```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Area of triangle, rectangle and circle</title>
</head>
<body>
<div>
<h1>Find area of triangle</h1>
<label for="triangle1">Height</label>
<input type="number" name="triangle1" id="trih">

<label for="triangle2">Base</label>
<input type="number" name="triangle2" id="trib">

<button onclick="triArea()">Calculate Area</button>

<h3 id="result1"></h3>
</div><br><br><br>

<div>
<h1>Find area of rectangle</h1>
<label for="rectangle1">Length</label>
<input type="number" name="rectangle1" id="recl">

<label for="rectangle2">Breadth</label>
<input type="number" name="rectangle2" id="recb">

<button onclick="recArea()">Calculate Area</button>
<h3 id="result2"></h3>
</div><br><br><br>

<div>
<h1>Find area of circle</h1>
<label for="circle">Radius</label>
<input type="number" name="circle" id="cirr">
<button onclick="cirArea()">Calculate Area</button>

<h3 id="result3"></h3>
</div>


<script src="./script_exp_1.js"></script>
</body>
</html>
```

```javascript
// Area of triangle
function triArea() {
let height = document.getElementById("trih").value;
script_exp_1.js file:

let base = document.getElementById("trib").value;

let triResult = (1 / 2) * base * height;

document.getElementById(
"result1"
).innerHTML = `Area of triangle: ${triResult}.`;
}

// Area of rectangle
function recArea() {
let length = document.getElementById("recl").value;
let breadth = document.getElementById("recb").value;

let recResult = length * breadth;

document.getElementById(
"result2"
).innerHTML = `Area of rectangle: ${recResult}.`;
}

// Area of circle
function cirArea() {
let radius = document.getElementById("cirr").value;

let cirResult = radius * radius * 3.14;

document.getElementById(
"result3"
).innerHTML = `Area of triangle: ${cirResult}.`;
}
```

```html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Multiplication table</title>
</head>

<body>
<h1>Create Multiplication Table</h1>
<input type="number" name="" id="table" placeholder="Enter Number">
<button onclick="create()">Create</button>

<h3 id="result"></h3>

<script src="./script_exp_2.js"></script>
</body>

</html>
```

Script_exp_2.js file:

```javascript
function create() {
let num = document.getElementById("table").value;
let arr = [];

for (let i = 1; i <= 10; i++) {
arr.push(`${num} X ${i} = ${num * i}`);
}

for (let i = 0; i < arr.length; i++) {
document.getElementById("result").innerHTML += ` ${arr[i]}<br>`;
}
}
```

```html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>String programs</title>
</head>

<body>
<div>
<h1>Reverse String</h1>
<input type="text" id="reverse" placeholder="Enter String">
<button onclick="reverseString()">Reverse</button>

<h3 id="result1"></h3>
</div><br><br>

<div>
<h1>Replace characters of String</h1>
<h2>String : Welcome to Sinhgad</h2>
<input type="text" id="replace1" placeholder="Enter String">
<input type="text" id="replace2" placeholder="Enter String">
<button onclick="replaceString()">Replace</button>

<h3 id="result2"></h3>
</div><br><br>

<div>
<h1>Check Pallindrom of Strings</h1>
<input type="text" id="string1" placeholder="Enter String">
<button onclick="checkPall()">Check</button>

<h3 id="result3"></h3>
</div>

<script src="./script_exp_3.js"></script>

</body>
</html>
```

Script_exp_3.js file:

```javascript
function reverseString() {
let str = document.getElementById("reverse").value;
let result = str.split("").reverse().join("");

document.getElementById(
"result1"
).innerHTML = `Reverse of ${str}: ${result}.`;
}

function replaceString() {
let string = "String : Welcome to Sinhgad";
let str1 = document.getElementById("replace1").value;
let str2 = document.getElementById("replace2").value;

let result = string.replace(str1, str2);

document.getElementById("result2").innerHTML = `Final string is: ${result}.`;
}

function checkPall() {
let str = document.getElementById("string1").value;

let rev = str.split("").reverse().join("");

if (str.toLowerCase() === rev.toLowerCase()) {
document.getElementById("result3").innerHTML = `The string is pallindrom.`;
} else {
document.getElementById(
"result3"
).innerHTML = `The string is not pallindrom.`;
}
}
```

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>String Comparison</title>
</head>
<body>

<h1>String Comparison program</h1>

<form onsubmit ="return false">
<input type="text" name="string" id="string1" placeholder="Enter your string 1"
onchange='saveValue(this)'>
<input type="text" name="string" id="string2" placeholder="Enter your string 2"
onchange='saveValue(this)'>
<button onclick="strComp()">Compare Strings</button>
</form><br><br>

<div>
<h3>Using '===': </h3>
<h3 id="result1"></h3>
</div><br><br>

<div>
<h3>Using localCompare(string): </h3>
<h3 id="result2"></h3>
</div><br><br>

<div>
<h3>Using includes(): </h3>
<h3 id="result3"></h3>
</div>
<br><br>
<div>
<h3>Using RegExp(): </h3>
<h3 id="result4"></h3>
</div>

<script src="./script_exp_4.js"></script>
</body>
</html>
```

Script_exp_4.js file:

```
let string1, string2
```

```javascript
function strComp() {
string1 = document.getElementById("string1").value
string2 = document.getElementById("string2").value
let s1 = string1.toLowerCase();
let s2 = string2.toLowerCase();
if(s1 === s2){
document.getElementById("result1").innerHTML = "Strings are same"
}else{
document.getElementById("result1").innerHTML = "Strings are not same"
}

let s3 = string1.localeCompare(string2)
if(s3 === 0){
document.getElementById("result2").innerHTML = "Strings are same"
}else{
document.getElementById("result2").innerHTML = "Strings are not same"
}

let result = s1.includes(s2);
if(result){
document.getElementById("result3").innerHTML = "Strings are same"
}else{
document.getElementById("result3").innerHTML = "Strings are not same"
}

let pattern = new RegExp(string1, 'gi')
result2 = pattern.test(string2)
if(result2){
document.getElementById("result4").innerHTML = "Strings are same"
}else{
document.getElementById("result4").innerHTML = "Strings are not same"
}
}
```

```html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Countdown Timer</title>
</head>

<body>
<h1>Countdown Timer</h1>

<input type="datetime-local" name="" id="timer">
<button onclick="startTimer()">Start Timer</button>

<h3 id="result"></h3>

<script src="./script_exp_5.js"></script>
</body>
</html>
```

Script_exp_5.js file:

```javascript
function startTimer() {
let x = setInterval(function () {
let countDownDate = document.getElementById("timer").value;
let timer = new Date(countDownDate);
let now = new Date().getTime();

let distance = timer - now;

let days = Math.floor(distance / (1000 * 60 * 60 * 24));
let hours = Math.floor(
(distance % (1000 * 60 * 60 * 24)) / (1000 * 60 * 60)
);
let minutes = Math.floor((distance % (1000 * 60 * 60)) / (1000 * 60));
let seconds = Math.floor((distance % (1000 * 60)) / 1000);

document.getElementById("result").innerHTML = ` Timer will end in
${days} d : ${hours} h : ${minutes} m : ${seconds} s`;

if (distance < 0) {
clearInterval(x);
document.getElementById("result").innerHTML = "EXPIRED";
}
}, 1000);}
```

Experiment no 6:
Name: Dyaneshwar J Jagadale
Roll No: 404D023


```html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>JS Array Practical</title>
</head>

<body>
<h1>Javascript Array Programs</h1>
<h3 id="array"></h3>
<label for="no_remove">Enter number to remove element from array: </label>
<input type="number" name="no_remove" id="no_remove">
<button onclick="remove()">Remove Element</button>
<br><br>
<label for="no_search">Enter number to search in the array: </label>
<input type="number" name="no_search" id="no_search">
<button onclick="search()">Search Element</button>
<br><br>
<button onclick="empty()">Empty array</button>

<h2 id="result"></h2>
<script src="./script_exp_6.js"></script>
</body>
</html>
```


Script_exp_6 js file: --

```javascript
const removeArray = (num, array) =>{
let index = array.indexOf(num)
if(index !== -1){
array.splice(index,1)
console.log(array)
return `Element is removed successfuly form index ${index}`
}else{
return "Element not found....."
}
}

const searchArray = (num, array) =>{
let index = array.indexOf(num)
if(index !== -1){
return `Element is present at index ${index}!`
}else{
return "Element not found....."}}
```

```javascript
const emptyArray = (array) =>{
array.splice(0, array.length)
console.log(array)}

let array = [2, 5, 6, 9, 20, 17]
console.log(array)

let numToRemove, numToSearch;
let htmlText = document.getElementById("array").innerHTML = `Array : [${array}]`

const remove = () =>{
numToRemove = document.getElementById("no_remove").value
if(numToRemove.length === 0){
alert("Please enter some number....");
}else{
let result = removeArray(Number(numToRemove), array)
document.getElementById("result").innerHTML = `${result}`
}}

const search = () =>{
numToSearch = document.getElementById("no_search").value
if(numToSearch.length === undefined){
alert("Please enter some number.....");
}else{
let result = searchArray(Number(numToSearch), array)
document.getElementById("result").innerHTML = `${result}`
}}

const empty = () =>{
emptyArray(array);
document.getElementById("result").innerHTML = "Array is empty."
}
```

```
let arr = [];

let obj1 = {
name: "Nidi Patil",
age: 21,
College: "SCOE",
RollNo: 23,
};

arr.push(obj1);
console.log(arr);

let obj2 = {
name: "Sandhya Goykar",
age: 21,
College: "SCOE",
RollNo: 40,
};

arr.unshift(obj2);
console.log(arr);

let obj3 = {
name: "Sakshi Sharma",
age: 21,
College: "SCOE",
RollNo: 61,
};

arr.push(obj3);
console.log(arr);

console.log(Array.isArray(arr));
```

Experiment no 8:
Name: Dyaneshwar J Jagadale
Roll No: 404D023

```html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Mouse Event</title>
</head>
<style>

#home {
height: 70vh;
width: 100%;
text-align: center;
border: 1px solid black;
}

.second {
height: 40vh;
width: 100%;
display: flex;
}

#second_1 {
height: 40vh;
width: 50%;
text-align: center;
border: 1px solid black;
}

.second_2 {
height: 40vh;
width: 50%;
text-align: center;
border: 1px solid black;
}
</style>

<body>
<div id="home" onmouseover="changeBgColor()">
<h1>Home Page</h1>
</div>
<div class="second">
<div id="second_1" onclick="changeFocus()" onBlur="iBlur();">
<h3>Sub_div_1</h3>
</div>
<div class="second_2">
```

```html
<h3>Sub_div_2</h3>
</div>
</div>

<script>
function changeBgColor() {
let element = document.getElementById("home")
element.style.backgroundColor = "#87CEEB";
}

function changeFocus() {
let element = document.getElementById("second_1")
element.style.backgroundColor = "#90EE90";
}
</script>
</body>
</html>
```