-------------------------CODE----------------------

```
<html>
<head>
  <title> Experiment No 3</title>
</head>
  <h1> String Operations</h1>
  <br>
  <body>
    <label> Enter the Sring</label>
    <input id ="base">
    <br>
    <br>
    <h2> Using for Loop</h2>
    <button type="submt" onclick="reverse()">Reverse</button>
    <h3 id="try"></h3>
    <br>
    <h2> Using Built in function</h2>
    <button type="submit" onclick="bultin()">Reverse</button>
    <h3 id="me"></h3>
    <br>
    <h2> Using Replace function</h2>
    <br>
    <label> Enter the Charcater to be Remove</label>
    <input id ="remove">
    <br>
    <br>
    <label>Enter the Charcater to be Added</label>
    <input id ="add">
    <br>
    <br>
    <button type="submit" onclick="rep()">Replace & add</button>
    <h3 id="result1"></h3>
    <h2> Using Replaceall function</h2>
    <br>
    <br>
    <label> Enter the Charcater to be Remove</label>
    <input id ="remov">
    <br>
```

```html
    <br>
    <label>Enter the Charcater to be Added</label>
    <input id ="ad">
    <br>
    <br>
<button type="submit" onclick="repall()">Replace & add</button>
    <h3 id="result2"></h3>
    <br>
    <h2> Check String is Palindrome or Not </h2>
    <button type="submit" onclick="check()">Check</button>
    <h3 id="result3"></h3>
<script>
// Using For loop
function reverse()
{
   var str=(document.getElementById("base").value);
  let reversedStr = "";
  for (let i = str.length - 1; i >= 0; i--) {
    reversedStr += str[i];
}
   document.getElementById("try").innerHTML ="Reverse String is "+ reversedStr;
   return reversedStr;

}
// Built in Function
   function bultin(){
    var str=(document.getElementById("base").value);
      const arr=str.split("");
      const arr1=arr.reverse();
      const join=arr1.join("");
      document.getElementById("me").innerHTML ="Reverse String is "+ join;

   }

   function rep(){
    var  str=(document.getElementById("base").value);
    var str1=(document.getElementById("remove").value);
    var str2=(document.getElementById("add").value);
    var newstr=str.replace(str1, str2);
    document.getElementById("result1").innerHTML ="New String is "+ newstr;


   }
   function repall(){
    var   str=(document.getElementById("base").value);
    var str1=(document.getElementById("remov").value);
```

```
            var str2=(document.getElementById("ad").value);

            var newstr1=str.replaceAll(str1,str2);

            document.getElementById("result2").innerHTML ="New String is "+ newstr1;
            }

    function check()
    {
      var str=(document.getElementById("base").value);
      var str1=reverse();
      if(str==str1){
        document.getElementById("result3").innerHTML =" String is Palindrome ";
      }
      else{
        document.getElementById("result3").innerHTML =" String is not Palindrome ";
      }

    }
        </script>
        </body>
    </html>
```
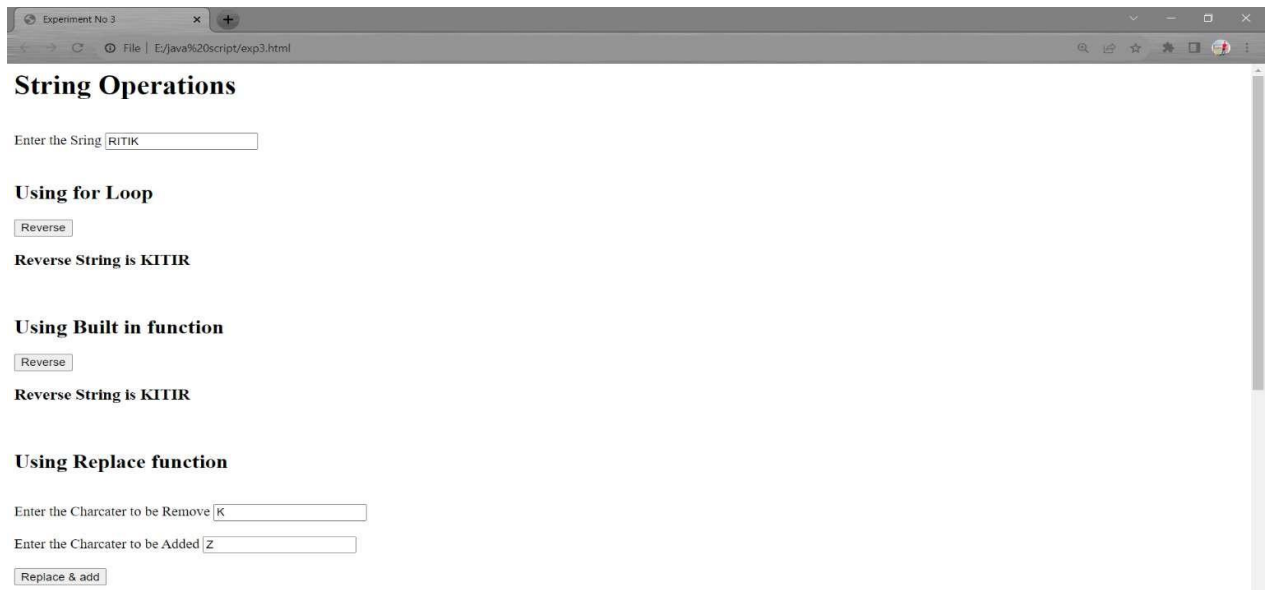
--------------------------OUTPUT----------------------

Using Replace function

Enter the Charcater to be Remove [K]

Enter the Charcater to be Added [Z]

[Replace & add]

New String is RITIZ

Using Replaceall function

Enter the Charcater to be Remove [I]

Enter the Charcater to be Added [T]

[Replace & add]

New String is RTTTK

Check String is Palindrome or Not

[Check]

String is not Palindrome

String Operations

Enter the Sring [MADAM]

Using for Loop

[Reverse]

Reverse String is MADAM

Using Built in function

[Reverse]

Reverse String is MADAM

Using Replace function

Enter the Charcater to be Remove [M]

Enter the Charcater to be Added [A]

[Replace & add]

Using Replace function

Enter the Charcater to be Remove [M]

Enter the Charcater to be Added [A]

[Replace & add]

New String is AADAM

Using Replaceall function

Enter the Charcater to be Remove [A]

Enter the Charcater to be Added [M]

[Replace & add]

New String is MMDMM

Check String is Palindrome or Not

[Check]

String is Palindrome

------------------------CODE----------------------

```html
<html>
<head>
  <title> Experiment No 3</title>
</head>
  <h1> String Comparison </h1>

  <br>
  <body>
    <h3> <label>Enter the first String</label>
    <input id ="firststr"></h3>


    <h3><label>Enter the Second String</label>
    <input id ="secondstr"></h3>

    <br>

    <h2> Mathematical Operations</h2>
    <br>
    <button type="submit" onclick="compare()">Compare</button>
    <h4 id="try"></h4>
    <br>

    <h2> Strict Equality Operator</h2>
    <br>
    <button type="submit" onclick="strictequality()">Compare</button>
    <h4 id="result"></h4>
    <br>

    <h2> Using match method</h2>
    <br>
    <button type="submit" onclick="match()">Compare</button>
    <h4 id="result1"></h4>
    <br>

    <h2> Using matchAll method</h2>
    <br>
    <button type="submit" onclick="matchall()">Compare</button>
    <h4 id="result2"></h4>
    <br>
    <h2> Using localeCompare method</h2>
    <br>
    <button type="submit" onclick="localcompare()">Compare</button>
```

```html
<h4 id="result3"></h4>


<script>
 function compare()
 {
   var  str1=(document.getElementById("firststr").value);
   var str2=(document.getElementById("secondstr").value);
   if(str1>str2)
     {
       document.getElementById("try").innerHTML =" String 1 is greater then String 2 ";
     }
     else if(str1<str2){
       document.getElementById("try").innerHTML =" String 2 is greater then String 1";
     }
     else{
       document.getElementById("try").innerHTML ="Both String are equal "
     }
 }
 function strictequality()
 {
  var str1=(document.getElementById("firststr").value);
   var str2=(document.getElementById("secondstr").value);
   if(str1===str2)
     {
       document.getElementById("result").innerHTML ="Both String are equal ";
     }
     else{
       document.getElementById("result").innerHTML ="String are not Equal";
     }
 }
 function match()
 {
  var str1=(document.getElementById("firststr").value);
   var str2=(document.getElementById("secondstr").value);
   let result= str1.match(str2);
   var cmp ;
   let y=str1.indexOf(result);
   if(result!=str2){
    cmp="String 1 is not macthing with string 2";
   }
   else
   {
    cmp="String 1 is matching with string 2 <br>Index : "+y+"<br>"+" Element : "+ result;
   }
document.getElementById("result1").innerHTML = cmp ;
 }


 function matchall()
 {
```

```javascript
var str1=(document.getElementById("firststr").value);
var str2=(document.getElementById("secondstr").value);
var cmp;
var result=str1.matchAll(str2);
var y=" ";
for(var x of result)
{
    y=y+x.index + " "

}
if(x!=str2){
    cmp="String 1 is not matching with string 2";
}
else{
    cmp="String 1 is matching with string 2 <br>Index : "+y+"<br>"+" Element : "+ x;
}
    document.getElementById("result2").innerHTML = cmp ;

}

function localcompare()
{
 var str1=(document.getElementById("firststr").value);
 var str2=(document.getElementById("secondstr").value);
 var str3=str1.localeCompare(str2);
 var cmp;
 if(str3==0)
 {
   cmp=str3+ ", Means string 1 is equal to string 2 ";
 }
 else if(str3==-1)
 {
   cmp=str3+", Means string 2 is gerater then string 1";
 }
 else{
   cmp=str3+", Means String 1 is gerater then string 2";
 }
 document.getElementById("result3").innerHTML = cmp ;
}

</script>
```
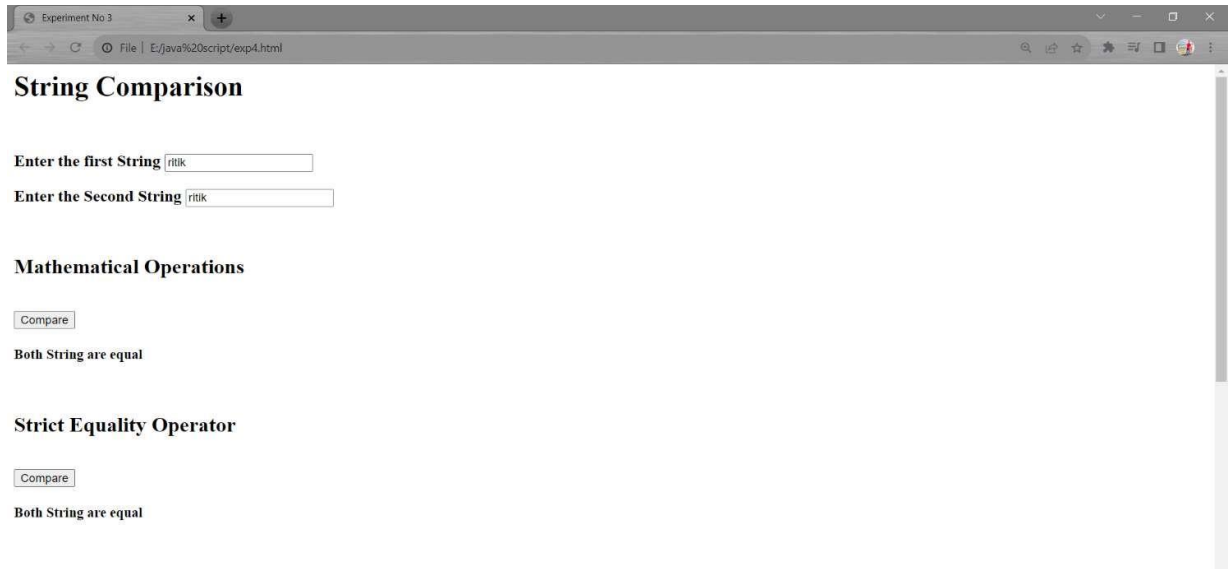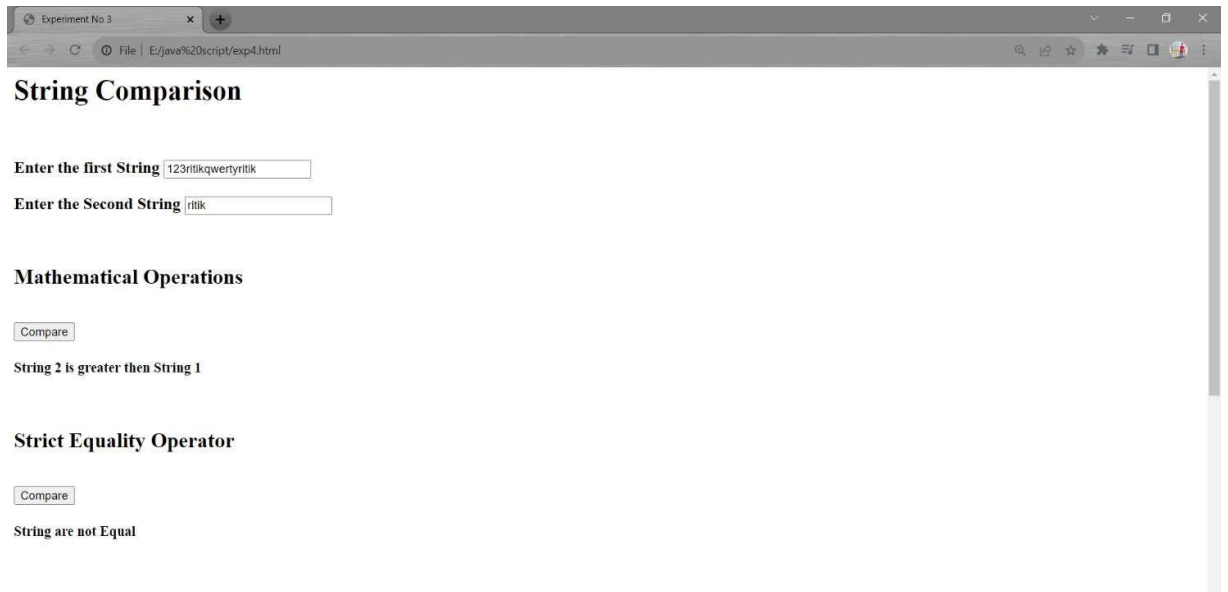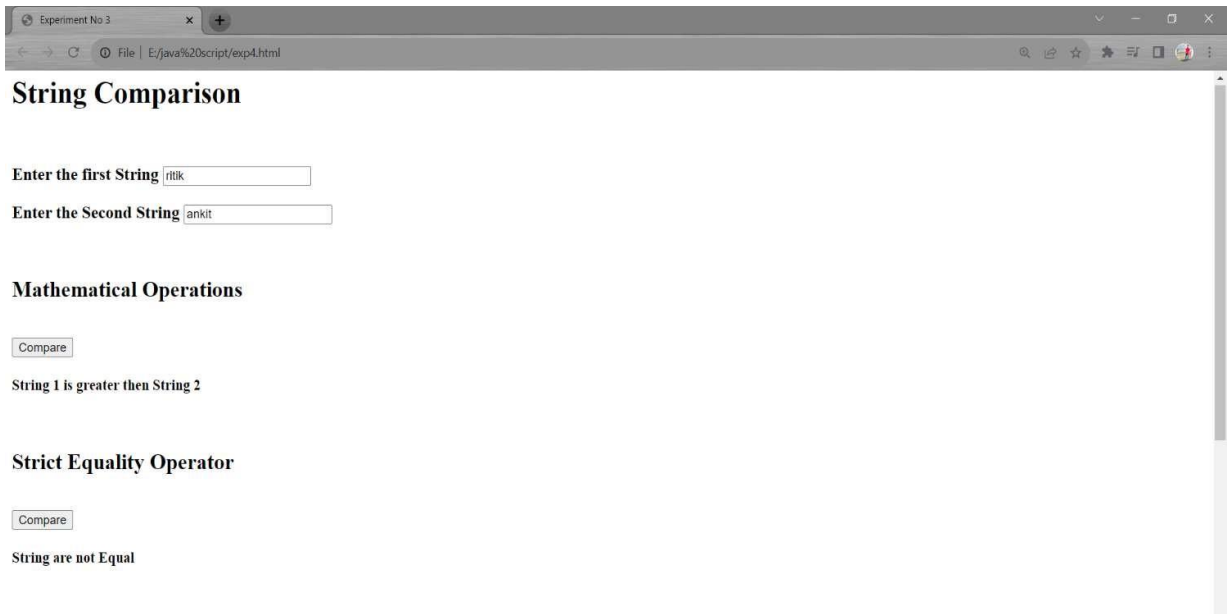
String Comparison

Enter the first String 123ritikqwertyritik

Enter the Second String ritik

Mathematical Operations

Compare

String 2 is greater then String 1

Strict Equality Operator

Compare

String are not Equal

String are not Equal

Using match method

Compare

String 1 is matching with string 2
Index : 3
Element : ritik

Using matchAll method

Compare

String 1 is matching with string 2
Index : 3 14
Element : ritik

Using localeCompare method

Compare

-1, Means string 2 is gerater then string 1

String Comparison

Enter the first String ritik

Enter the Second String ankit

Mathematical Operations

Compare

String 1 is greater then String 2

Strict Equality Operator

Compare

String are not Equal

Compare

String are not Equal

Using match method

Compare

String 1 is not macthing with string 2

Using matchAll method

Compare

String 1 is not matching with string 2

Using localeCompare method

Compare

1, Means String 1 is gerater then string 2

---CODE---

```
<html>
<head>
  <title>Countdown Timer</title>
</head>
<body>
  <div class="timer-container">
    <h1>Countdown Timer</h1>
<h2><label for="expiry-input">Enter Timer Expiry Date and Time (YYYY-MM-DD HH:MM:SS):</label></h2>
    <input type="text" id="expiry-input" placeholder="YYYY-MM-DD HH:MM:SS">
    <button id="start-button">Start Countdown</button>
    <div class="timer">
      <br>
      <br>
      <h1 id="days">00 : 00 : 00 : 00</h1>
      <h1 id="me">Message Loading……</h1>
    </div>
  </div>
  <script src="script.js"></script>
</body>
</html>
```

```javascript
let expiryDate = 0;

let timerInterval;

document.getElementById("start-button").addEventListener("click", function () {

    const inputDate = document.getElementById("expiry-input").value;

    const parsedDate = new Date(inputDate).getTime();

    if (!isNaN(parsedDate) && parsedDate > new Date().getTime()) {

        expiryDate = parsedDate;

        clearInterval(timerInterval);

        timerInterval = setInterval(updateTimer, 1000);

    } else {

        document.getElementById("me").textContent = "Please enter a valid future date and
time.";

    }

});


function updateTimer() {

    const currentDate = new Date().getTime();

    const difference = expiryDate - currentDate;

    if (difference <= 0) {

        clearInterval(timerInterval);

        document.getElementById("me").textContent = "WELCOME RITIk";

    } else {

        const days = Math.floor(difference / (1000 * 60 * 60 * 24));

        const hours = Math.floor((difference % (1000 * 60 * 60 * 24)) / (1000 * 60 * 60));

        const minutes = Math.floor((difference % (1000 * 60 * 60)) / (1000 * 60));

        const seconds = Math.floor((difference % (1000 * 60)) / 1000);

document.getElementById("days").textContent = days + " : " + hours + " : " + minutes + " : " +
seconds;

    }

}
```

Countdown Timer

Enter Timer Expiry Date and Time (YYYY-MM-DD HH:MM:SS):

`2023-08-30 20:15`   `Start Countdown`

0 : 0 : 0 : 0

WELCOME RITIK

Countdown Timer

Enter Timer Expiry Date and Time (YYYY-MM-DD HH:MM:SS):

`Ritik`   `Start Countdown`

0 : 0 : 0 : 0

Please enter a valid future date and time.

---CODE---

```
<html>
<head>
   <title> Experiment No 6</title>


</head>
   <h1> Array Operations</h1>
   <body>
      <label> Enter Array Element </label>
      <input id ="arr">
      <br>
      <button  type="submt"  onclick="arrayfrom()">Dispaly</button>
      <br>
      <h3 id="try"></h3>
      <br>
      <label> Enter Element to be Remove</label>
      <input id = "Remove">
      <br>
      <button  type="submt"  onclick="remove()">Remove</button>
      <br>
      <h3 id="try1"></h3>
      <br>
      <label> Enter Element to be Check</label>
      <input id = "check">
      <br>
      <button  type="submt"  onclick="check()">Check</button>
      <br>
```

```html
<h3 id="try2"></h3>
<br>
<label> Empty Array</label>
<input id = "empty">
<br>
<button type="submt" onclick="empty()">Empty</button>
<br>
<h3 id="try3"></h3>


<script>
  function arrayfrom(){
    var x=(document.getElementById("arr").value);
    var arr= x.split(',');
    document.getElementById("try").innerHTML ="Array is "+ arr;



  }


  function remove(){
    var x=(document.getElementById("arr").value);
    var arr= x.split(',');
    var y=(document.getElementById("Remove").value);
    var i=arr.indexOf(y);
    var myarray= arr.splice(i,1);


    document.getElementById("try1").innerHTML ="Array After Removing Element "+ arr;


  }


  function check(){
```

```javascript
    var x=(document.getElementById("arr").value);

    var arr= x.split(',');

    var y=(document.getElementById("check").value);

    var i=arr.indexOf(y);

    if(i==-1){


    document.getElementById("try2").innerHTML ="Element not present in array ";

  }

  else{

    document.getElementById("try2").innerHTML ="Element is present at index :" +i;

  }

  }

  function empty(){

    var x=(document.getElementById("empty").value);

    var arr= x.split(',');

    arr.length=0;

    document.getElementById("try3").innerHTML ="Array is Empty "+ arr;

  }


</script>
</body>
</html>
```

---**OUTPUT**--

---CODE---

```html
<html>

<title>Experiment No:7</title>
<head>

   <h1>Object Array Demo</h1>
</head>
<body>
   <br>
   <h2><label for="field">Field:</label>
   <input type="text" id="field"></h2>
   <br>
   <h2><label for="value">Value:</label>
   <input type="text" id="value"></h2>
   <br>
   <button onclick="addObjectToArray()">Add to Array</button>
   <br>
   <h2>Array Contents:</h2>
   <h2 id="output"></h2>
   <br>
   <h2><label for="checkVariable">Check Variable:</label>
   <input type="text" id="checkVariable"></h2>
   <br>
   <br>
   <button onclick="checkInArray()">Check in Array</button>
```

```html
    <br>
    <h2 id="result"></h2>


    <script >
        var objectArray = [];


// Function to add an object to the array
function addObjectToArray() {
    var field = document.getElementById("field").value;
    var value = document.getElementById("value").value;


    // Create an object with the given field and value
    var newObject = { field: field, value: value };


    // Add the object to the array
    objectArray.push(newObject);


    // Clear input fields
    document.getElementById("field").value = "";
    document.getElementById("value").value  = "";


    // Display the updated array
    displayArray();
}
function displayArray() {
    var  output  = document.getElementById("output");
    output.innerHTML = "";


    objectArray.forEach(function(obj) {
        var listItem = document.createElement("li");
        listItem.textContent = JSON.stringify(obj);
```

```javascript
      output.appendChild(listItem);

    });

}


// Function to check if a variable is in the array

function checkInArray() {

    var variableToCheck = document.getElementById("checkVariable").value;


    // Check if the variable is in the array

    var isInArray = objectArray.some(function(obj) {

        return obj.field === variableToCheck;

    });


    var result = document.getElementById("result");

    if (isInArray) {

        result.textContent = "Variable is in the array.";

    } else {

        result.textContent = "Variable is not in the array.";

    }

}
    </script>
</body>
</html>
```

Object Array Demo

Field: `name,age,rollno`

Value: `ritik,21,30`

`Add to Array`

Array Contents:

- {"field":"name,age,rollno","value":"ritik,21,30"}

Check Variable: `name,age,rollno`

`Check in Array`

Variable is in the array.

NAME : Bhos Sakshi Raghu

ROLL NO : 404D012

EXPERIMENT NO : 08

---CODE---

```html
<html>
<head>
  <title> Experiment No 8</title>
</head>
  <body>
  <h1 style="text-align: center;"><u>Experiment No: 8</u></h1>
  <br>
  <div id="div1" style="height: 100px; width: 100%; background-color:blueviolet"
onmousemove="changeDivColor();"
    onmouseout="this.style.backgroundColor='blue'">
  <h3 style="text-align: center;"><u>Mouseover</u></h3> </div>
  <br>
  <br>
  <br>
  <div style="text-align: center; height: 100px;width: 100%; background-color:grey" >
    <a style="height: 100%; width: 100%;" href="https://www.google.com" target="blank"
     onfocus="this.style.backgroundColor='blue'"
onblur="this.style.backgroundColor='red'">Onfocus</a>
  </div>
   <script>
    function changeDivColor(){
      div1.style.backgroundColor="grey";
    }
   </script>
</body>
```

Experiment No: 8

Mouseover
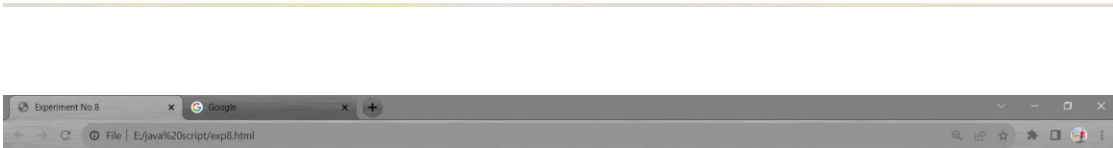
Onfocus

Experiment No: 8

Mouseover

Onfocus

---CODE---

```html
<html>
<head>
   <title> Experiment No 9</title>
</head>
<body>
<h1> Calculator Program in JavaScript </h1>
<div class= "formstyle">
<form name = "form1">
   <input id = "calc" type ="text" name = "answer"> <br> <br>
   <input type = "button" value = "1" onclick = "form1.answer.value += '1' ">
 <input type = "button" value = "2" onclick = "form1.answer.value += '2' ">
 <input type = "button" value = "3" onclick = "form1.answer.value += '3' ">
 <input type = "button" value = "+" onclick = "form1.answer.value += '+' ">
 <br> <br>

 <input type = "button" value = "4" onclick = "form1.answer.value += '4' ">
 <input type = "button" value = "5" onclick = "form1.answer.value += '5' ">
 <input type = "button" value = "6" onclick = "form1.answer.value += '6' ">
 <input type = "button" value = "-" onclick = "form1.answer.value += '-' ">
 <br> <br>

 <input type = "button" value = "7" onclick = "form1.answer.value += '7' ">
 <input type = "button" value = "8" onclick = "form1.answer.value += '8' ">
 <input type = "button" value = "9" onclick = "form1.answer.value += '9' ">
```

```html
<input type = "button" value = "*" onclick = "form1.answer.value += '*' ">

<br> <br>




<input type = "button" value = "/" onclick = "form1.answer.value += '/' ">

<input type = "button" value = "0" onclick = "form1.answer.value += '0' ">

<input type = "button" value = "." onclick = "form1.answer.value += '.' ">

<!-- When we click on the '=' button, the onclick() shows the sum results on the calculator screen. -->

<input type = "button" value = "=" onclick = "form1.answer.value = eval(form1.answer.value) ">

<br> <br>

<!-- Display the Cancel button and erase all data entered by the user. -->

<input type = "button" value = "Clear All" onclick = "form1.answer.value = ' ' " id= "clear" >

<br>


</form>
</div>
</body>
</html>
```

NAME : Sakshi Raghu Bhos

ROLL NO : 404D012

EXPERIMENT NO : 10

---CODE---

```html
<!DOCTYPE html>
<html>
<head>
  <title>Experiment No 10</title>
</head>
<body>
  <h1>JavaScript Properties</h1>
  <h3 id="browserInfo"></h3>
  <h3 id="screenInfo"></h3>
  <h3 id="historyInfo"></h3>
  <h3 id="paragraphCount"></h3>
  <h3 id="replaceText">Original Text</h3>
  <script>
  const browserInfo = `Browser Name: ${navigator.appName}, Version: ${navigator.appVersion}`;
  document.getElementById('browserInfo').textContent = browserInfo;
const screenInfo = `Screen Width: ${window.screen.width}, Screen Height: ${window.screen.height}`;
    document.getElementById('screenInfo').textContent = screenInfo;
const historyInfo = `History Length: ${window.history.length}`;
    document.getElementById('historyInfo').textContent = historyInfo;
const paragraphCount = document.getElementsByTagName('p').length;
 document.getElementById('paragraphCount').textContent = `Number of <p> tags: ${paragraphCount}`;
    const replaceTextElement = document.getElementById('replaceText');
    replaceTextElement.textContent = 'Replaced Text';
```

```
    </script>

</body>

</html>
```

---OUTPUT--

JavaScript Properties

Browser Name: Netscape, Version: 5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/117.0.0.0 Safari/537.36

Screen Width: 1536, Screen Height: 864

History Length: 1

Number of <p> tags: 0

Replaced Text