PROGRAM Map.html

```
<!DOCTYPE html>
<html>
<body>
<img src="india.jpg" alt="msp" usemap="#workmap" width="209" height="242">
<map name="workmap">
<area shape="rect" coords="83,41,57,63" alt="delhi" href="delhi.html">
<area shape="rect" coords="149,129,124,83" alt="calcutta" href="calcutta.html">
<area shape="rect" coords="89,184,56,226" alt="tamilnadu"
href="tamilnadu.html">
</map>
</body>
</html>
```

tamilnadu.html

```
<html>
<body bgcolor="aliceblue">
<center style="margin-top: 100;">Chennai is the capital of Tamil Nadu<br> and
<br>More IT companies are camped at Chennai</center>
</body>
</html>
```

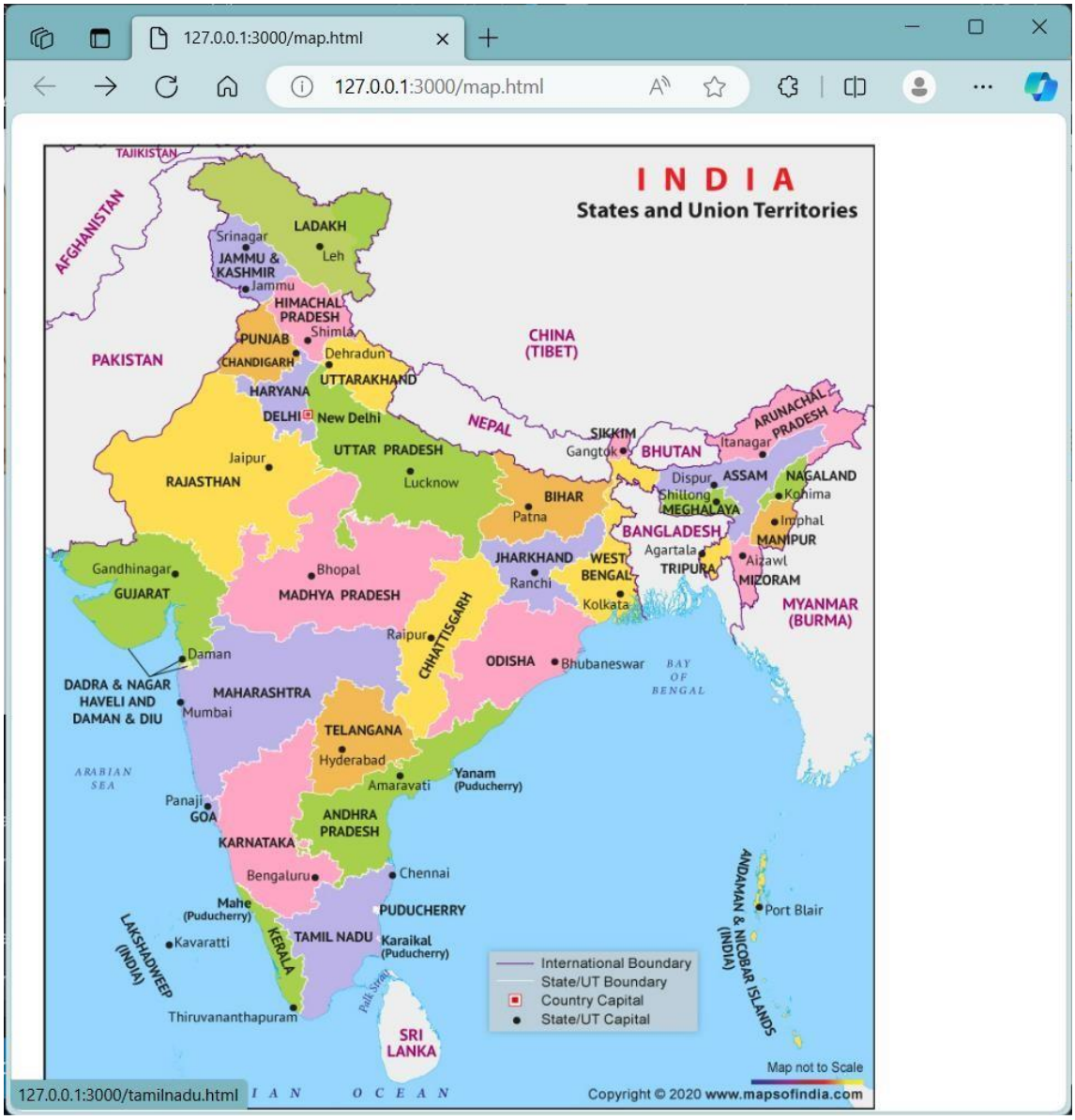
calcutta.html

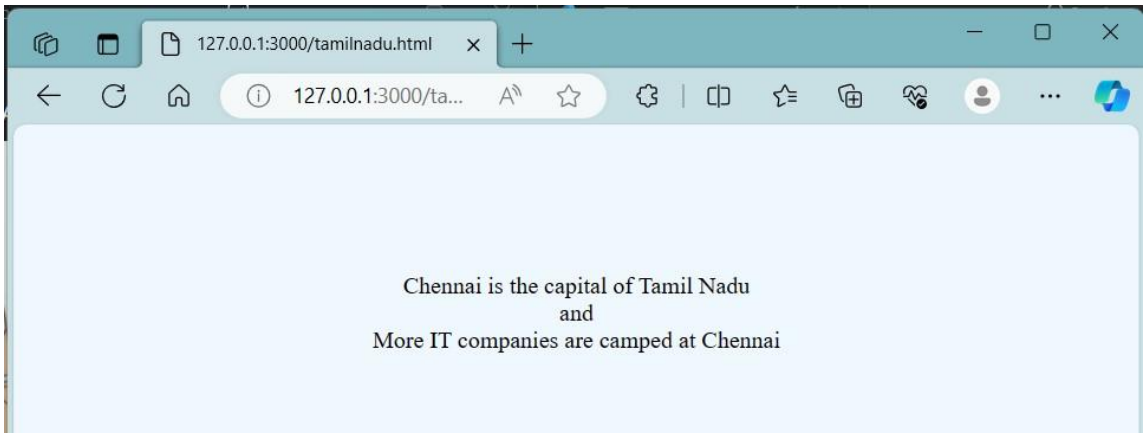
```
<html>

<body bgcolor="SKYBLUE">

<center><b><i>Calcutta is the wealthy city in WEST BENGAL<br> and <br>It has Famous "Sunderbans Forests"</i></b></center>

</body>

</html>
```

delhi.html

```
<html>

<body bgcolor="SKYBLUE">

<center><b><i><tt>Delhi is the capital of our INDIA<br> and <br>More IT companies are Camped at Delhi</tt></i></b></center>

</body>

</html>
```

OUTPUT


127.0.0.1:3000/map.html
127.0.0.1:3000/map.html
INDIA
States and Union Territories
TAJIKISTAN
AFGHANISTAN
PAKISTAN
CHINA (TIBET)
NEPAL
BHUTAN
BANGLADESH
MYANMAR (BURMA)
SRI LANKA
LADAKH
Srinagar
Leh
JAMMU & KASHMIR
Jammu
HIMACHAL PRADESH
Shimla
PUNJAB
Dehradun
CHANDIGARH
UTTARAKHAND
HARYANA
DELHI
New Delhi
UTTAR PRADESH
Jaipur
RAJASTHAN
Lucknow
BIHAR
Patna
SIKKIM
Gangtok
Itanagar
ARUNACHAL PRADESH
Dispur
ASSAM
NAGALAND
Kohima
Shillong
MEGHALAYA
Imphal
MANIPUR
Agartala
TRIPURA
Aizawl
MIZORAM
JHARKHAND
Ranchi
WEST BENGAL
Kolkata
Gandhinagar
GUJARAT
Bhopal
MADHYA PRADESH
CHHATTISGARH
Raipur
ODISHA
Bhubaneswar
BAY OF BENGAL
Daman
DADRA & NAGAR HAVELI AND DAMAN & DIU
MAHARASHTRA
Mumbai
TELANGANA
Hyderabad
Amaravati
Yanam (Puducherry)
ARABIAN SEA
Panaji
GOA
ANDHRA PRADESH
KARNATAKA
Bengaluru
Chennai
Mahe (Puducherry)
PUDUCHERRY
LAKSHADWEEP (INDIA)
Kavaratti
KERALA
TAMIL NADU
Karaikal (Puducherry)
Thiruvananthapuram
Palk Strait
ANDAMAN & NICOBAR ISLANDS (INDIA)
Port Blair
International Boundary
State/UT Boundary
Country Capital
State/UT Capital
Map not to Scale
127.0.0.1:3000/tamilnadu.html
I A N O C E A N
Copyright © 2020 www.mapsofindia.com


127.0.0.1:3000/tamilnadu.html
127.0.0.1:3000/ta...
Chennai is the capital of Tamil Nadu
and
More IT companies are camped at Chennai

2)HTML PROGRAMS

demonstrating hyperlinks

```
<!DOCTYPE html>
<html>
<head>
<title>Hyperlink Example</title>
</head>

<body>

<p>Here is a link to <a
href="https://www.example.com">example.com</a>.</p>

</body>
</html>
```

calculator program:

```
<!DOCTYPE html>

<html>

<head>

<title>Calculator</title>

</head>

<body>

<form>

Number 1: <input type="text" id="num1"><br>

Number 2: <input type="text" id="num2"><br>

<button type="button" onclick="calculate('+')">Add</button>
<button type="button" onclick="calculate('-')">Subtract</button>
<button type="button" onclick="calculate('*')">Multiply</button>
<button type="button" onclick="calculate('/')">Divide</button>
```

```
</form>

<p>Result: <span id="result"></span></p>

<script>
function calculate(operator) {

  var num1 = document.getElementById("num1").value;
  var num2 = document.getElementById("num2").value;

  if(operator == '+') {
    var result = parseInt(num1) + parseInt(num2);
  }
  else if(operator == '-') {
    var result = parseInt(num1) - parseInt(num2);
  }
  else if(operator == '*') {
    var result = parseInt(num1) * parseInt(num2);
  }
  else {
    var result = parseInt(num1) / parseInt(num2);
  }

  document.getElementById("result").innerHTML = result;
}
</script>

</body>

</html>
```

program for a web page using css:

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: linen;
```

```
}

h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>

<body>

<h1>My Web Page</h1>

<p>This is some text on my page styled with CSS.</p>

</body>
</html>
```

program for a static registration form:

```
<!DOCTYPE html>
<html>
<head>
<title>Registration Form</title>
</head>

<body>

<h1>Register</h1>

<form>

First name: <input type="text"><br>
Last name: <input type="text"><br>
Email: <input type="email"><br>
Password: <input type="password"><br>
```

```
<input type="submit" value="Register">

</form>

</body>
</html>
```

program for a homepage having 3 links ,ordered,unordered,definition list:

```
<!DOCTYPE html>
<html>
<head>
<title>Homepage</title>
</head>

<body>

<h1>My Homepage</h1>

<p>Welcome to my site!</p>

<ul>
  <li><a href="/">Home</a></li>
  <li><a href="/about">About</a></li>
  <li><a href="/contact">Contact</a></li>
</ul>

<h2>Shopping List</h2>
<ol>
  <li>Milk</li>
  <li>Bread</li>
  <li>Eggs</li>
</ol>
```

```
<h2>Web Definitions</h2>
<dl>
  <dt>HTML</dt>
  <dd>Standard markup language for web pages</dd>

  <dt>CSS</dt>
  <dd>Used to style and layout web pages</dd>
</dl>

</body>
</html>
```

3)servlets programs

programs for servlets reads parameters from login page:

Login.html

```
<!-- login.html -->

<html>
<body>

<form action="LoginServlet" method="post">
Name: <input type="text" name="name"><br>
Password: <input type="text" name="Password"><br>

<input type="submit" value="Submit">
</form>

</body>
</html>
```

Loginservlet.java

```
// LoginServlet.java

import javax.servlet.*;
import javax.servlet.http.*;
```

```
import java.io.*;

public class LoginServlet extends HttpServlet {

    public void doPost(HttpServletRequest request,
HttpServletResponse response){
        response.setContentType("text/html");

        String name = request.getParameter("name");
        String Password = request.getParameter("Password");


        try{
            response.getWriter().println("<h1>Hello " + name + " from
LoginServlet!,this is my password" + Password + </h1>");

        }catch(Exception e){System.out.println(e);}
    }
}
```

4)JSP

Login.jsp

```
<%@ page import="java.io.*" %>

<html>

<head>
<title>Login Page</title>
</head>

<body>

<form method="post" action="loginpage.jsp">
Username: <input type="text" name="username"><br>
Password: <input type="password" name="password"><br>
<input type="submit" value="Login">
</form>

<%
// Get the posted form parameters
String username = request.getParameter("username");
String password = request.getParameter("password");
```

```
// Print parameters
if(username != null && password != null){
    out.println("<p>Username: " + username + "</p>");
    out.println("<p>Password: " + password + "</p>");
}
%>

</body>
</html>
```

Loginpage.html

```
<html>
<head>
<title>Login Page</title>
</head>

<body>

<h2>Login</h2>

<form action="login.jsp" method="post">
  User Name: <input type="text" name="username"><br>
  Password: <input type="password" name="password"><br>
  <input type="submit" value="Login">
</form>

</body>
</html>
```

5)javascrips programs

javascript program for a login page:

```
<!DOCTYPE html>
<html>
<head>
  <title>Login Page</title>
</head>
<body>

  <h1>Login</h1>
```

```
  <label for="username">Username:</label>
  <input type="text" id="username"><br><br>

  <label for="password">Password:</label>
  <input type="password" id="password"><br><br>

  <button onclick="login()">Login</button>

  <p id="message"></p>

  <script>
    function login() {
      var username = document.getElementById("username").value;
      var password = document.getElementById("password").value;

      if(username == "john" && password == "1234") {
        document.getElementById("message").innerHTML = "Login
successful";
      }
      else {
        document.getElementById("message").innerHTML = "Invalid
credentials";
      }
    }
  </script>

</body>
</html>
```

javascript program for a registration form:

```
<!DOCTYPE html>
<html>
<head>
  <title>Registration Form</title>
</head>
<body>

  <h1>Register</h1>
```

```
  <form>
    First Name:
    <input type="text" id="first_name"> <br>

    Last Name:
    <input type="text" id="last_name"> <br>

    Email:
    <input type="email" id="email"> <br>

    <input type="button" onclick="register()" value="Register">
  </form>

  <p id="message"></p>

  <script>
      function register() {
       var firstName =
document.getElementById("first_name").value;
       var lastName = document.getElementById("last_name").value;
       var email = document.getElementById("email").value;

       var message = "Registered successfully, " + firstName + "
" + lastName;
       document.getElementById("message").innerHTML = message;
     }
   </script>

</body>
</html>
```

javascript program for sorting numbers:

```
<!DOCTYPE html>
<html>
<head>
  <title>Number Sort</title>
</head>

<body>

  <h1>Number Sort</h1>
```

```
  <label for="numbers">Enter numbers (separated by comma):</label>
  <input type="text" id="numbersInput" />

  <button onclick="sortNumbers()">Sort</button>

  <p>
    Unsorted numbers: <span id="original"></span>
  </p>

  <p>
    Sorted numbers: <span id="sorted"></span>
  </p>

  <script>
    function sortNumbers() {
      // Get input
      var input = document.getElementById("numbersInput").value;

      // Split into array
      var numbers = input.split(',');

      // Convert strings to numbers
      for(var i = 0; i < numbers.length; i++){
        numbers[i] = parseInt(numbers[i]);
      }

      // Display original numbers
      document.getElementById("original").innerHTML = numbers;

      // Sort the array
      numbers.sort(function(a, b){
        return a - b;
      });

      // Display sorted numbers
      document.getElementById("sorted").innerHTML = numbers;
    }
  </script>

</body>
```

```
</html>
```

javascript program for square and cube of numbers:

```
<!DOCTYPE html>
<html>
<head>
  <title>Square & Cube Calculator</title>
</head>

<body>

  <h1>Square &amp;amp; Cube Calculator</h1>

  <script>

    var number = prompt("Enter a number");
    number = parseInt(number);

    var square = number * number;
    var cube = number * number * number;

    document.write("Number: " + number + "<br>");
    document.write("Square: " + square + "<br>");
    document.write("Cube: " + cube);

  </script>

</body>
</html>
```

6)

XML document customer details/xml person info and access data using XSL:

customer.xml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```xml
<customer>
  <name>John Smith</name>
  <address>
    <street>123 Main St</street>
    <city>Anytown</city>
    <state>CA</state>
  </address>
</customer>
```

customer.xsl

```xml
<?xml version="1.0" encoding="UTF-8"?>

<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

  <xsl:template match="/">
    <html>
      <body>
        <h2>Customer Details</h2>
        <p>
          Name: <xsl:value-of select="customer/name"/>
        </p>
        <p>
          Street: <xsl:value-of
select="customer/address/street"/>
        </p>
      </body>
    </html>
  </xsl:template>

</xsl:stylesheet>
```

display.html

```xml
<!DOCTYPE html>
```

```
<html>
<body>

  <div id="details"></div>

  <script>
    var xhttp = new XMLHttpRequest();
    xhttp.onreadystatechange = function() {
      if (this.readyState == 4 && this.status == 200) {
        // Load transformed XML content
        document.getElementById("details").innerHTML =
this.responseText;
      }
    };
    // Transform XML using XSLT
    xhttp.open("GET", "customer.xml?xsl=customer.xsl",
true);
    xhttp.send();
  </script>

</body>
</html>
```

This loads the transformed XML using XSLT and displays it.

7)

validating web form controls using DHTML:

Validating Form Controls

```
<!DOCTYPE html>
<html>
<head>
   <script>
      function validate() {
         var valid = true;
```

```
            var name = document.getElementById("name");
            if(name.value == "") {
                name.style.background = "red";
                valid = false;
            }

            return valid;
        }
    </script>
</head>

<body>
    <form>
        Name: <input type="text" id="name" />
        <input type="submit" onclick="return validate();"
/>
    </form>
</body>
</html>
```

different colors for heading tags using DHTML:

```
<!DOCTYPE html>
<html>

<head>
    <script>
        function colorHeadings() {
            var headings = document.getElementsByTagName("h1");

            for (var i = 0; i < headings.length; i++) {
                // Use a different color for each heading based on the
index
                var color = getRandomColor();
                headings[i].style.color = color;
            }
        }

        // Function to generate a random color
```

```
    function getRandomColor() {
      var letters = "0123456789ABCDEF";
      var color = "#";
      for (var i = 0; i < 6; i++) {
        color += letters[Math.floor(Math.random() * 16)];
      }
      return color;
    }
  </script>
</head>

<body>
  <h1 onclick="colorHeadings()">Click to Change Color</h1>
  <h1 onclick="colorHeadings()">Click to Change Color</h1>

  <!-- You can add more heading elements here if needed -->
</body>

</html>
```

8)

behaviour of heading tags using css:

```
<!DOCTYPE html>
<html>
<head>
<style>
  h1 {
    color: blue;
    text-decoration: underline;
  }

  h2 {
    color: green;
    font-style: italic;
  }

  h3 {
    color: red;
    text-align: center;
  }
```

```
</style>
</head>

<body>
  <h1>Heading 1</h1>
  <p>Some content here...</p>

  <h2>Heading 2</h2>
  <p>Some more content here...</p>

  <h3>Heading 3</h3>
  <p>Even more content here...</p>
</body>
</html>
```

VIVA QUESTIONS

Q: What is HTML? A: HTML stands for HyperText Markup Language used to create web pages and web applications.

Q: What is the use of <a> tag in HTML? A: The <a> anchor tag is used to define a hyperlink to another page or resource.

Q: What is a servlet? A: A servlet is a Java class that runs on a web server, generating dynamic content in response to web client requests.

Q: How can parameters be passed from HTML page to servlet? A: Parameters can be passed from an HTML page to servlet using the GET or POST method in a form targeting the servlet.

Q: What is an applet in Java? A: An applet is a Java program that runs inside a web browser, normally embedded within an HTML page.

Q: How are applets and servlets related? A: A servlet can pass parameters to an applet which is embedded in a web page.

Q: What is JavaScript and its uses? A: JavaScript is a client-side scripting language used to make web pages interactive and dynamic. Common uses include form validation, dynamic content generation, etc.

Q: What is XML and XSLT? A: XML is used to store structured data in a standardized format. XSLT helps to transform XML documents into other formats like HTML.

Q: What is DHTML? A: DHTML stands for Dynamic HTML and refers to a combination of HTML, CSS, and JavaScript used for creating interactive web pages.

Q: How can form validation be done using JavaScript? A: Form validation can be done by checking data field values in JavaScript before submitting the form.

Q: How are CSS and JavaScript related? A: CSS is used for styling and layout, while JavaScript handles dynamic interactivity. CSS and JS work together in DHTML.

Q: What is the use of functions in JavaScript? A: Functions are reusable blocks of code used to execute specific tasks in response to events.

Q: How can CSS be used with HTML? A: CSS can be embedded in HTML page or linked as external stylesheet to style HTML elements.

Q: How are custom fonts specified in CSS? A: Custom fonts are specified using @font-face rule followed by defining font-family.

Q: What is DOM in JavaScript? A: DOM (Document Object Model) represents HTML documents as objects that can be manipulated in JavaScript.

Q: How are JavaScript events handled? A: Events can be assigned handlers using on-event attributes like onclick or using addEventListener()

Q: What is AJAX? A: AJAX allows updating parts of a web page dynamically using XMLHttpRequest object to exchange data with servers behind the scenes.

Q: How can JavaScript code be included in HTML? A: Using <script> tag in body or head section or placing in external .js file.

Q: What are variables in JavaScript? A: Variables are named containers to store data values which can be used throughout the script.

Q: What is meant by client-side vs server-side execution? A: Client-side code like JavaScript runs in the browser while server-side code like Java executes on the web server before serving web pages.