document.write("<br> inside Merge sort");

if (l < r) {

var m =l+ (r-l)/2;

sort(arr, l, m);

sort(arr, m + 1, r);

}

merge(arr, l, m, r);

}

</script>

</body>

</html>

16)

<html>

<head>

<meta charset=utf-8 />

<title>Create a table</title>

<style>

body {

margin: 30px;

background: black;

}

#myTable{

border: 1px solid yellow;

color: white;

}

</style>

</head>

<body>

</table><form>

<input type="button" onclick="createTable()" value="Create the table">

</form>

<br><hr>

<table id="myTable" border = "1" cellspacing ="4px">

<script>

function createTable(){

rowNum = window.prompt("Input number of rows", 1);

colNum = window.prompt("Input number of columns",1);

for(var r=0;r<parseInt(rowNum,10);r++){

var x=document.getElementById('myTable').insertRow(r);

for(var c=0;c<parseInt(colNum,10);c++)

{

var y= x.insertCell(c);

y.innerHTML="Row-"+r+" Column-"+c;

}

}

}

</script>

</body>

</html>

17)

<html>

<head>

<title>element rotation</title>

</head>

<body>

<script>

var array = prompt("Enter a string space seperated");

var number = parseInt(prompt("Enter no. rotations"));

array = array.split(" ");

document.write("Updated array: ",array);

while(number > 0){

array.push(array[0]);

array.shift();

document.write("<br>Updated array: ",array);

number--;

}

document.write("<br>Final array: ",array);

</script>

</body>

</html>

18)

<html>

<head>

<title>Pig Latin Translation</title>

</head>

<body>

<script>

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

document.write("Original text: ",string);

document.write("<br>Piglatin text: ",translatePigLatin(string));

function translatePigLatin(str) {

let vowels = ['a', 'e', 'i', 'o', 'u'];

let newStr = "";

if (vowels.indexOf(str[0]) > -1) {

newStr = str + "way";

return newStr;

}

else {

let firstMatch = str.match(/[aeiou]/g) || 0;

let vowel = str.indexOf(firstMatch[0]);

newStr = str.substring(vowel) + str.substring(0, vowel) + "ay";

return newStr;

}

}

</script>

</body>

</html>

19)

<!DOCTYPE HTML>

<html lang="en">

<head>

<meta charset="utf-8">

<title>A Simple Calculator</title>

<link href="https://fonts.googleapis.com/css?family=Inconsolata" rel="stylesheet">

<style>

\* {

font-family: 'Inconsolata', monospace;

color: #555;

}

body {

background-color: #3fb399;

}

.container {

width: 320px;

background-color: white;

margin: 120px auto;

}

table {

width: 100%;

border-color: #f4f4f4;

}

td {

width: 25%;

}

button {

width: 100%;

height: 70px;

font-size: 24px;

background-color: white;

border: none;

}

#inputLabel {

height: 120px;

font-size: 40px;

vertical-align: bottom;

text-align: right;

padding-right: 16px;

background-color: #ececec;

}

</style>

</head>

<body>

<div class="container">

<table border="1" cellspacing="0">

<tr>

<td colspan="4" id="inputLabel">0</td>

</tr>

<tr>

<td colspan="3"><button onclick="pushBtn(this);">AC</button></td>

<td><button onclick="pushBtn(this);">/</button></td>

</tr>

<tr>

<td><button onclick="pushBtn(this);">7</button></td>

<td><button onclick="pushBtn(this);">8</button></td>

<td><button onclick="pushBtn(this);">9</button></td>

<td><button onclick="pushBtn(this);">\*</button></td>

</tr>

<tr>

<td><button onclick="pushBtn(this);">4</button></td>

<td><button onclick="pushBtn(this);">5</button></td>

<td><button onclick="pushBtn(this);">6</button></td>

<td><button onclick="pushBtn(this);">-</button></td>

</tr>

<tr>

<td><button onclick="pushBtn(this);">1</button></td>

<td><button onclick="pushBtn(this);">2</button></td>

<td><button onclick="pushBtn(this);">3</button></td>

<td><button onclick="pushBtn(this);">+</button></td>

</tr>

<tr>

<td colspan="2"><button onclick="pushBtn(this);">0</button></td>

<td><button onclick="pushBtn(this);">.</button></td>

<td><button onclick="pushBtn(this);">=</button></td>

</tr>

</table>

</div>

<script>

var inputLabel = document.getElementById('inputLabel');

function pushBtn(obj) {

var pushed = obj.innerHTML;

if (pushed == '=') {

// Calculate

inputLabel.innerHTML = eval(inputLabel.innerHTML);

} else if (pushed == 'AC') {

// All Clear

inputLabel.innerHTML = '0';

} else {

if (inputLabel.innerHTML == '0') {

inputLabel.innerHTML = pushed;

} else {

inputLabel.innerHTML += pushed;

}

}

}

</script>

</body>

</html>

</html>

Assignment 2 :

1)

<html>

<head>

<title>Composed Value Embedded Functions</title>

</head>

<html>

<script>

var x=prompt("enter a number");

function square(x){

return x\*x;

}

function double(x){

return x\*2;

}

function composedValue(){

document.write("The value of compose(square,double) is "+square(double(x)));

}

composedValue();

</script>

</html>

</html>

2)

<html>

<head>

<title>Composed Value Embedded Functions</title>

</head>

<html>

<script>

var x=prompt("enter a number");

function square(x){

return x\*x;

}

function double(x){

return x\*2;

}

function compose(){

document.write("The value of compose(square,double) is "+square(double(x)) );

document.write("<br> The value of compose(double,square) is "+double(square(x)));

}

compose();

</script>

</html>

</html>

3)

<html>

<head>

<title>Return Array that Passed Function Test</title>

</head>

<html>

<script>

var array=prompt("enter an array");

array = array.split(" ");

document.write("The first value of array to pass test in function is: " +test(array));

function test(array){

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

if(parseInt(array[i]) % 2 == 0)

return array[i];

}

return -1;

}

</script>

</html>

</html>

4)

<html>

<head>

<title>Map method trying manually</title>

</head>

<html>

<script>

var array1 = prompt("Enter array1 spaced string ");

var array2 = prompt("Enter array2 spaced string ");

array1 = array1.split(" ");

array2 = array2.split(" ");

document.write("Array: "+array1+" ----> Squared Array: "+find\_squares(array1));

document.write("<br>Array: "+array2+" ----> Square Root Array: "+find\_sqrroot(array2));

function find\_squares(array1){

var newArray = [];

for(i=0;i<array1.length;i++){

var bool=array1[i]\*array1[i];

newArray.push(bool);

//document.write("<br>The squares of numbers are: "+bool+" & updated newArray: "+newArray.toString());

}

return newArray;

}

function find\_sqrroot(array2){

var newArray = [];

for(i=0;i<array2.length;i++){

var bool=Math.sqrt(array2[i]);

newArray.push(bool);

//document.write("<br>The square roots of numbers are: "+boo+" & updated newArray: "+newArray.toString());

}

return newArray;

}

</script>

</html>

Assignment 3 :

1)

<html>

<head>

<title>Rectangle Class Object Manipulation</title>

</head>

<body>

<script>

class Rectangle {

constructor(height, width) {

this.height = height;

this.width = width;

}

get getHeight(){

return this.height;

}

get getWidth(){

return this.width;

}

}

var Rectangle1 = new Rectangle(6, 5);

document.write("Rectangle<br>Height: "+Rectangle1.getHeight);

document.write("<br>Width: "+Rectangle1.getWidth);

Rectangle1 = new Rectangle(8, 9);

document.write("<br><hr>Update Rectangle properties are:<br>Height: "+Rectangle1.getHeight);

document.write("<br>Width: "+Rectangle1.getWidth);

</script>

</body>

</html>

2)

<!DOCTYPE html>

<html>

<head>

<title>Prototype Area Method</title>

</head>

<body>

<p id="demo"></p>

<script>

class Rectangle {

constructor(length, breadth) {

this.length = length;

this.breadth = breadth;

}

get getLength(){

return this.length;

}

get getWidth(){

return this.breadth;

}

}

var RectObject = new Rectangle(4, 5);

document.write("Rectangle<br>Height: "+RectObject.getLength);

document.write("<br>Width: "+RectObject.getWidth);

Rectangle.prototype.getArea = function() {

return this.length \* this.breadth

};

document.getElementById("demo").innerHTML =

"Rectangle Area: " + RectObject.getArea();

</script>

</body>

</html>

3)

<!DOCTYPE html>

<html>

<head>

<title>Prototype Area Method</title>

</head>

<body>

<p id="demo"></p>

<script>

class Rectangle {

constructor(length, breadth, height) {

this.length = length;

this.breadth = breadth;

this.height = height;

}

get getLength(){

return this.length;

}

get getWidth(){

return this.breadth;

}

get getHeight(){

return this.height;

}

}

var RectObject = new Rectangle(4, 5, 50);

document.write("Rectangle<br>Height: "+RectObject.getLength);

document.write("<br>Width: "+RectObject.getWidth);

document.write("<br>height: "+RectObject.getHeight);

Rectangle.prototype.getArea = function() {

return this.length \* this.breadth \* this.height

};

document.getElementById("demo").innerHTML =

"Rectangle Area: " + RectObject.getArea();

</script>

</body>

4)

<html>

<head>

<title>Classless Object Manipulation</title>

</head>

<body>

<script>

let Name = {

first: "Jackie",

last: "Chang"

};

document.write("Name<br>first: "+Name.first);

document.write("<br>last: "+Name.last);

Name.first = "Naruto";

Name.last = "Uzumaki";

Name.Country = "Japan";

document.write("<br><hr>Update Name properties are:<br>first: "+Name.first);

document.write("<br>last: "+Name.last);

document.write("<br><hr>Update Rectangle properties are (using for loop): ");

for (let prop in Name) {

document.write("<br>",prop," : ",Name[prop]);

}

</script>

</body>

</html>

5)

<html>

<head>

<title>Classless Object Manipulation</title>

</head>

<body>

<script>

let Name = {

First: "happy",

Last: "sen",

Middle: "hippie"

};

document.write("Name<br>first: "+Name.First);

document.write("<br>last: "+Name.Last);

document.write("<hr>Middle: "+Name.Middle);

</script>

</body>

</html>

6)

var str = '({"firstName":"Bill","lastName":"Gates"})';

var obj = eval(str);

console.log(obj);

console.log(obj.firstName + " " + obj.lastName);

7)

const text = '{"name":"John", "birth":"1986-12-14", "city":"New York"}';

const obj = JSON.parse(text);

obj.birth = new Date(obj.birth);

console.log();

console.log(obj);

console.log(obj.name + ", " + obj.birth);

console.log();

1)

class Person {

constructor(fname, lname, age, skills, dob, address, married, profession) {

this.fname = fname;

this.lname = lname;

this.age = age;

this.skills = skills;

this.dob = dob;

this.address = address;

this.married = married;

this.profession = profession;

}

get getlname(){

return this.lname;

}

get getfname(){

return this.fname;

}

get getage(){

return this.age ;

}

get getskills(){

return this.skills;

}

get getaddress(){

return this.address;

}

get getmarried(){

return this.maegetmarried;

}

get getdob(){

return this.dob;

}

get getprofession(){

return this.profession;

}

}

var person1 = new Person("ABC","rag",22,["java"],"28/10/1999",{city:"hyderabad",pincode:"500084"},false,"jr. analyst");

var person2 = new Person("Md","Main",23,["java"],"14/07/1998",{city:"hyderabad",pincode:"500084"},false,"sr. analyst");

print = function(){

console.log(person1);

console.log(person2);

}();

2)

class Person {

constructor(fname, lname, age, skills, dob, address, married, profession) {

this.fname = fname;

this.lname = lname;

this.age = age;

this.skills = skills;

this.dob = dob;

this.address = address;

this.married = married;

this.profession = profession;

}

get getlname(){

return this.lname;

}

get getfname(){

return this.fname;

}

get getage(){

return this.age ;

}

get getskills(){

return this.skills;

}

get getaddress(){

return this.address;

}

get getmarried(){

return this.maegetmarried;

}

get getdob(){

return this.dob;

}

get getprofession(){

return this.profession;

}

}

var amitab = new Person("amitab","bachan",22,["java"],"24/10/1996",{city:"hyderabad",pincode:"521185"},false,"sr. analyst");

var abhishek = new Person("abhishek",amitab.getlname,21,"HTML","08/06/1997",amitab.getaddress,false,"jr. analyst");

var object = abhishek;

object = Object.create(amitab);

print = function(){

console.log(amitab);

console.log();

console.log(object.lname);

console.log(object.address);

}();

3)

class Person {

constructor(fname, lname, age, skills, dob, address, married, profession) {

this.fname = fname;

this.lname = lname;

this.age = age;

this.skills = skills;

this.dob = dob;

this.address = address;

this.married = married;

this.profession = profession;

}

get getlname(){

return this.lname;

}

get getfname(){

return this.fname;

}

get getage(){

return this.age ;

}

get getskills(){

return this.skills;

}

get getaddress(){

return this.address;

}

get getmarried(){

return this.maegetmarried;

}

get getdob(){

return this.dob;

}

get getprofession(){

return this.profession;

}

}

var amitab = new Person("amitab","bachan",22,["java"],"24/10/1996",{city:"hyderabad",pincode:"521185"},false,"sr. analyst");

var abhishek = new Person("abhishek",amitab.getlname,21,"HTML","08/06/1997",amitab.getaddress,false,"jr. analyst");

var Aaradhya = new Person("Aaradhya",amitab.getlname,amitab.age,"C++","21/10/1997",amitab.getaddress,abhishek.getmarried,abhishek.getprofession);

var object = abhishek;

object = Object.create(amitab);

print = function(){

console.log(amitab);

console.log();

console.log(abhishek);

console.log();

console.log(Aaradhya);

}();

4)

class BankAccount{

constructor(accountNumber, accountHolderName, accountBalance, isSalary){

this.accountBalance = accountBalance;

this.accountNumber = accountNumber;

this.accountHolderName = accountHolderName;

this.isSalary = isSalary;

}

get getAccNumber(){

return this.accountNumber;

}

get getAccBalance(){

return this.accountBalance;

}

get getAccHolder(){

return this.accountHolderName;

}

set setIsSalary(amount){

this.isSalary = amount;

}

set setOdLimit(value){

this.odLimit = value;

}

set setAccBalance(value){

this.accountBalance = value;

}

get getOdLimit(){

return this.odLimit;

}

withdraw(amount) {

var rmngBalance = this.accountBalance - amount;

if(Math.abs(rmngBalance) <0 || this.getOdLimit < Math.abs(rmngBalance))

console.log("not allowed, beyond limit by: "+(Math.abs(rmngBalance) - this.getOdLimit));

else

this.setAccBalance = rmngBalance;

}

}

var savings = new BankAccount(112233,"Will Smith", 1000000, 200000);

var current = new BankAccount(445566,"Martin Lawrence", 1000000, 0);

//savings.setIsSalary = 200000;

current.setOdLimit = 10000;

console.log(savings);

console.log(current);

savings.withdraw(10000);

console.log("savings balance: ",savings.getAccBalance);

current.withdraw(2000000);

console.log("current balance: ",current.getAccBalance);