Kongu Engineering College, Perundurai, Erode-638060.
Department of Computer Science and Engineering
III CSE A
14ITT52 – Web Technology Tutorials
Tutorial 05

20.09.19 (7th hour) - Event handling Max. Marks(10)

1. Write a Javascript code to design a scientific calculator using suitable Math functions. **(2 M)**
2. Write a JavaScript code to perform the following. **(8 M)**
i) Enlarge the image when mouse over on the current image.
ii) Load the new image when mouse over on the current image.
iii) Give an alert message when mover on the text
iv) Show current text in highlighted form when mouse over on the text
v) Get the color from user and change the background color accordingly.

Event Handling

```html
<html>
  <head>
    <title>Tutorial</title>
    <style>
      .zoom {
      padding: 50px;
      width: 200px;
      height: 200px;
      margin: 0 auto;
      }
      .zoom:hover {
      -ms-transform: scale(1.5);
      -webkit-transform: scale(1.5);
      transform: scale(1.5);
      }
      .change{
        background-image: url("jerry.png");
        width: 200px;
        height: 200px;
        margin: 0 auto;
      }
      .change:hover{
        background-image: url("tom.png");
        width: 200px;
        height: 200px;
        margin: 0 auto;
      }
      h1{
        text-shadow: rgb(43, 255, 0) 2pt 2pt 2pt 2pt;
        font-size:24pt;
        text-align:center;
      }
      h2{
        text-shadow:rgb(255, 255, 255) 2pt 2pt 2pt;
        color:rgb(255, 0, 221);
        font-size:25pt;
      }
      h2:hover{
        text-shadow:black 2pt 2pt 2pt 2pt;
        color:gold;
        font-size:27pt;
      }
      label{
        font-family: cursive;
        font-size:25pt;
        color: tomato;
      }
      body{
        background-color: antiquewhite;
```

```html
        background-size:
      }
      p{
         font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
         font-size:20pt;
         color:red;
      }
   </style>
   <script>
      function performs(x)
      {
         alert("hi");
         var a=x.r.value;
         var d=x.g.value;
         var c=x.b.value;
         document.body.style.background= "rgb("+a+","+d+","+c+")";

      }
   </script>
</head>
<body><center>
   <h1>tutorial</h1>
   <h1>1.Enlarge the image when mouse over on the current image.</h1>
   <div class="zoom"><img src="kj.png" width="100%"></div>
   <h1>2.Load the new image when mouse over on the current image.</h1>
   <div class="change"></div>
   <p onmouseover="alert('moved on the text');">3.Give an alert message when mover on the
text</p>
   <h2>4.Show current text in highlighted form when mouse over on the text</h2>
   <form><label>5.Enter rgb values to change background</label><br>
   <input type="number" name="r"><br>
   <input type="number" name="g"><br>
   <input type="number" name="b"><br>
   <button type="button" onclick="performs(this.form)">Generate</button>
   </form></center>
   </body>
</html>
```

Scientific Calculator

```html
<html>
<head>
<title>Scientific calculator</title>
<style>
body {
   margin: 0;
   background-color: rgb(47, 185, 239);
   text-align: center;
   }
p {font-size: 0px}
td {
```

```css
        width: 39pt;
        height: 13.8pt;
        text-align: center;
        font-size: 25px;
        font-weight: bold;
        color: black;
        border: 1px solid white;
      }
    td:hover {
        background-color: rgb(39, 209, 167);
      }
    input {
        width: 100%;
        height: 100%;
        border: none;
        font-size: 25px;
        font-weight: bold;
        padding: 0px 5px;
      }
        .boxing{
          margin-top: 100pt;
            width:350px;
            height: 310px;
            padding:16px;
            background-color:rgb(255, 0, 0);
            box-shadow:rgb(255, 251, 0) 10px 10px 5px;
        }
    #shiftBtn {background-color: yellow}
    </style>
    <script>
    function shiftFn(ken) {
        var shift = document.getElementById("shiftBtn") ;
        var arr = document.getElementsByTagName("td") ;
        if (ken == 1) {
          shift.setAttribute("onclick", "shiftFn(0)") ;
          shift.style.backgroundColor = "orange" ;
          arr[2].innerHTML = "sin<sup>-1</sup>" ;
          arr[2].setAttribute("onclick", "trigo1('sin')") ;
          arr[3].innerHTML = "cos<sup>-1</sup>" ;
          arr[3].setAttribute("onclick", "trigo1('cos')") ;
          arr[4].innerHTML = "tan<sup>-1</sup>" ;
          arr[4].setAttribute("onclick", "trigo1('tan')") ;
          arr[10].innerHTML = "ln" ;
          arr[10].setAttribute("onclick", "log(0)") ;
          arr[28].innerHTML = "\u0065" ;
          arr[28].setAttribute("onclick", "piOrE('e')") ;
        } else {
          shift.setAttribute("onclick", "shiftFn(1)") ;
          shift.style.backgroundColor = "yellow" ;
          arr[2].innerHTML = "sin" ;
```

```javascript
      arr[2].setAttribute("onclick", "trigo('sin')") ;
      arr[3].innerHTML = "cos" ;
      arr[3].setAttribute("onclick", "trigo('cos')") ;
      arr[4].innerHTML = "tan" ;
      arr[4].setAttribute("onclick", "trigo('tan')") ;
      arr[10].innerHTML = "log" ;
      arr[10].setAttribute("onclick", "log(1)") ;
      arr[28].innerHTML = "\u03C0" ;
      arr[28].setAttribute("onclick", "piOrE('pi')") ;
    }
  }

function input(sun) {
   var x = document.getElementById("result") ;
   var y = document.getElementById("myPara") ;
   x.value += sun ;
   y.innerHTML += sun ;
}

function factorial(shirious) {
   if (Number.isInteger(shirious)) {
     if (shirious < 2) return 1 ;
     return shirious * factorial(shirious - 1) ;
   }
}

function sqrt() {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    x.value += "sqrt(" ;
    y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
    " * Math.sqrt(" : "Math.sqrt(" ;
}

function leftParen() {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    x.value += "(" ;
    y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
    " * (" : "(" ;
}

function piOrE(lunar) {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    if (lunar == "pi") {
       x.value += "\u03C0" ;
       y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
       " * Math.PI" : "Math.PI" ;
    } else {
```

```javascript
      x.value += "\u0065" ;
      y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
      " * Math.E" : "Math.E" ;
  }
}

function log(jafca) {
   var x = document.getElementById("result") ;
   var y = document.getElementById("myPara") ;
   if (jafca == 1) {
      x.value += "log(" ;
      y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
      " * Math.log10(" : "Math.log10(" ;
   } else {
      x.value += "ln(" ;
      y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
      " * Math.log(" : "Math.log(" ;
   }
}

function trigo(hatsyrei) {
   var x = document.getElementById("result") ;
   var y = document.getElementById("myPara") ;
   x.value += hatsyrei + "(" ;
   y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
   " * Math." + hatsyrei + "(Math.PI / 180 * " : "Math." + hatsyrei + "(Math.PI / 180 * " ;
}

function trigo1(valentin) {
   var x = document.getElementById("result") ;
   var y = document.getElementById("myPara") ;
   x.value += valentin + "\u207B\u00B9("
   y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
   " * 180 / Math.PI * Math.a" + valentin + "(" : "180 / Math.PI * Math.a" + valentin + "(" ;
}

function multOrDiv(edward) {
   var x = document.getElementById("result") ;
   var y = document.getElementById("myPara") ;
   if (edward == "mult") {
      x.value += "\u00D7" ;
      y.innerHTML += "*" ;
   } else {
      x.value += "\u00F7" ;
      y.innerHTML += "/"
   }
}

function del() {
   var x = document.getElementById("result") ;
```

```javascript
var y = document.getElementById("myPara") ;
var z = document.getElementById("myAns") ;
if (x.value.slice(-3) == "Ans") {
    y.innerHTML = (/[\d)IE]/.test(x.value.slice(-4, -3))) ?
    y.innerHTML.slice(0, -(z.innerHTML.length + 3)) : y.innerHTML.slice(0, -(z.innerHTML.length)) ;
    x.value = x.value.slice(0, -3) ;
} else if (x.value == "Error!") {
    ac() ;
} else {
    switch (y.innerHTML.slice(-2)) {
        case "* ": // sin cos tan
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-5, -4))) ?
        y.innerHTML.slice(0, -28) : y.innerHTML.slice(0, -25) ;
        x.value = x.value.slice(0, -4) ;
        break ;
        case "n(":
        case "s(": // asin acos atan
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-7, -6))) ?
        y.innerHTML.slice(0, -29) : y.innerHTML.slice(0, -26) ;
        x.value = x.value.slice(0, -6) ;
        break ;
        case "0(": // log
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-5, -4))) ?
        y.innerHTML.slice(0, -14) : y.innerHTML.slice(0, -11) ;
        x.value = x.value.slice(0, -4) ;
        break ;
        case "g(": // ln
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-4, -3))) ?
        y.innerHTML.slice(0, -12) : y.innerHTML.slice(0, -9) ;
        x.value = x.value.slice(0, -3) ;
        break ;
        case "t(": // sqrt
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-6, -5))) ?
        y.innerHTML.slice(0, -13) : y.innerHTML.slice(0, -10) ;
        x.value = x.value.slice(0, -5) ;
        break ;
        case "PI": // pi
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-2, -1))) ?
        y.innerHTML.slice(0, -10) : y.innerHTML.slice(0, -7) ;
        x.value = x.value.slice(0, -1) ;
        break ;
        case ".E": // e
        y.innerHTML = (/[\d)IE]/.test(x.value.slice(-2, -1))) ?
        y.innerHTML.slice(0, -9) : y.innerHTML.slice(0, -6) ;
        x.value = x.value.slice(0, -1) ;
        break ;
        default:
        y.innerHTML = y.innerHTML.slice(0, -1) ;
        x.value = x.value.slice(0, -1) ;
    } ;
```

```javascript
    }
  }

function ac() {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    x.value = y.innerHTML = "" ;

}

function ans() {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    var z = document.getElementById("myAns") ;
    x.value += "Ans" ;
    y.innerHTML += (/[\d)IE]/.test(y.innerHTML.slice(-1))) ?
    " * " + z.innerHTML : z.innerHTML ;

}

function equal() {
    var x = document.getElementById("result") ;
    var y = document.getElementById("myPara") ;
    var z = document.getElementById("myAns") ;
    for (var i = 0; i < x.value.split("(").length - x.value.split(")").length; i++) {
       y.innerHTML += ")" ;

    }
    if (y.innerHTML != "") {
       x.value = y.innerHTML = z.innerHTML = eval(y.innerHTML
       .replace(/(\d+\.?\d*)\!/g, "factorial($1)")
       .replace(/(\((?[^(]*\))?)\^(\((?.*\))?)/, "Math.pow($1, $2)")
       ) ;

    }
    if (!isFinite(x.value)) x.value = "Error!" ;

    }
</script>
</head>
<body>
  <center>
    <div class="boxing">
       <h1>Scientific Calculator</h1>
<p id=myPara></p>
<p id=myAns>0</p>
<table>
  <tr>
  <td colspan=5><input id=result readonly></td>
  </tr>

  <tr>
  <td onclick="shiftFn(1)" id=shiftBtn>Shift</td>
  <td onclick="trigo('sin')">sin</td>
  <td onclick="trigo('cos')">cos</td>
```

```html
<td onclick="trigo('tan')">tan</td>
<td onclick="input('!')">!</td>
</tr>

<tr>
<td onclick="input('^(')">^</td>
<td onclick="sqrt()">sqrt</td>
<td onclick="leftParen()">(</td>
<td onclick="input(')')">)</td>
<td onclick="log(1)">log</td>
</tr>

<tr>
<td onclick="input('7')">7</td>
<td onclick="input('8')">8</td>
<td onclick="input('9')">9</td>
<td onclick="del()">DEL</td>
<td onclick="ac()">AC</td>
</tr>

<tr>
<td onclick="input('4')">4</td>
<td onclick="input('5')">5</td>
<td onclick="input('6')">6</td>
<td onclick="multOrDiv('mult')">&#x00D7;</td>
<td onclick="multOrDiv('div')">&#x00F7;</td>
</tr>

<tr>
<td onclick="input('1')">1</td>
<td onclick="input('2')">2</td>
<td onclick="input('3')">3</td>
<td onclick="input('+')">+</td>
<td onclick="input('-')">-</td>
</tr>

<tr>
<td onclick="input('0')">0</td>
<td onclick="input('.')">.</td>
<td onclick="piOrE('pi')">&#x03C0;</td>
<td onclick="ans()">Ans</td>
<td onclick="equal()">=</td>
</tr>
</table></center></div>
</body>
</html>
```

date1

```html
<html>
<body>
<center><h2>JavaScript Time</h2><br><br>
<input type="button" name="cl" value="Offer" onclick="validate()"></center>
<script>
function validate()

{
var d = new Date();
alert("The Date is "+d);
var y=d.getFullYear();
y=parseInt(y);
var x=d.getMonth();
x=parseInt(x);
var z=d.getDate();
z=parseInt(z);
if(y<=2019 && x<=7 && z<=20)
{
 alert("You Can Use the Offer!!!!");
}
else
{
 alert("Sorry The Offer is  Not Available!!!!!");
}
}
</script>
</body>
</html>
```

date2

```html
<html>
<body>
<center><h2>JavaScript Time</h2><br><br>
<input type="button" name="cl" value="Display" onclick="validate()"></center>
<script>
function validate()
{
var d = new Date();
var months =
["January","February","March","April","May","June","July","August","September","October","Novembe
r","December"];
var days = ['Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday'];
 var n = d.getDay()
var x = document.createElement("H1");
var l= months[d.getMonth()]
 var t = document.createTextNode(l);
 x.appendChild(t);
 document.body.appendChild(x);
var l2=days[n];
var x = document.createElement("H1");
```

```
    var t = document.createTextNode(l2);
    x.appendChild(t);
    document.body.appendChild(x);

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

date3
```
<html>
<head>
<script>
function validate()
    {
        var a=document.n1.dob.value;
            var l = "Your birthday is: ";
    var Bday = +new Date(a);
    l += a + ". You are " + ~~ ((Date.now() - Bday) / (31557600000));
    alert(l);
                }
                </script>
<body>
<center><h2>JavaScript Time</h2><br><br>
<form name="n1">
Enter your Date Of Birth:<input type="date" name="dob" placeholder="Enter your DOB" value=""
style="margin-left: 150px"><br><br>
<input type="submit"  value="Submit" style="margin-left: 120px" onclick="validate()">
</form>
</body>
</html>
```

date4
```
<html>
<body>
<center><h2>JavaScript Time</h2><br><br>
<input type="button" name="cl" value="Display" onclick="validate()"></center>
<p id="demo"></p>
<p id="demo1"></p>
<script>
function validate()
{
var d = new Date();
var months =
["January","February","March","April","May","June","July","August","September","October","Novembe
r","December"];
var days = ['Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday'];
 var n = d.getDay()
```

```javascript
var l= months[d.getMonth()]
var l2=days[n];
var res = l.substring(0, 3);
var res1 = l2.substring(0, 3);
document.getElementById("demo").innerHTML =res;
document.getElementById("demo1").innerHTML =res1;
document.getElementById("demo").style.fontSize = "xx-large";
document.getElementById("demo1").style.fontSize = "xx-large";
document.getElementById("demo").style.textAlign = "center";
document.getElementById("demo1").style.textAlign = "center";


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