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RNS Institute of Technology

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Department of Computer Science and Engineering

Vision: Preparing better Computer Professionals for a Real World

WEB PROGRAMMING LAB MANUAL

**For Fourth Semester B.E-2021 Batch
[VTU/NEP, 2021-22 syllabus]**

Subject Code – 21CSL481

NAME : _____

BRANCH : _____

SECTION : _____

USN : _____

VISION AND MISSION OF INSTITUTION

Vision

Building RNSIT into a World Class Institution

Mission

To impart high quality education in Engineering, Technology and Management with a Difference, Enabling Students to Excel in their Career by

1. Attracting quality Students and preparing them with a strong foundation in fundamentals so as to achieve distinctions in various walks of life leading to outstanding contributions
2. Imparting value based, need based, choice based and skill based professional education to the aspiring youth and carving them into disciplined, World class Professionals with social responsibility
3. Promoting excellence in Teaching, Research and Consultancy that galvanizes academic consciousness among Faculty and Students
4. Exposing Students to emerging frontiers of knowledge in various domains and make them suitable for Industry, Entrepreneurship, Higher studies, and Research & Development
5. Providing freedom of action and choice for all the Stake holders with better visibility

VISION AND MISSION OF CSE DEPARTMENT

Vision

Preparing better computer professionals for a real world

Mission

The Department of Computer Science and Engineering will make every effort to promote an intellectual and an ethical environment in which the strengths and skills of Computer Professionals will flourish by

1. Imparting Solid foundations and Applied aspects in both Computer Science Theory and Programming practices
2. Providing Training and encouraging R&D and Consultancy Services in frontier areas of Computer Science with a Global outlook
3. Fostering the highest ideals of Ethics, Values and creating Awareness on the role of Computing in Global Environment
4. Educating and preparing the graduates, highly Sought-after, Productive, and Well-respected for their work culture
5. Supporting and inducing Lifelong Learning practice

WEB PROGRAMMING LABORATORY (21CSL481)
INTERNAL EVALUATION SHEET

EVALUATION (MAX MARKS 50)			
TEST A	REGULAR EVALUATION B	RECORD C	TOTAL MARKS A+B+C
20	20	10	50

**R1: REGULAR LAB EVALUATION WRITE UP & PROGRAM EXECUTION RUBRIC
(MAX MARKS 10)**

Sl. No.	Parameters	Good	Average	Needs improvement
a.	Understanding of problem (2 marks)	Clear understanding of problem statement while designing and implementing the program (2)	Problem statement is understood clearly but few mistakes while designing and implementing program (1)	Problem statement is not clearly understood while designing the program (1)
b.	Writing program (2 marks)	Program handles all possible conditions (2)	Average condition is defined and verified. (1)	Program does not handle possible conditions (1)
c.	Design, implementation, and demonstration (3 marks)	Program follows syntax and semantics of C programming language. Demonstrates the complete knowledge of the program written (3)	Program has few logical errors, moderately demonstrates all possible concepts implemented in programs (2)	Syntax and semantics of XHTML is not clear (1)
d.	Result and documentation (3 marks)	Meticulous documentation and all conditions are taken care (3)	Acceptable documentation shown (2)	Documentation does not take care all conditions (1)

R2: REGULAR LAB EVALUATION VIVA RUBRIC (MAX MARKS 10)

Sl. No.	Parameter	Excellent	Good	Average	Needs Improvement
a.	Conceptual understanding & Additional Programming (10 marks)	Answer 80% of the viva questions and execution of Additional programs listed (10)	Answers 60% of the viva questions and execution of Additional programs listed (7)	Answers 30% of the viva questions and execution of Additional programs listed (4)	Unable to relate the concepts (1)

R3: RECORD EVALUATION RUBRIC (MAX MARKS 10)

Sl. No.	Parameter	Excellent	Good	Average	Needs Improvement
a.	Documentation (10 marks)	Meticulous record writing including program, comments and as per the guidelines mentioned (10)	Write up contains program, but comments are not included (8)	Write up contains only program (6)	Program written with few mistakes (5)

Test 1 (8th Week) (50 Marks)			Test 2 (14th Week) (50 Marks)		
Write up	Execution	Viva	Write up	Execution	Viva
10	20	20	10	20	10

PREFACE

We have developed this comprehensive laboratory manual on **WEB PROGRAMMING** which cover broad range of programs required for modern web development and is suitable for intermediate to upper level computing students. The objective of the lab manual is to make the students comfortable with web development principles and client-side programming by strengthening their programming abilities.

This material has ten programs which provides the students an exposure to web development. The combined master technologies such as JavaScript, CSS and XHTML allows students to create websites of the caliber of industry standards like Facebook, Twitter and Gmail. The problems discussed in this manual comprises of an programming solution, sample output and extensive test cases. Viva questions, frequently appeared examination questions and practicing programming problems constitute an indispensable part of this material.

Our profound and sincere efforts will be fruitful only when students acquire the extensive knowledge by reading this manual and apply the concepts learnt apart from the requirements specified in WEB Technology and its Applications prescribed by VTU, Belagavi.

Department of CSE

<i>SL.NO.</i>	<i>TABLE OF CONTENTS</i>	<i>PAGE NO.</i>
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SYALLABUS

WEB PROGRAMMING LABORATORY (21CSL481)			
Course Code	21CSL481	CIE Marks	50
Number of Contact Hours/Week	1:0:0:0	SEE Marks	50
Total Number of Lab Contact Hours	12T+12P	Total Marks	100
Credits	01	Exam Hours	02
Programs List:			
1.	Develop and demonstrate a XHTML document that illustrates the use external style sheet, ordered list, table, borders, padding, color, and the tag.		
2.	a) Develop and demonstrate a XHTML file that includes JavaScript script for the following problems: Input: A number n obtained using prompt Output: The first n Fibonacci numbers b) Develop and demonstrate a XHTML file that includes JavaScript for the following problems Input: A number N obtained using prompt Output: A table of numbers from 1 to n and their squares using alert		
3	Develop and demonstrate a XHTML file that includes JavaScript script for the following problems: a) Parameter: A string Output: The position in the string of the left-most vowel b) Parameter: A number Output: The number with its digits in the reverse order		
4	Develop and demonstrate, using JavaScript script, a XHTML document that collects the USN (the valid format is: A digit from 1 to 4 followed by two upper-case characters followed by two digits followed by two upper-case characters followed by three digits; no embedded spaces allowed) of the user. Event handler must be included for the form element that collects this information to validate the input. Messages in the alert windows must be produced when errors are detected.		
5.	Create a webpage containing 3 overlapping images using XHTML, CSS and JS. Further when the mouse is over any image, it should be on the top and fully displayed.		
6	Create an XHTML document that has a form for personal details and educational qualification with the following controls: a) A text box to enter user name, password, contact number and e-mail id. b) A two radio buttons to specify the gender c) Drop down menu will allows the user to choose one value from a list. d) A two check boxes to specify hobbies		

7.	Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXT-SHRINKING” in BLUE color. Then the font size decreases to 5pt.
8	Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.
9	Develop and demonstrate XHTML to create a webpage with four frames (Picture, table, list, and hyperlink).
10	Develop and demonstrate a XHTML file that includes JavaScript script which performs binary search of numbers.

Course Objectives: This course (21CSL481) will enable students to:

1. Learn Web tool box and history of web browsers.
2. Learn HTML, XHTML tags with utilizations.
3. Know CSS with dynamic document utilizations.
4. Learn JavaScript with Element access in JavaScript.
5. Logically plan and develop web pages.

Course Outcomes :At the end of this course, students are able to:

CO1. Describe the fundamentals of web and concept of HTML.

CO2. Use the concepts of HTML, XHTML to construct the web pages.

CO3. Interpret CSS for dynamic documents.

CO4. Evaluate the different concepts of JavaScript & Construct dynamic documents.

CO5. Design a small project with JavaScript and XHTML

CO-PO MATRIX

COURSE OUTCOMES	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	2	-	2	-	2	-	-	-	1	-	1	2	2	2	3	-
CO2	2	-	2	-	2	-	-	-	1	-	1	2	2	2	2	-
CO3	2	2	3	1	3	-	-	-	2	1	2	3	3	3	3	-
CO4	2	1	2	1	3	-	-	-	2	1	2	3	3	3	3	-
CO5	2	1	3	1	3	-	-	-	2	2	2	3	3	2	3	2

ACKNOWLEDGMENT

A material of this scope would not have been possible without the contribution of many people. We express our sincere gratitude to Dr. R N Shetty, Chairman, RNS Group of Companies for his magnanimous support in all our endeavors.

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Department of CSE

WEB PROGRAMMING (21CSL481)

1. Develop and demonstrate a XHTML document that illustrates the use external style sheet, ordered list, table, borders, padding, color, and the tag.

Aim: To Write a XHTML script using external CSS, table and list

Algorithm/Procedure:

1. Create a webpage with the name Lab1.html.
2. Create table using Html code.
3. Create external style sheet with the name Lab1.css

PROGRAM:

```

p,table,li,                                     <!--Lab1.css-->
{
    font-family: "lucida calligraphy", arial, 'sans serif';
    margin-left: 10pt;
}

p { word-spacing: 5px; }

body { background-color:rgb(200,255,205); }

p,li,td { font-size: 75%;}

td { padding: 0.5cm; }

th {
    text-align:center;
    font-size: 85%;
}

h1, h2, h3, hr {color:#483d8b;}

table
{
border-style: outset;
background-color: rgb(100,255,105);
}

li {list-style-type: lower-roman;}

span
{
color:blue;
background-color:pink;
font-size: 29pt;
font-style: italic;

```

```
font-weight: bold;
}
```

<!--Lab1.html-->

```
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<head>
<link rel="stylesheet" type="text/css" href="Lab1.css" />
<title> Lab program1 </title>
</head>

<body>
<h1>This header is 36 pt</h1>
<h2>This header is blue</h2>
<p>This paragraph has a left margin of 50 pixels</p>

<table border="4" width="5%"> <!-- table with colour name & code -->
<tr>
<th width="204">Colour Name </th>
<th>Hexadecimal code</th>
</tr>
<tr>
<td width="204">Black</td>
<td>000000</td>
</tr>
<tr>
<td width="204">Silver</td>
<td>C0C0C0</td>
</tr>
<tr>
<td width="204">Gray</td>
<td>808080</td>
</tr>
<tr>
<td width="204">White</td>
<td>FFFFFF</td>
</tr>
</table>
<hr> <!-- horizontal line -->

<h3>Programming Languages</h3>
<ol> <!-- ordered list -->
<li> C Programming</li>
<li> Object Oriented Programming </li>
<li> Python Programming</li>
</ol>
<hr> <!-- horizontal line -->
```

```
<h3>Span Element</h3>
```

```
<p>
```

```
The span tag is an <span>inline tag </span>used to mark up a <span>part of a  
text</span>or part of document.</p>
```

```
</p>
```

```
</body>
```

```
</html>
```

Sample output

This header is blue

This paragraph has a left margin of 50 pixels

Colour Name	Hexadecimal code
Black	000000
Silver	C0C0C0
Gray	808080
White	FFFFFF

Programming Languages

- i. C Programming
- ii. Object Oriented Programming
- iii. Python Programming

Span Element

The span tag is an *inline tag* used to mark up a *part of a text* or part of document.

2a. Develop and demonstrate a XHTML file that includes JavaScript script for the following problems:

Input: A number n obtained using prompt

Output: The first n Fibonacci numbers

Aim: To Write XHTML script to print N Fibonacci numbers

Algorithm/Procedure:

1. Create a webpage with the name Lab2.html
2. Create Java script to to print N Fibonacci numbers

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>                                <!--Lab2a.html-->
<!DOCTYPE      html      PUBLIC      "-//W3C//DTD      XHTML      1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<body>
<script type="text/javascript">
    var fib1=0,fib2=1,fib=0;                                //initialize variables
    var n=prompt("enter a number");
    if(n!=null && n>0)
    {
        document.write("<h1>First " + n + " fibonacci numbers are: </h1> ");
        if(n==1)                                            //if input is one number
            document.write("<h1>" + fib1 + "</h1>");
        else                                              //if input is two numbers
            document.write("<h1>" + fib1 + "</h1><br><h1>" + fib2 + "</h1> ");

        for(i=3;i<=n;i++)
        {
            fib=fib1+fib2;
            document.write("<h1>" + fib + "</h1> ");
            fib1=fib2;
            fib2=fib;
        }
    }
    else
        alert("No proper input");
</script>
</body>
</html>
```

Sample Output**Test case 1:**

This page says

enter a number

OK

Cancel

First 5 fibonacci numbers are:

0

1

1

2

3

Test case 2:

This page says

enter a number

OK

Cancel

This page says

No proper input

OK

Test case 3:

This page says

enter a number

OK

Cancel

This page says

No proper input

OK

2b. Develop and demonstrate a XHTML file that includes JavaScript script for the following problems

Input: A number N obtained using prompt

Output: A table of numbers from 1 to n and their squares using alert

Aim: To Write XHTML script to print table of N numbers and their squares

Algorithm/Procedure:

1. Create a webpage with the name Lab2b.html
2. Create Java script to print table of N numbers and their squares

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>                                <!--Lab2b.html-->
<!DOCTYPE      html      PUBLIC      "-//W3C//DTD      XHTML      1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<body>
  <script type="text/javascript">
    //input
    var n=prompt("enter a number");
    if(n!=null && n>0)
    {
      var i=0;
      document.write("<h2>The first " + n + " numbers and their squares are: </h2>");

                                                                    //display in a table
      document.write("<table
border=1><tr><th><b>Number</b></th><th><b>Square</b></th></tr><br>");

      for(i=1;i<=n;i++)
      document.write("<tr><td>" + i + "</td><td>" + i*i + "</td></tr><br>");
      document.write("</table>");
    }
    else
      alert("No input");
  </script>
</body>
</html>
```

Sample Output**Test case 1:****The first 10 numbers and their squares are:**

This page says

enter a number

OK

Cancel

Number	Square
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

Test case 2:

This page says

enter a number

OK

Cancel

This page says

Enter valid input

OK

3. Develop and demonstrate a XHTML file that includes JavaScript script for the following problems:

- a) **Parameter: A string**
- b) **Output: The position in the string of the left-most vowel**
- c) **Parameter: A number**
- d) **Output: The number with its digits in the reverse order**

Aim: To write a JavaScript to print position in the string of the left-most vowel and number with its digits in the reverse order

Algorithm/Procedure:

1. Create a webpage with the name Lab3.html
2. Create Java script to print leftmost vowel in a string and reverse of a number

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>                                <!--Lab3.html-->
<!DOCTYPE      html      PUBLIC      "-//W3C//DTD      XHTML      1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<html>
<body>
<script type="text/javascript">
var str = prompt("Enter the Input","");
if(!(isNaN(str)))
{
    var num,rev=0,remainder;
    num = parseInt(str);
    while(num!=0)
    {
        remainder = num%10;
        num = parseInt(num/10);
        rev = rev * 10 + remainder;
    }
    alert("Reverse of "+str+" is "+rev);
}
else
{
    str = str.toUpperCase();
    for(var i = 0; i < str.length; i++)
    {
        var chr = str.charAt(i);
        if(chr == 'A' || chr == 'E' || chr == 'I' || chr == 'O' || chr == 'U')
            break;
    }
    if( i < str.length )
```



```

        alert("The position of the left most vowel is "+(i+1));
    else
        alert("No vowel found in the entered string");
    }
</script>
</body>
</html>

```

Sample Output :

Test case 1:

This page says

Enter the Input

RNSIT

OK Cancel

This page says

The position of the left most vowel is 4

OK

Test case 2:

This page says

Enter the Input

1234

OK Cancel

This page says

Reverse of 1234 is 4321

OK

4.Develop and demonstrate, using JavaScript script, a XHTML document that collects the USN (the valid format is: A digit from 1 to 4 followed by two upper-case characters followed by two digits followed by two upper-case characters followed by three digits; no embedded spaces allowed) of the user. Event handler must be included for the form element that collects this information to validate the input. Messages in the alert windows must be produced when errors are detected.

Aim:To write a JavaScript to enter the USN in given format

Algorithm/Procedure:

- 1.Create a webpage with the name Lab4.html
- 2.Create Java script enter the USN in given format.Also validate the form input and print error message accordingly.

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>                                <!-- lab4.html -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<script type='text/javascript'>
function formValidator()
{
    var usn = document.getElementById('req1');
    alert(usn.value);
    if(isCorrect(usn))
    {
        return true;
    }
    return false;
}

function isCorrect(elem1)
{
    alphaExp1=/[1-4][A-Z][A-Z][0-9][0-9][A-Z][A-Z][0-9][0-9][0-9]/
    if(elem1.value.length == 0)
    {
        alert("US Number is empty");
        elem1.focus();
        return false;
    }
    else if(!elem1.value.match(alphaExp1))
    {
        alert("US Number should be in DAADDAADDD format");
        elem1.focus();
        return false;
    }
}
```

```

    }

    alert("US Number IS CORRECT");
    return true;
}

</script>
<body>
<form onsubmit='return formValidator()>
Enter your USN. in DAADDAADDD format : <input type='text' id='req1' />
<input type='submit' value='Check Field' />
</form>
</body>
</html>

```

Sample output

Test case 1:

Enter your USN. in DAADDAADDD format :

This page says
1RN04CS003

This page says
US Number IS CORRECT

Test case 2:

Enter your USN. in DAADDAADDD format :

This page says
US Number should be in DAADDAADDD format

**5. Create a webpage containing 3 overlapping images using XHTML, CSS and JS.
Further when the mouse is over any image, it should be on the top and fully displayed.**

Aim: To Write a XHTML script using CSS and JavaScript to create webpage

Algorithm/Procedure:

1. Create a webpage with the name Lab5.html
2. Create JavaScript to implement mouse event

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<head>
<meta charset="utf-8">
<meta name="author" content="Putta" >
<title>Animal Stacking</title>
<style>
    h1 {text-align: center;}

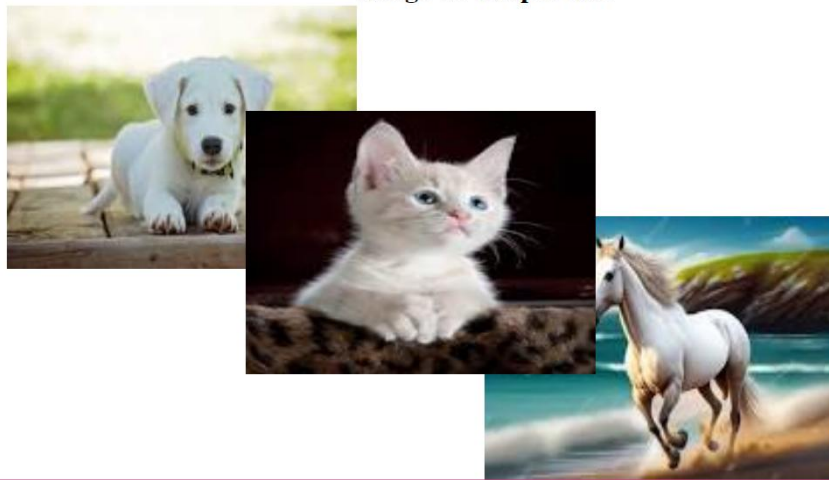
    .dog {
    position: absolute;
    left: 10%; top: 10%;
    z-index: 0;
    }
    .cat {
    position: absolute;
    left: 30%; top: 30%;
    z-index: 1;
    }
    .horse {
    position: absolute;
    left: 50%; top: 50%;
    z-index: 2;
    }
</style>
<script>
    var topIndex = 2;
    function moveToTop(picture)
    {
        picture.style.zIndex = ++topIndex;
    }

</script>
</head>
<body>
```

```
<h1>Image Overlap Demo</h1>
<div id="image-container">
  
  
  
</div>
</body>
</html>
```

Sample output

Image Overlap Demo



6.Create an XHTML document that has a form for personal details and educational qualification with the following controls:

- a) A text box to enter user name,password,contact number and e-mail id.**
- b) A two radio buttons to specify the gender**
- c) Drop down menu will allows the user to choose one value from a list.**
- d) A two check boxes to specify hobbies**

Aim:To Write a XHTML script to create form for personal details and educational qualification

Algorithm/Procedure:

- 1.Create a webpage with the name Lab6.html
- 2.Create XHTML form for personal details and educational qualification

PROGRAM:

```
<?xml version = "1.0" encoding = "utf-8" ?>                                <!-- Lab6.html -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">

<head>
<meta charset="utf-8">
<title>Form Example</title>
</head>

<body bgcolor="#CCFF66">
<form align="center">

<h3 style="color:#F00">Personal Details</h3>
Name:
<input type="text" name="name" id="name"><br><br>
Password:
<input type="password" name="password" id="password"><br><br>

E-mail id: <input type="text" name="name" id="name"><br><br>
Gender: <input type="radio" name="radiogroup1" value="radio" id="radiogroup1"> Male
<input type="radio" name="radiogroup1" value="radio" id="radiogroup2"> Female<br><br>
Contact#: <input type="text" name="mobile" id="mobile">

<h3 style="color:#F00">Educational Qualification</h3>

Degree: <select name="degree" id="degree">
<option selected>-- Select Group --</option>
<option>B.Com</option>
```

```

        <option>B.sc</option>
        <option>B.com Computers</option>
        <option>B.A</option>
    </select><br>
    <br>
    Engineering: <select name="eng" id="eng">
        <option selected>-- Select Group --</option>
        <option>CSE</option>
        <option>ECE</option>
        <option>CIVIL</option>
        <option>EEE</option>
    </select><br><br>
    Hobbies: <input type="checkbox" name="CheckboxGroup1" value="checkbox"
        id="CheckboxGroup1">Playing chess
    <input type="checkbox" name="CheckboxGroup1" value="checkbox"
        id="CheckboxGroup2">Reading Books<br><br>
    <h3 style="color:#F00">Address</h3>
    <textarea name="textarea" cols="35" rows="5" id="textarea"></textarea><br>
    <br>
    Attch Resume: <input type="file" name="fileField" id="fileField"><br><br>

    <input type="image" src="submit.jpg">
</form>
</body>
</html>

```

Sample output

Personal Details

Name:

Password:

E-mail id:

Gender: ☐ Male ☐ Female

Contact#:

Educational Qualification

Degree: -- Select Group -- ▾

Engineering: -- Select Group -- ▾

Hobbies: ☐ Playing chess ☐ Reading Books

Address

Attch Resume: No file chosen

7. Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXT- SHRINKING” in BLUE color. Then the font size decreases to 5pt.

Aim: To write a JavaScript :text growing and shrinking

Algorithm/Procedure:

1. Create a webpage with the name Lab7.html
2. Create Javascript code to display “TEXT-GROWING” and “TEXT-SHRINKING” in specified time intervals.

PROGRAM:

```
<?xml version = 1.0 encoding = utf-8 =?>                                <!-- lab7.html -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<html xmlns = "http://w3.org/1999/xhtml">

<head>
<style>
p {
    position: absolute;
    top: 50%;
    left: 50%;
    transform: translate(-50%, -50%);
}
</style>
</head>
<body>
<p id="demo"></p>

<script>
    var var1 = setInterval(inTimer, 1000); var fs = 5;
    var ids = document.getElementById("demo");

    function inTimer()
    {
        ids.innerHTML = 'TEXT GROWING';
        ids.setAttribute('style', "font-size: " + fs + "px; color: red"); fs += 5;
        if(fs >= 50 )
        {
            clearInterval(var1);
            var2 = setInterval(deTimer, 1000);
        }
    }
}
```



```
function deTimer()
{
    fs -= 5;
    ids.innerHTML = 'TEXT SHRINKING';
    ids.setAttribute('style', "font-size: " + fs + "px; color: blue");
    if(fs === 5 )
    {
        clearInterval(var2);
    }
}
</script>
</body>
</html>
```

Sample Output:

TEXT-GROWING

TEXT SHRINKING

8. Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.

Aim: To Write a JavaScript to design a simple calculator

Algorithm/Procedure:

1. Create a webpage with the name Lab8.html.
2. Create table for Calculator using Html code.
3. Create html form and input field for each entry.

PROGRAM:

```
<?xml version = 1.0 encoding = utf-8 =?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<html xmlns = "http://w3.org/1999/xhtml">
<head>
<style>
table, td, th
{
    border: 1px solid black;
    width: 33%;
    text-align: center;
    background-color: DarkGray;
    border-collapse: collapse;
}

table
{
    margin: auto;
}
input
{
    text-align: right;
}
</style>

<script type="text/javascript"> function calc(clicked_id)
{
    Var val1 = parseFloat(document.getElementById("value1").value);
    Var val2 = parseFloat(document.getElementById("value2").value);

    if(isNaN(val1)||isNaN(val2))
        alert("ENTER VALID NUMBER");
    else if(clicked_id=="add")
        document.getElementById("answer").value=val1+val2;
    else if(clicked_id=="sub")
        document.getElementById("answer").value=val1-val2;
    else if(clicked_id=="mul")
```

<!-- Lab8.html -->

```

        document.getElementById("answer").value=val1*val2;
    else if(clicked_id=="div")
        document.getElementById("answer").value=val1/val2;
    }

    function cls()
    {
        value1.value="0";
        value2.value="0";
        answer.value="";
    }
</script>
</head>

<body>
<table>
<tr><th colspan="4"> SIMPLE CALCULATOR </th></tr>
<tr><td>value1</td><td><input type="text" id="value1" value="0"/></td>
<td>value2</td><td><input type="text" id="value2" value="0"/></td></tr>
<tr><td><input type="button" value="Addition" id="add" onclick="calc(this.id)"/></td>
<td><input type="button" value="Subtraction" id="sub" onclick="calc(this.id)"/></td>
<td><input type="button" value="Multiplication" id="mul" onclick="calc(this.id)"/></td>
<td><input type="button" value="Division" id="div" onclick="calc(this.id)"/></td></tr>
<tr><td>Answer:</td><td><input type="text" id="answer" value="" disabled/></td>
<td colspan="2"><input type="button" value="CLEAR ALL" onclick="cls()"/></td></tr>
</table>
</body>
</html>

```

Sample output

Test No.	Input Parameters	Expected Output	Obtained Output	Remarks
1	value1=50.56 value2=24.39	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	PASS
2	value1= 0 value2= 45	Addition =45 Subtraction =-45 Multiplication=0 Division=0	Addition =45 Subtraction =-45 Multiplication=0 Division=0	PASS

3 .	value1= 45 value2= 0	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	PASS
--------	-------------------------	--	--	------

SIMPLE CALCULATOR			
value1	<input type="text"/>	value2	<input type="text"/>
Addition	Subtraction	Multiplication	Division
Answer:	<input type="text"/>	CLEAR ALL	

9. Develop and demonstrate XHTML to create a webpage with four frames (Picture, table, list, and hyperlink).

Aim: To Write a XHTML script to create frames

Algorithm/Procedure:

1. Create a webpage with the name Lab9..html.
2. Create table, hyperlink, picture and ordered list using Html code.

PROGRAM:

```
<?xml version = 1.0 encoding = utf-8 =?>                                <!-- Lab9.html -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<html xmlns = "http://w3.org/1999/xhtml">
```

```
<head>
<title>Program 30</title>
</head>
<frameset cols="20%,*,20%">
    <frame src="list.html">
    <frameset rows="80%,*">
        <frame src="picture.html">
        <frame src="hyperlink.html">
    </frameset>
</frameset>
<frameset cols="*">
<frame src="table.html">
</frameset>
</frameset>
</html>
```

```
<?xml version = 1.0↓ encoding = utf-8 =?>                                <!-- list.html -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
```

```
<html xmlns = "http://w3.org/1999/xhtml">
```

```
<body bgcolor="yellow">
<br>
<br>
<h2>Soups & Momo's</h2>
<hr>
<ul>
<h2>Soup's</h2>
<li>Mushroom Soup</li>
<li>Vegetable Soup</li>
```

```

<li>Chiken Soup</li>
<li>paya Soup</li>
<li>Crab Soup</li>
<hr>
<h2>Momo's</h2>
<li>Veg Momo's</li>
<li>Chiken Momo's</li>
</ul>
</body>
</html>

```

<!-- table.html -->

```

<?xml version = 1.0 encoding = utf-8 =?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>

<html xmlns = "http://w3.org/1999/xhtml">
<head>
<title>Table</title>
<style>
table, th,td
{
    border:1px solid black;
    padding:15px;
}
</style>
</head>
<body bgcolor="yellow">
<table>
<tr><td colspan="2">*****PRISE*****</td></tr>
<tr><th>Names</th><th>Prise</th></tr>
<tr style="color:white;text-align:center;bgcolor="black"><td
colspan="2">Soup's</td></tr>
<tr><td>Mushroom Soup</td><td>25/-</td></tr>
<tr><td>Vegetable Soup</td><td>25/-</td></tr>
<tr><td>Chiken Soup</td><td>35/-</td></tr>
<tr><td>Paya Soup</td><td>45/-</td></tr>
<tr><td>Crab Soup</td><td>45/-</td></tr>
<tr style="color:white;text-align:center; bgcolor="black"><td
colspan="2">Momo's</td></tr>
<tr><td>Veg Momo's</td><td>60/-</td></tr>
<tr><td>Chiken Momo's</td><td>70/-</td></tr>
</table>
</body>
</html>

```

<!-- picture.html -->

```
<?xml version = 1.0 encoding = utf-8 =?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<html xmlns = "http://w3.org/1999/xhtml">

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



<!-- hyperlink.html -->

```
<?xml version = 1.0 encoding = utf-8 =?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<html xmlns = "http://w3.org/1999/xhtml">

<head>
  <title>hyperlink</title>
</head>

<body bgcolor="lightgray">
<table align="center"><tr><td></td><td><a
href="https://www.google.com/maps/place/Sree+Chettinadu+Soup's+%26+M
omo's/@13.6243684,79.4064922,15z/data=!4m2!3m1!1s0x0:0xa4cf0c90ba7e
380d?sa=X&ved=2ahUKEwiA18f90YDzAhV7zTgGHVFXDDkQ_BJ6BAhcEAU"><h
2>Chettinadu Soups & Momo's</h2></a></td></tr></table>
</body>
</html>
```

Sample output

Soups & Momo's Soup's <ul style="list-style-type: none"> Mushroom Soup Vegetable Soup Chicken Soup paya Soup Crab Soup Momo's <ul style="list-style-type: none"> Veg Momo's Chicken Momo's 			*****PRISE***** <table border="1"> <thead> <tr> <th>Names</th> <th>Prise</th> </tr> </thead> <tbody> <tr> <td colspan="2">Soup's</td> </tr> <tr> <td>Mushroom Soup</td> <td>25/-</td> </tr> <tr> <td>Vegetable Soup</td> <td>25/-</td> </tr> <tr> <td>Chicken Soup</td> <td>35/-</td> </tr> <tr> <td>Paya Soup</td> <td>45/-</td> </tr> <tr> <td>Crab Soup</td> <td>45/-</td> </tr> <tr> <td colspan="2">Momo's</td> </tr> <tr> <td>Veg Momo's</td> <td>60/-</td> </tr> <tr> <td>Chicken Momo's</td> <td>70/-</td> </tr> </tbody> </table>	Names	Prise	Soup's		Mushroom Soup	25/-	Vegetable Soup	25/-	Chicken Soup	35/-	Paya Soup	45/-	Crab Soup	45/-	Momo's		Veg Momo's	60/-	Chicken Momo's	70/-
	Names	Prise																					
Soup's																							
Mushroom Soup	25/-																						
Vegetable Soup	25/-																						
Chicken Soup	35/-																						
Paya Soup	45/-																						
Crab Soup	45/-																						
Momo's																							
Veg Momo's	60/-																						
Chicken Momo's	70/-																						
 Chettinadu Soups & Momo's																							

10. Develop and demonstrate a XHTML file that includes JavaScript script which performs binary search of numbers.

Aim: To Write a XHTML script to perform Binary Search

Algorithm/Procedure:

1. Create a webpage with the name Lab10.html.
2. Create JavaScript to implement binary search of N numbers

PROGRAM:

```
<?xml version = 1.0 encoding = utf-8 =?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>

<html xmlns = "http://w3.org/1999/xhtml">

<head>
<title>Binary Search</title>
<script type="text/javascript">
function binary()
{
    var n=parseInt(prompt("enter the size of an array: "));
    var a=new Array(n);
    var p=0;
    for(var i=0;i<a.length;i++)
    {
        a[i]=parseInt(prompt("enter array elements"));
    }
    for(var i=0;i<a.length;i++)
    {
        for(var j=i+1;j<a.length;j++)
        {
            if(a[i]>a[j])
            {
                var t=a[i];
                a[i]=a[j];
                a[j]=t;
            }
        }
    }
    var k=parseInt(prompt("enter the key element "));
    var i=0;
    var u=parseInt(a.length-1);

    while(i<=u)
    {
        var m=parseInt((i+u)/2);
        if(k==a[m])
```



```

        {
            p=1;
            break;
        }
        else if(k>a[m])
        {
            i=m+1;
        }
        else if(k<a[m])
        {
            u=m-1;
        }
    }

    if(p==1)
        document.writeln("element found at :"+(m+1));
    else
        document.writeln("element not found");

}

</script>
</head>
<body onLoad="binary();"></body>
</html>

```

Sample output

This page says

enter the size of an array:

OK

Cancel

element found at :3



RNS INSTITUTE OF TECHNOLOGY
(AICTE Approved, VTU Affiliated and NAAC 'A+ Grade' Accredited)
(UG programs – CSE, ECE, ISE, EIE and EEE have been Accredited by NBA up to 30/6/2025)
Channasandra, Dr. Vishnuvardhan Road, Bengaluru - 560 098
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

VIVA QUESTIONS AND ANSWERS ON HTML, CSS, JAVASCRIPT

WEB

What is World Wide Web (WWW, W3)?

The World Wide Web -- also known as the web, WWW or W3 -- refers to all the public websites or pages that users can access on their local computers and other devices through the internet. These pages and documents are interconnected by means of hyperlinks that users click on for information. This information can be in different formats, including text, images, audio and video.

What is Internet?

The Internet, sometimes called simply "the Net," is a worldwide system of computer networks -- a network of networks.

What is Web server and browser?

A web browser is basically the software that we use for browsing on the internet and displaying pages. Conversely, a web server refers to the software that provides its users with the documents they request via their web browsers.

A web browser, also known as a "browser," is an application software that allows users to find, access, display, and view websites. Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari are all popular web browsers.

A web server is software and hardware that uses HTTP (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide Web. The main job of a web server is to display website content through storing, processing and delivering WebPages to users.

What is HTTP?

Hypertext Transfer Protocol (HTTP) is a method for encoding and transporting information between a client (such as a web browser) and a web server. HTTP is the primary protocol for transmission of information across the Internet.

URL: Universal Resource Locator (URL)

- URL shows the address of a resource on the Internet. It can refer to the website, some particular document, or an image.
- The Internet user just needs to insert URL into the location (Search) bar to find the needed website,

document, folder, or image.

- A URL contains the following information:
 - The protocol used to access the resource
 - The location of the server (whether by IP address or domain name)
 - The port number on the server (optional)
 - The location of the resource in the directory structure of the server
 - A fragment identifier (optional)
- The URLs of a file stored on the Internet are unique in nature.
- General syntax of URL: Protocol://Servername.domain/Directories/Subdirectories/Filename.filetype

DNS: DNS is short for Domain Name System. Like a phone-book, DNS maintains and maps the name of the website, i.e. URL, and particular IP address it links to. Every URL on the internet has a unique IP address which is of the computer which hosts the server of the website requested.

HYPER TEXT MARKUP LANGUAGE

What is HTML?

HTML stands for Hyper Text Markup Language. It is a universal language which allows an individual using special code to create web pages to be viewed on internet.

What is a HTML tag?

HTML tags tell the browser what to do. Tags are the keywords that define the format of a web page. HTML tags are used to create HTML documents and render their properties. Each HTML tag has different properties.

Some basic HTML tags are:

`<!DOCTYPE>` : Defines the document type
`<html>`: Defines an HTML document
`<head>`: Contains metadata/information for the document
`<title>`: Defines a title for the document
`<body>`: Defines the document's body
`<h1>` to `<h6>`: Defines HTML headings
`<p>`: Defines a paragraph
`
` : Inserts a single line break
`<hr>` : Defines a thematic change in the content

Write format of a simple HTML page.

```
<HTML>
<HEAD>
<TITLE> This is the Title </TITLE>
</HEAD>
<BODY>
.... Type the body of the program
```

```
</BODY>
</HTML>
```

What is meta element in HTML?

The meta element is used to provide additional information about a document. The meta tag has no content; rather, all of the information provided is specified with attributes.

The two attributes that are used to provide information are name and content. The user makes up a name as the value of the name attribute and specifies information through the content attribute.

One commonly chosen name is keywords; the value of the content attribute associated with the keywords are those which the author of a document believes characterizes his or her document.

example:

```
<meta name = "Title" content = "Programming the Web" />
<meta name = "Author" content = "Divya K" />
```

What are some text formatting tags in HTML?

1.<p> </p> - is used for introducing various paragraphs.

2.
 - this tag is used for giving an empty blank line.

2.Heading TAGS - <h1> </h1> .. <h6> </h6> is used to introduce various headings. <h1> is the biggest and <h6> is the smallest heading tag.

3.<HR> TAG – is used to draw lines and horizontal rules.

4.,<I>,<U> for bold, italic and underline respectively.

Explain the use of tag.

Image can be displayed on the web page using tag.

When the tag is used, it should also be mentioned which image needs to be displayed. This is done using src attribute. Attribute means extra information given to the browser

Whenever tag is used, alt attribute is also used. Alt stands for alert.

```
<html>
<head>
<title>display image</title>
```

Module 1 : Introduction to HTML

```
</head>
<body>

</body>
</html>
```

How do you change the color of background or text in HTML?

Include the element \"bgcolor\" with a color code in your body tag:

```
<BODY BGCOLOR=\"#ffffff\" TEXT=\"#000000\" LINK=\"#cc0000\" VLINK=\"#000066\"
ALINK=\"#ffff00\">
```

How to make a picture of a background image of a web page?

To make a picture a background image on a web page, you should put the following tag code after the </head> tag.

```
1<body background = "image.gif">
```

Here, replace the “image.gif” with the name of your image file which you want to display on your web page.

What is hypertext and href?

Hyperlinks are the mechanism which allows the navigation from one page to another.

> The term “hyper” means beyond and “link” means connection

> Whichever text helps in navigation is called hypertext

> Hyperlinks can be created using <a> (anchor tag)

> The attribute that should be used for <a> is href

Example:

```
<html>
<head>
<title> hyperlink </title>
</head>
<a href = "link.html"> CLICK HERE
</a>
</html>
```

What is table tag? write syntax.

A table is a two dimensional matrix, consisting of rows and columns. All table related tags are included between <TABLE> </TABLE> tags.

A table is a matrix of cells. The cells in the top row often contain column labels, those in the leftmost column often contain row labels, and most of the rest of the cells contain the data of the table. The content of a cell can be almost any document element, including text, a heading, a horizontal rule, an image, and a nested table.

Syntax:

```
<TABLE>
<TH> Heading </TH>
<TR> Row elements </TR>
<TD> Table data values </TD>
</TABLE>
```

What do you mean by row spanning and column spanning?

Row spanning is used to merge (combine) two or more rows.

Column spanning is used to merge (combine) two or more columns.

What is the difference between DIV and SPAN in HTML?

The difference between **span** and **div** is that a span element is **in-line** and usually used for a small chunk of HTML inside a line, such as inside a paragraph. Whereas, a div or division element is **block-line** which is equivalent to having a line-break before and after it and used to group larger chunks of code.

Example:

```
1<div id="HTML">
2This is <span class="Web Dev">interview</span>
3</div>
```

What is the purpose of using alternative texts in images?

The purpose of using alternative texts is to define what the image is about. During an image mapping, it can be confusing and difficult to understand what hotspots correspond to a particular link. These alternative texts come in action here and put a description at each link which makes it easy for users to understand the hotspot links easily.

What is the purpose of using alternative texts in images?

The purpose of using alternative texts is to define what the image is about. During an image mapping, it can be confusing and difficult to understand what hotspots correspond to a particular link. These alternative texts come in action here and put a description at each link which makes it easy for users to understand the hotspot links easily.

Why do we use <blockquote>? give example.

The <blockquote> tag is used to make the contents look different from the surrounding text.

```
<html>
<head>
<title> Blockquotes </title>
</head>
<body>
<p> HELLO THERE </p>
<blockquote>
<p> ROOTWORKZ </p>
</blockquote>
</body>
</html>
```

Name some common lists that are used when designing a page.

There are many common lists used for design a page. You can choose any or a combination of the following list types:

- **Ordered list** – The ordered list displays elements in a numbered format. It is represented by tag.
- **Unordered list** – The unordered list displays elements in a bulleted format. It is represented by tag.
- **Definition list** – The definition list displays elements in definition form like in a dictionary. The <dl>, <dt> and <dd> tags are used to define description list.

Is the <!DOCTYPE html> tag considered as a HTML tag?

No, the <!DOCTYPE html> declaration is not an HTML tag.

There are many type of HTML, such as, HTML 4.01 Strict, HTML 4.01 Transitional, HTML 4.01 Frameset, XHTML 1.0 Strict, XHTML 1.0 Transitional, XHTML 1.0 Frameset, XHTML 1.1 etc. So, <!DOCTYPE html> is used to instruct the web browser about the HTML page.

What is semantic HTML?

Semantic HTML is a coding style. It is the use of **HTML markup** to reinforce the semantics or meaning of the content. For example: In semantic HTML ` ` tag is not used for bold statement as well as `<i> </i>` tag is used for italic. Instead of these we use `` and `` tags.

What is marquee?

Marquee is used for the scrolling text on a web page. It scrolls the image or text up, down, left or right automatically. You should put the text which you want to scroll within the `<marquee>.....</marquee>` tag.

What is difference between HTML and XHTML?

The differences between HTML and XHTML are:

- HTML is an application of Standard Generalized Markup Language. Whereas, XML is an application of Extensible Markup Language.
- The first one is a static Web Page whereas the later one is a dynamic Web Page.
- HTML allows programmer to perform changes in the tags and use attribute minimization whereas XHTML when user need a new markup tag then user can define it in this.
- HTML is about displaying information whereas XHTML is about describing the information.

What are logical and physical tags in HTML?

Logical tags are used to tell the meaning of the enclosed text. The example of the logical tag is `` tag. When we enclose the text in the strong tag, it tells the browser that enclosed text is more important than other texts.

Physical tags are used to tell the browser how to display the text enclosed in the physical tag. Some of the examples of physical tags are ``, `<big>`, `<i>`.

What are HTML forms?

An HTML form is used to allow a user to input data on a web page and the element used is form element and its main attributes are action and method.

The most common way for a user to communicate information from a Web browser to the server is through a form. XHTML provides tags to generate the commonly used objects on a screen form. These objects are called controls or widgets. There are controls for single-line and multiple-line text collection, checkboxes, radio buttons, and menus, among others. All control tags are inline tags.

format is `<form action= http://www.example.abc = "get"> <form>`

Example:

```
<form action="/action_page.php">
<label for="fname">First name:</label><br>
<input type="text" id="fname" name="fname" value="John"><br>
```



```

<label for="lname">Last name:</label><br>
<input type="text" id="lname" name="lname" value="Doe"><br><br>
<input type="submit" value="Submit">
</form>

```

Write a complete HTML form script using checkbox, actions buttons(SUBMIT, RESET), <textarea> tag and radio button.

```

<html>
<head>
<title> CompleteForm</title>
</head> <body>
<h1>Registration Form</h1>
<form action=" ">
<p> <label>Enter your email id:
<input type = "text" name = "myname" size = "24" maxlength = "25" />
</label> </p>
<p> <label>Enter the password:
<input type = "password" name = "mypass" size = "20" maxlength = "20" />
</label> </p>
<p>
<label><input type="radio" name="act" value="one"/>Male</label>
<label><input type="radio" name="act" value="two"/>Female</label>
</p>
<p>Which of the following Accounts do you have?</p>
<p>
<label><input type="checkbox" name="act" value="one"/>Gmail</label>
<label><input type="checkbox" name="act" value="two"/>Facebook</label>
<label><input type="checkbox" name="act" value="three"/>Twitter</label>
<label><input type="checkbox" name="act" value="four"/>Google+</label>
</p>
<p> Any Suggestions?</p>
<p> <textarea name="feedback" rows="5" cols="100"> </textarea> </p>
<p>Click on Submit if you want to register</p>
<p> <input type="SUBMIT" value="SUBMIT"/>
<input type="RESET" value="RESET"/>
</p>
</form>
</body>
<html>

```

Explain frames and <frame> tag.

The browser window can be used to display more than one document at a time. The window can be divided into rectangular areas, each of which is a frame. Each frame is capable of displaying its own document.

<frameset> tag:

>The number of frames and their layout in the browser window are specified with the <frameset> tag.

>A frameset element takes the place of the body element in a document. A document has either a body or a frameset but cannot have both.

>The <frameset> tag must have either a rows or a cols attribute. (or both)

> To create horizontal frames, rows attribute is used.

>To create vertical frames, cols attribute is used.

Example of horizontal frame:

```
<html>
<head>
<title>Frameset Rows</title>
</head>
<frameset rows = "*",*">
<frame src = "Framerow1.html"/>
<frame src = ""Framerow2.html"/>
</frameset>
</html>
```

What are the HTML tags used to display the data in the tabular form?

The list of HTML tags used to display data in the tabular form include:

Tag	Decsription
<table>	It defines a table
<tr>	This tag defines a row in a table
<th>	It defines a header cell in a table
<td>	This is used to define a cell in a table
<caption>	It defines the table caption
<colgroup>	It specifies a group of one or more columns in a table for formatting
<col>	This is used with <colgroup> element to specify column properties for each column
<tbody>	This tag is used to group the body content in a table.
<thead>	It is used to group the header content in a table
<tfooter>	It is used to group the footer content in a table

CASCADING STYLE SHEETS

What are Style Sheets?

Style sheets are collections of style information that are applied to plain text. Style information includes font attributes such as type size, special effects (bold,italic,underline),color and alignment. Style sheets also provide broader formatting instructions byspecifying values for quantities such as line spacing and left and right margins.

Define cascading.

Cascading refers to a certain set of rules that browsers use, in cascading order, to determine how to use the style information. Such a set of rules is useful in the event of conflicting style information because the rules would give the browser a way to determine which style is given precedence

What is CSS?

1. CSS are powerful mechanism for adding styles (e.g. Fonts, Colors, Spacing) to web documents.
2. They enforce standards and uniformity throughout a web site and provide numerous attributes to create dynamic effects.

3. The advantage of a style sheet includes the ability to make global changes to all documents from a single location. Style sheets are said to cascade when they combine to specify the appearance of a page.

What are the style precedence rules when using multiple approaches?

Inline styles override both linked style sheets and style information stored in the document head with `<STYLE>` tag. Styles defined in the document head override linked style sheets. Linked style sheets override browser defaults

List down the ways of including style information in a document.

1. Linked Styles -Style information is read from a separate file that is specified in the `<LINK>` tag
2. Embedded Styles -Style information is defined in the document head using the `<STYLE>` and `</STYLE>` tags.
3. Inline Styles -Style information is placed inside an HTML tag and applies to all content between that tag and its companion closing tag.

Write syntax to introduce style sheets in HTML.

`<HTML>`

`<HEAD>`

`<STYLE Type = "text/css">`

predefined tag name {attribute name1:attribute value1; attribute name2:attribute value2;attribute name-n:attribute value-n}

`<STYLE>`

`</HEAD>`

`<BODY>`

write the body of program

`</BODY> </HTML>`

Can you create a multi-colored text on a web page?

Yes, we can create a multi-colored text on a web page. To create a multicolor text, you can use ` ` for the specific texts that you want to color.

What happens if you open the external CSS file in a browser?

When you try to open the external CSS file in a browser, the browser cannot open the file, because the file has a different extension. The only way to use an external CSS file is to reference it using `<link/>` tag within another HTML document.

What is the hierarchy that is being followed when it comes to style sheets?

If a single selector includes three different style definitions, the definition that is closest to the actual tag takes precedence. Inline style takes priority over embedded style sheets, which takes priority over external style sheets.

What are the limits of the text field size?

The default size for a text field is around **13 characters**. However, if you include the size attribute, you can set the size value to be as low as 1. The maximum size value will be determined by the browser width. Also, if the size attribute is set to 0, the size will be set to the default size of 13 characters.

What is Cell Spacing and Cell Padding?

Cell Spacing is referred to as the space or gap between the two cells of the same table. Whereas, Cell Padding is referred to as the gap or space between the content of the cell and cell wall or cell border.

Example:

```
1<table border cellspacing=3>
2<table border cellpadding=3>
3<table border cellspacing=3 cellpadding=3>
```

Write script using cellspacing and cellpadding.

Script:

```
<html>
<head>
<title> cell spacing and cell padding </title>
</head>
<body>
<h3>Table with space = 10, pad = 50</h3>
<table border = "7" cellspacing = "10" cellpadding = "50">
<tr>
<td> Kswamy</td>
<td>Chethan </td>
</tr>
</table>
<h3>Table with space = 50, pad = 10</h3>
```

```
<table border = "7" cellspacing = "50" cellpadding = "10">
<tr>
<td> Divya </td>
<td>Chethan </td>
</tr>
</table>
</body>
</html>
```

JAVASCRIPT

What is JavaScript ? Why do we use it?

JavaScript is an interpreted, client-side, event-based, object-oriented scripting language that you can use to add dynamic interactivity to your web pages.

We use it to:

- >Create special effects with images that give the impression that a button is either highlighted or depressed whenever the mouse pointer is hovered over it.
- >Validate information that users enter into your web forms
- >Open pages in new windows, and customise the appearance of those new windows.
- >Detect the capabilities of the user's browser and alter your page's content appropriately.
- > And much more..

<script> tag is used to add JavaScript in HTML
<script language="JavaScript"
type="text/JavaScript">
... code ...
</script>

List JavaScript data types.

- i. Number: The number data type is used to represent positive or negative numbers with or without decimal place, or numbers written using exponential notation.
- ii. String: The string data type is used to represent textual data . Strings are created using single or double quotes surrounding one or more characters, as shown below:
- iii. Boolean: The Boolean data type can hold only two values: true or false. It is typically used to store values

like yes (true) or no (false), on (true) or off (false).

iv. Null: This is another special data type that can have only one value-the null value. A null value means that there is no value. It is not equivalent to an empty string ("") or 0

v. Object: The object is a complex data type that allows you to store collections of data.

vi. Undefined: The undefined data type can only have one value-the special value undefined. If a variable has been declared, but has not been assigned a value, has the value undefined.

Define DOM.

DOM (Document Object Model) is an API that defines how JavaScript programs can access and manipulate the HTML document currently displayed by a browser. It includes the definition of the properties of document object, many of which are themselves objects with their own properties.

What is the use of typeof operator in JavaScript?

typeof is an operator that provides information about the data type of a value stored in a variable and also its use is to test that a variable has been defined before attempting to use it.

It is a unary operator that is placed before its single operand, which can be of any type. Its value is a string indicating the data type of the operand.

The typeof operator evaluates to "number", "string" or "boolean" if its operand is a number, string, or boolean value and returns true or false based on the evaluation.

Question 31. Explain JavaScript array.

An array is a special type of JavaScript object that can store multiple data values unlike a variable, which can only store one data value at a time.

In order to use an array in JavaScript, you must first create it. There are a number of ways to create arrays in JavaScript.

```
>arrDays = new Array();
```

If you already know how many elements a given array will have, you can declare this explicitly:

```
>arrDays = new Array(7);
```

```
>arrDays = new Array("Monday","Tuesday");
```

```
>arrDays = ["Monday","Tuesday"];
```

What is === operator?

=== is called as strict equality operator which returns true when the two operands are having the same value without any type conversion.

Strict equality === checks that two values are the same or not.

Values are not implicitly converted to some other value before comparison.

If the variable values are of different types, then the values are considered as unequal.

If the variable are of the same type, are not numeric, and have the same value, they are considered as equal.

Explain all three types of errors in JavaScript.

Logic errors: It is caused by the use of syntactically correct code, which does not fulfill the required task. For example, an infinite loop.

Load-time errors: The errors shown at the time of the page loading are counted under Load-time errors. These errors are encountered by the use of improper syntax, and thus are detected while the page is getting loaded

Run-time errors: This is the error that comes up while the program is running. It is caused by illegal operations, for example, division of a number by zero, or trying to access a non-existent area of the memory.

What boolean operators does JavaScript support?

&&, || and !

What looping structures are there in JavaScript?

for, while, do-while loops, but no foreach.

What is THIS keyword?

It refers to the current object.

What does isNaN function do?

Return true if the argument is not a number.

What is negative infinity?

It's a number in JavaScript, derived by dividing negative number by zero.

Where are cookies actually stored on the hard disk?

This depends on the user's browser and OS.

In the case of Netscape with Windows OS, all the cookies are stored in a single file called cookies.txt
c:\Program Files\Netscape\Users\username\cookies.txt

What can javascript programs do?

Generation of HTML pages on-the-fly without accessing the Web server. The user can be given control over the browser like User input validation Simple computations can be performed on the client's machine The user's browser, OS, screen size, etc. can be detected Date and Time Handling

How to set a HTML document's background color?

document.bgcolor property can be set to any appropriate color.

What does the "Access is Denied" IE error mean?

The "Access Denied" error in any browser is due to the following reason. A javascript in one window or frame tries to access another window or frame whose document's domain is different from the document containing the script.

Is a javascript script faster than an ASP script?

Yes. Since javascript is a client-side script it does not require the web server's help for its computation, so it is always faster than any server-side script like ASP, PHP, etc..

Are Java and JavaScript the Same?

No. java and javascript are two different languages.

Java is a powerful object - oriented programming language like C++, C whereas Javascript is a client-side scripting language with some limitations.

How to embed javascript in a web page?

javascript code can be embedded in a web page between

<script language="javascript"> </script> tags

How to access an external javascript file that is stored externally and not embedded?

This can be achieved by using the following tag between head tags or between body tags. <script src="abc.js"></script> where abc.js is the external javascript file to be accessed.

What is the difference between an alert box and a confirmation box?

An alert box displays only one button which is the OK button whereas the Confirm box displays two buttons

namely OK and cancel.

What is a prompt box?

A prompt box allows the user to enter input by providing a text box.

Can javascript code be broken in different lines?

Breaking is possible within a string statement by using a backslash \ at the end but not within any other javascript statement. that is ,

```
document.write("Hello \
world");
```

is possible but not

```
document.write \
("hello world");
```

How to hide javascript code from old browsers that dont run it?

Use the below specified style of comments

```
<script language=javascript>
```

```
<!--
```

```
javascript code goes here
```

```
// -->
```

How to comment javascript code?

Use // for line comments and

```
/*
```

```
*/ for block comments
```

Name the numeric constants representing max,min values

```
Number.MAX_VALUE
```

```
Number.MIN_VALUE
```

What does javascript null mean?

The null value is a unique value representing no value or no object. It implies no object, or null string, no valid Boolean value, no number and no array object.

What does undefined value mean in javascript?

Undefined value means the variable used in the code doesn't exist or is not assigned any value or the property

doesn't exist.

What is the difference between undefined value and null value?

1. Undefined value cannot be explicitly stated that is there is no keyword called undefined whereas null value has keyword called null
2. typeof undefined variable or property returns undefined whereas typeof null value returns object

Does javascript have the concept level scope?

No. JavaScript does not have block level scope, all the variables declared inside a function possess the same level of scope unlike c, c++, java.

What are undefined and undeclared variables?

Undeclared variables are those that are not declared in the program (do not exist at all), trying to read their values gives runtime error. But if undeclared variables are assigned then implicit declaration is done. Undefined variables are those that are not assigned any value but are declared in the program. Trying to read such variables gives special value called undefined value.

What is === operator ?

=== is strict equality operator, it returns true only when the two operands are having the same value without any type conversion.

What does the delete operator do?

The delete operator is used to delete all the variables and objects used in the program, but it does not delete variables declared with var keyword.

What does break and continue statements do?

Continue statement continues the current loop (if label not specified) in a new iteration whereas break statement exits the current loop.

How to create a function using function constructor?

The following example illustrates this

It creates a function called square with argument x and returns x multiplied by itself.

```
var square = new Function ("x","return x*x");
```