Manual Prepared by Prof.Sulalah Mirkar	Lab Manual	Academic Year- 2024-25
Year:-	Subject:- Web Programming	Semester:-

Arjun Mehta	Experiment # 6	
		Date of Conduction:- 12/09/2024
Class:-B.Tech CSE Cybersecurity		Division:-K1

$ET_{\text{dir}} = K \times ET_{\text{x}} + K \times E_{\text{fs}} \times D_{\text{sn\_to\_BS}}^2$

Aim:

A. Basic Java script

B. Functions

Prerequisites:-

-   OOPS concept and HTMLS basic tags

Theory:-

//defining a function

function <function-name>()

{

  // code to be executed

};

//calling a function

<function-name>();

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Function Declaration

- Function Function_Name(value1,value2)
- {
- return value1;
- Return value 2;
- }

1. Example 1

```
<html>
<script type="javascript">
Function add(a,b)
{
Return a+b;
}
Alert(add(1,2));
</script>
</body>
</html>
```

2. Example: Define and Call a Function

```
function ShowMessage() {
alert("Hello World!");
}
ShowMessage();
```

3. Example: Function Parameters

```
function ShowMessage(firstName, lastName) {
alert("Hello " + firstName + " " + lastName);
}

ShowMessage("Steve", "Jobs");
ShowMessage("Bill", "Gates");
ShowMessage(100, 200);
```

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4. Example :Iterate all Arguments

```
function ShowMessage() {

  for(var i = 0; i < arguments.length; i++){
    alert(arguments[i]);
  }
}

ShowMessage("Steve", "Jobs");
```

- [Dynamic HTML](#) (DHTML), functionality
  In 1997, Netscape and Microsoft released version 4.0 of Netscape Navigator and Internet Explorer respectively, adding support for [Dynamic HTML](#) (DHTML), functionality enabling changes to a loaded HTML document.

getElementById()
The getElementById() method accesses the first element with the specified id
- **Syntax:-** document.getElementById("*id*")
- **Id:-** The id of the element you want to access/manipulate.

5. Example 5
```
<html>
<head>
<script>
function getValue()
 {
 var   x=document.getElementById("myHeader");

 }
</script>
</head>
<body>

<h1 id="myHeader" >Click me!</h1>
```

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

Try and catch

```
try
{
    // code that may throw an error
}
catch(ex)
{
    // code to be executed if an error occurs
}
finally{
    // code to be executed regardless of an error occurs or not
}
```

Error Handling in JS

```
try
{
    var result = Sum(10, 20); // Sum is not defined yet
}
catch(ex)
{
    document.getElementById("errorMessage").innerHTML = ex;
}
```

Regular Expressions
- A regular expression is an object that describes a pattern of characters.
- The JavaScript **RegExp** class represents regular expressions.
- **RegExp** define methods that use regular expressions to perform
- powerful pattern-matching
- search-and-replace functions on text.

var pattern = new RegExp(pattern, attributes);

pattern: A string that specifies the pattern of the regular expression.

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attributes: An optional string containing any of the attributes that specify

- "g" =global
- "i" =case-insensitive
- "m" = multiline matches.
- Brackets ([]) have a special meaning.
- They are used to find a range of characters.

Expression	Description
[...]	Any one character between the brackets.
[^...]	Any one character not between the brackets.
[0-9]	It matches any decimal digit from 0 through 9.
[a-z]	It matches any character from lowercase a through lowercase z.
[A-Z]	It matches any character from uppercase A through uppercase Z.
[a-Z]	It matches any character from lowercase a through uppercase Z.

Expression	Description
p+	It matches any string containing at least one p.
p*	It matches any string containing zero or more p's.
p?	It matches any string containing one or more p's.
p{N}	It matches any string containing a sequence of **N** p's
p{2,3}	It matches any string containing a sequence of two or three p's.
p{2, }	It matches any string containing a sequence of at least two p's.
p$	It matches any string with p at the end of it.
^p	It matches any string with p at the beginning of it.

Example 6

```
<script type="javascript">
function hello(name)
 {
 alert("Hello"  +name.value+ ".Nice to meet you");
return true;
```

```
    }
  </script>

  <form>


  Enter your name: <input type="text" name="fname" id="1">
  <input type="button" onclick ="hello(document.getElementById('1'))"
  value="Submit">

  </form>
```

innerHTML

- The innerHTML property sets or returns the HTML content (inner HTML) of an element.
- Syntax
- Return the innerHTML property:
➢ *HTMLElementObject*.innerHTML
- Set the innerHTML property:
➢ *HTMLElementObject*.innerHTML=*text*

Example 8
```
<html>
<body>
<h1>My Web Page</h1>
<p id="myP">This is a p element.</p>
<div id="myDIV">This is a div element.</div>
<script>
document.getElementById("myP").innerHTML = "Hello Dolly.";
document.getElementById("myDIV").innerHTML  = "How are you?";
</script>
</body>
</html>
```

Use String replace() With a Regular Expression
- var str = "Visit Microsoft!";
  var res = str.replace(/microsoft/i, "MPSTME");

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6.   Example 9

```html
<html>
<body>
<h2>JavaScript Functions</h2>
<p>This example calls a function to convert from Fahrenheit to Celsius:</p>
<p id="demo"></p>
<script>
function toCelsius(f) {
  return (5/9) * (f-32);
}

document.getElementById("demo").innerHTML = toCelsius(77);
</script>
</body>
    </html>
```

7. Example 10

```html
<html>
<body>
<p>Click the button to display the date.</p>
<button onclick="displayDate()">The  time  is?</button>
<script>
function displayDate() {
  document.getElementById("demo").innerHTML = Date();
}
</script>
<p id="demo"></p>
</body>
</html>
```

PART B

Java script and Functions

1. Write a Program using Java script with mouse over alerts

   - My Name :- display your name.
   - College Name :- display your college name.
   - College site :-   display college site.

2. WAP to identify whether a visited user is eligible for e-voting. criteria are as follows.
   - Visited user should be more than 25 years
   - If he is male ,print hello Mr.(name) else print Miss(name).
   - Else you are not entitled to visit this page.
     o (Note:-prompt)

3. WAP to find average of marks of n subjects entered by user using "for loop" with java script.
4. Write a Program to display Exponent of a two numbers using a JavaScript functions.
5. Write a Program to display a Moon weight and input will be actual earthweight on button click events.
6. Write a Program to display todays date on mouseover event usingdocument Object Model.

.

Code:-

[Note: - Execute program from 1-2 and paste executed html code]

```html
<html>
<head>
  <title>K036 Question 1 Lab 6</title>
  <script>
    function showName() {alert("My Name: Arjun Mehta");}
    function showCollegeName() {alert("College Name: SVKM NMIMS'S MPSTME"); }
    function showCollegeSite() {alert("College Site: https://www.nmims.edu/undergraduate-engineering");}
  </script>
</head>
<body>
  <div onmouseover="showName()">Arjun.</div>
  <p onmouseover="showCollegeName()">SVKM NMIMS'S MPSTME.</p>
  <p onmouseover="showCollegeSite()">https://www.nmims.edu/undergraduate-engineering</p>
</body>
</html>

<html>
<head>
  <title>K036 Question 2 Lab 6</title>
</head>
<body>
  <h1>E-Voting Eligibility Checking</h1>
  <button onclick="checkEligibility()">Check Eligibility</button>
  <div id="result" style="margin-top: 20px;"></div>

  <script>
    function checkEligibility() {
      const age = parseInt(prompt("Please enter your age:"));
      if (isNaN(age)||age<=25) {
        document.getElementById('result').textContent="You are not entitled to visit this page.";
        return;
      }
      const gender=prompt("Please enter your gender (male/female):").toLowerCase();
      const name=prompt("Please enter your name:");
      if (gender==='male') {
        document.getElementById('result').textContent=`Hello Mr. ${name}`;
      } else if (gender==='female') {
        document.getElementById('result').textContent=`Hello Mrs. ${name}`;
      } else {
```

```html
        document.getElementById('result').textContent="You are not entitled to visit this page.";
      }
    }
  </script>
</body>
</html>


<html>
<head>
<title>
K036 Question 3 Lab 6
</title>
</head>
<body>
  <h2>Avg of Marks</h2>
  <input type="number" id="numSubjects" placeholder="Enter number of Subjects"><br><br>
  <button onclick="calculateAverage()">Submit</button><br>
  <p id="result"></p>

  <script>
    function calculateAverage() {
      let numSubjects=document.getElementById('numSubjects').value;
      let total=0;
      for (let i=0;i<numSubjects;i++){
        let marks=prompt('Enter marks for subject '+(i+1));
        total+=parseFloat(marks);
      }
      let average=total/numSubjects;
      document.getElementById('result').innerText='Average Marks: '+average;
    }
  </script>
</body>
</html>

<html>
<head>
  <title>K036 Question 4 Lab 6</title>
</head>
<body>
  <h1>Exponent Calculator</h1>
  <button onclick="calculateExponent()">Calculate the exponent</button>

  <script>
    function calculateExponent() {
      const base=parseFloat(prompt("Enter the base number:"));
```

```javascript
      const exponent=parseFloat(prompt("Enter the exponent number:"));

      if (isNaN(base)||isNaN(exponent)) {
        alert("Please enter valid numbers.");
        return;
      }

      const result=Math.pow(base,exponent);
      alert(`Result: ${result}`);
    }
  </script>
</body>
</html>


<html>
<head>
  <title>K036 Question 5 Lab 6</title>
</head>
<body>
  <h1>Moon Weight Calculator</h1>
  <button onclick="calculateMoonWeight()">Calculate Moon Weight</button>

  <script>
    function calculateMoonWeight() {
      const earthWeight=parseFloat(prompt("Enter your weight on Earth(kilograms):"));
      if (isNaN(earthWeight)||earthWeight<=0) {
        alert("Please enter an acceptable value.");
        return;
      }
      const moonWeight=earthWeight*0.166;
      alert(`Equivalent Moon Weight is ${moonWeight.toFixed(2)} kg`);
    }
  </script>
</body>
</html>


<html>
<head>
  <title>K036 Question 6 Lab 6</title>
</head>
<body>
  <div id="hoverArea" style="width: 200px; height: 100px; border: 1px solid #cc7070; display: flex; align-items: center;
justify-content: center; font-size: 16px; color: #333; cursor: pointer;">
    Hover area
  </div>
```

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```html
<div id="dateDisplay"></div>

<script>
  function getTodaysDate() {
    const today=new Date();
    const options={ year:'numeric',month:'long',day:'numeric' };
    return today.toLocaleDateString(undefined,options);
  }

  const hoverArea=document.getElementById('hoverArea');
  const dateDisplay=document.getElementById('dateDisplay');

  hoverArea.addEventListener('mouseover',()=>{
    dateDisplay.textContent=`Date= ${getTodaysDate()}`;
  });

  hoverArea.addEventListener('mouseout',()=>{
    dateDisplay.textContent='';
  });
</script>
</body>
</html>
```
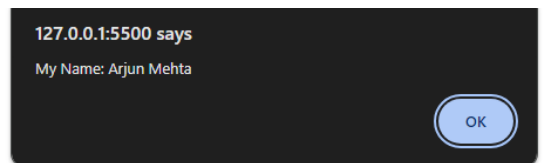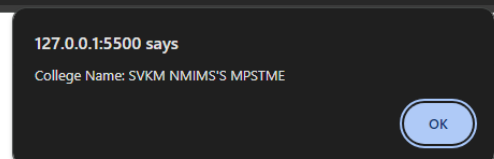
Input and Output:-

[Note: - Paste Output of Code from 1-2 [use print scrn button]]

Arjun.

SVKM NMIMS'S MPSTME.

https://www.nmims.edu/undergraduate-engineering

127.0.0.1:5500 says

My Name: Arjun Mehta

OK

Arjun.

SVKM NMIMS'S MPSTME.

https://www.nmims.edu/undergraduate-engineering

127.0.0.1:5500 says

College Name: SVKM NMIMS'S MPSTME

OK

Arjun.

SVKM NMIMS'S MPSTME.

https://www.nmims.edu/undergraduate-engineering

127.0.0.1:5500 says

College Site: https://www.nmims.edu/undergraduate-engineering

OK

E-Voting Eligibility Checking

Check Eligibility

127.0.0.1:5500 says

Please enter your name:

XYZ

OK   Cancel

E-Voting Eligibility Checking

Check Eligibility

Hello Mr. XYZ

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Avg of Marks

2

Submit

127.0.0.1:5500 says

Enter marks for subject 1

23

OK   Cancel

← → C ⓘ 127.0.0.1:5500/page3.html

Avg of Marks

2

Submit

127.0.0.1:5500 says

Enter marks for subject 2

26

OK   Cancel

Avg of Marks

2

Submit

Average Marks: 24.5

Exponent Calculator

Calculate the exponent

127.0.0.1:5500 says

Enter the base number:

2

OK   Cancel

Exponent Calculator

Calculate the exponent

127.0.0.1:5500 says

Enter the exponent number:

4

OK   Cancel

127.0.0.1:5500 says

Result: 16

OK

Moon Weight Calculator

Calculate Moon Weight

127.0.0.1:5500 says

Enter your weight on Earth(kilograms):

100

OK   Cancel

Moon Weight Calculator

Calculate Moon Weight

127.0.0.1:5500 says

Equivalent Moon Weight is 16.60 kg

OK

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Hover area

Hover area

Date= September 12, 2024

Observation and Learning:-

Observed and learnt how to write and execute alerts and related programs

Conclusion:-

Concluded on the process of how to write and execute alerts and related programs