JEPPIAAR INSTITUTE OF TECHNOLOGY
Self-Belief | Self-Discipline | Self-Respect
Kunnam, Sunguvarchatram, Sriperumbudur, Tamilnadu-631 604
www.jeppiaarinstitute.org | 044-2715 9000.

DEPARTMENT OF INFORMATION TECHNOLOGY

WEB ESSENTIALS LAB

(IT3401)

NAME : _____

REG. NUMBER : _____

SEMESTER : _____

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BONAFIDE CERTIFICATE

This is a certified bonafide record work of Mr./Ms_____ Reg.No._____ submitted for the anna university practical examination held on _____ in **IT3401 Web Essentials Laboratory as** during the year of 2022-2023.

Signature of the Lab In-charge **Head of the Department**

Internal Examiner **External Examiner**

INSTITUTE VISION :

Jeppiaar Institute of Technology aspires to provide technical education in futuristic technologies with the perspective of innovative, industrial and social application for the betterment of humanity.

INSTITUTE MISSION :

- **M1:** To produce competent and disciplined high-quality professionals with the practical skills necessary to excel as innovative professionals and entrepreneurs for the benefit of the society.
- **M2:** To improve the quality of education through excellence in teaching and learning, research, leadership and by promoting the principles of scientific analysis, and creative thinking.
- **M3:** To provide excellent infrastructure, serene and stimulating environment that is most conducive to learning.
- **M4:** To strive for productive partnership between the Industry and the Institute for research and development in the emerging fields and creating opportunities for employability.
- **M5:** To serve the global community by instilling ethics, values and life skills among the students needed to enrich their lives.

Department Vision

The department will be an excellent centre to impart futuristic and innovative technological education to facilitate the evolution of problem-solving skills along with knowledge application in the field of Information Technology, understanding industrial and global requirements and societal needs for the benefit of humanity.

Department Mission

- **M1:** Produce competent and high-quality professional computing graduates in software development considering global requirements and societal needs thereby maximizing employability.
- **M2:** Enhance evolution of professional skills and development of leadership traits among the students by providing favourable infrastructure and environment to grow into successfulentrepreneurs.
- **M3:** Training in multidisciplinary skills needed by Industries, higher educational institutions, research establishments and Entrepreneurship.
- **M4:** Impart Human Values and Ethical Responsibilities in professional activities.

PEO's OF THE DEPARTMENT

- Provided with a fundamental knowledge in Science, mathematics and computing skills for creative and innovative application.
- Enabled students competent and employable by providing excellent Infrastructure to learn and contribute for the welfare of the society.
- To channelize the potentials of the students by offering state of the art amenities to undergo research and higher education.
- To evolve computing engineers with multi-disciplinary understanding and maximize Job Opportunities.
- To facilitate students, obtain profound understanding nature and social requirements and grow as professionals with values and integrity

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

- **Engineering knowledge:** Apply the knowledge of mathematics, science, Engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **Design/development of solutions:** Design solutions for complex engineering problemsand design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, andenvironmental considerations.
- **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and team work:** Function effectively as an individual, and as a member orleader in diverse teams, and in multidisciplinary settings.

LIST OF EXPERIMENTS

EX.NO.	DATE	NAME OF THE EXPERIMENT	PAGE NO	SIGN

Ex.No:1 CREATION OF INTERACTIVE WEB SITES

AIM:

The aim of this project is to create an interactive website using HTML and authoring tools. The website will be designed to provide a user-friendly interface that allows visitors to easily navigate and interact with the content.

ALGORITHM:

1. Determine the purpose and goals of the website.
2. Plan the structure and layout of the website using wireframes and storyboards.
3. Choose an authoring tool or web development framework to create the website.
4. Use HTML to create the structure and content of the website.
5. Add interactivity to the website using scripting languages like JavaScript.
6. Test the website for usability and functionality.
7. Publish the website to a web server or hosting platform.

PROGRAM:

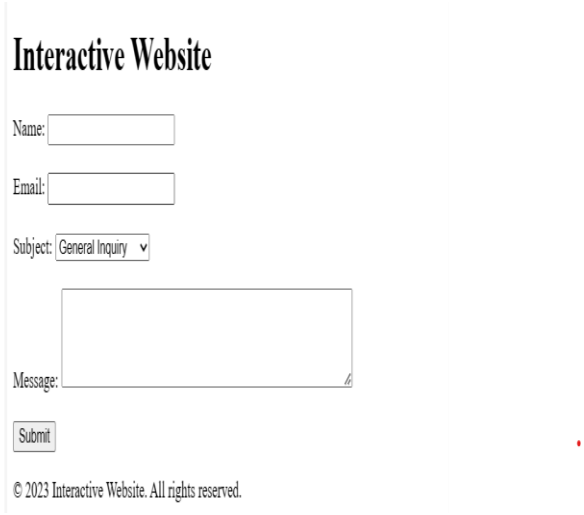
```
<!DOCTYPE html>
<html>
<head>
	<title>Interactive Website</title>
	<link rel="stylesheet" href="style.css">
	<script src="script.js"></script>
</head>
<body>
	<header>
		<h1>Interactive Website</h1>
	</header>
	<main>
		<form id="myForm" onsubmit="submitForm(event)">
			<label for="name">Name:</label>
			<input type="text" id="name" name="name" required><br><br>
			<label for="email">Email:</label>
```

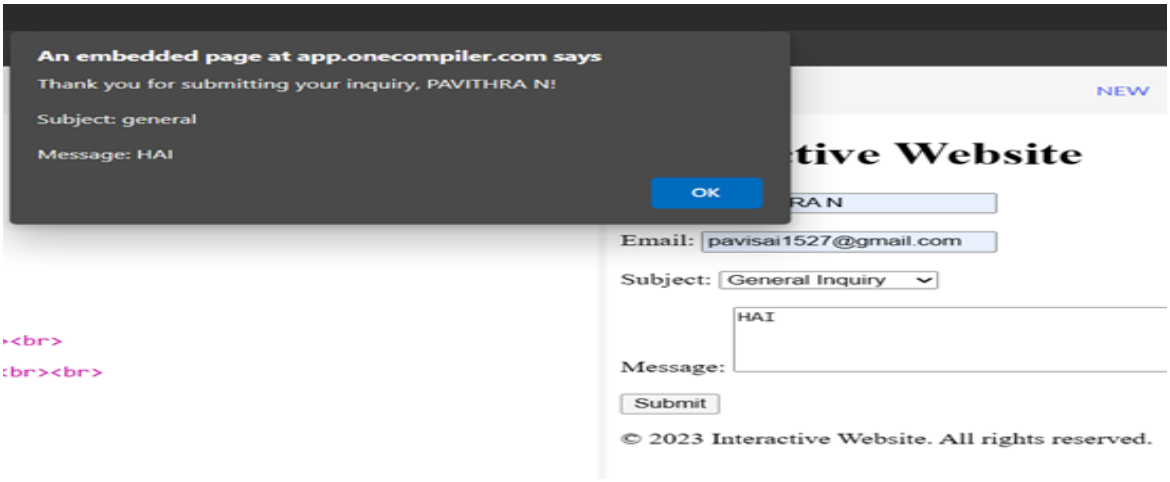
```
                        <input type="email" id="email" name="email" required><br><br>
                        <label for="subject">Subject:</label>
                        <select id="subject" name="subject">
                                <option value="general">General Inquiry</option>
                                <option value="feedback">Feedback</option>
                                <option value="support">Technical Support</option>
                        </select><br><br>
                        <label for="message">Message:</label>
                        <textarea id="message" name="message" rows="4" cols="50"
required></textarea><br><br>
                        <input type="submit" value="Submit">
                </form>
        </main>
        <footer>
                <p>&copy; 2023 Interactive Website. All rights reserved.</p>
        </footer>
</body>
</html>
body {
        font-family: Arial, sans-serif;
}

header {
        background-color: #333;
        color: #fff;
        padding: 10px;
        text-align: center;
}

main {
        padding: 10px;
}

form {
        background-color: #f2f2f2;
        border-radius: 5px;
        padding: 20px;
}
```

```
label {
        display: block;
        font-weight: bold;
        margin-bottom: 10px;
}

input[type="text"],
input[type="email"],
textarea {
        border-radius: 3px;
        border: none;
        box-shadow: inset 0 1px 2px rgba(0, 0, 0, 0.1);
        padding: 10px;
        width: 100%;
}

select {
        border-radius: 3px;
        padding: 10px;
}

input[type="submit"] {
        background-color: #333;
        border: none;
        border-radius: 3px;
        color: #fff;
        cursor: pointer;
        margin-top: 10px;
        padding: 10px;
        width: 100%;
}

input[type="submit"]:hover {
        background-color: #555;
}
function submitForm(event) {
        event.preventDefault();
```

```
        var name = document.getElementById("name").value;
        var email = document.getElementById("email").value;
        var subject = document.getElementById("subject").value;
        var message = document.getElementById("message").value;
        alert("Thank you for submitting your inquiry, " + name + "!\n\nSubject: " + subject + "\n\nMessage: "
+ message);
        document.getElementById("myForm").reset();
}
```

OUTPUT:





Interactive Website

Name: PAVITHRA N

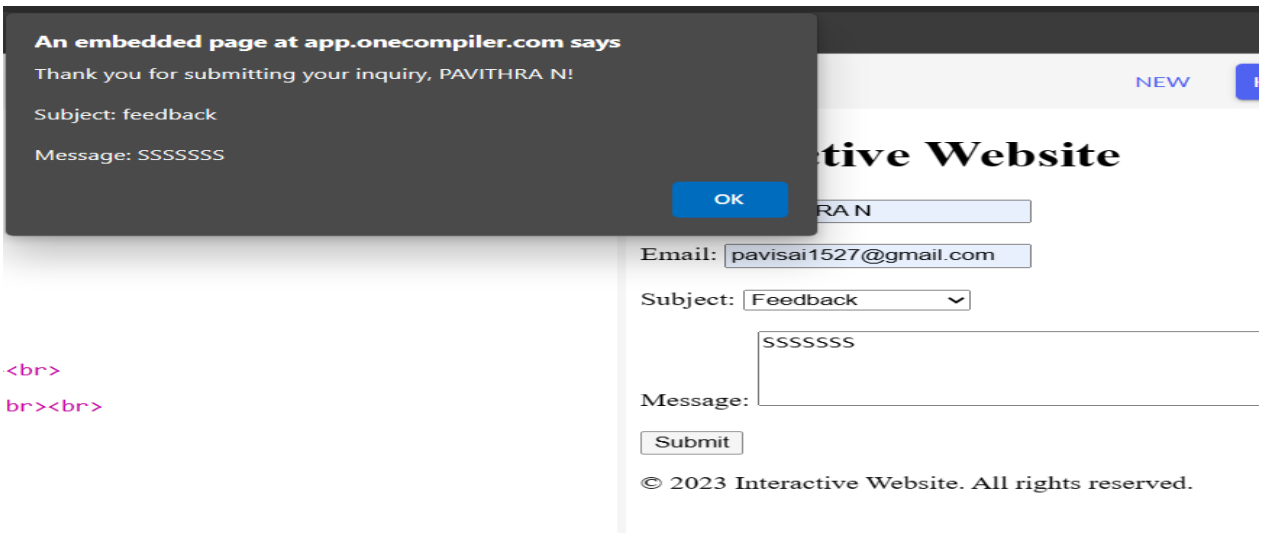
Email: pavisai1527@gmail.com

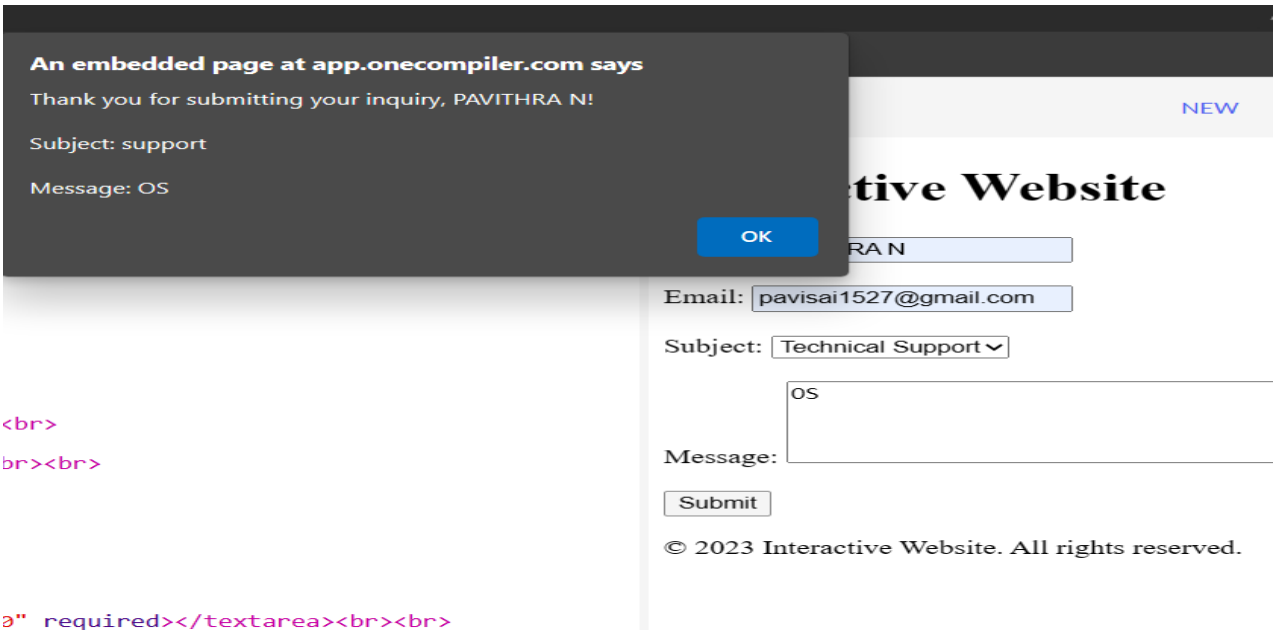
Subject: Feedback

Message: SSSSSSSSSSSSSSS

Submit

© 2023 Interactive Website. All rights reserved.





RESULT:

Thus the create an interactive website using HTML and authoring tools have been executed successfully.

Ex.No:2 FORM VALIDATION USING JAVASCRIPT

AIM:

To implement form validation using JavaScript to ensure that the data entered by the user is accurate and complete.

ALGORITHM:

1. Get the form elements using the document.getElementById() method.
2. Define a function called validateForm() which will be triggered when the form is submitted.
3. Inside the function, retrieve the value of the form elements and store them in variables.
4. Check if the required form elements are filled by verifying if the variables are empty.
5. If any of the form elements are empty, show an alert message indicating the error and return false to prevent form submission.
6. Validate the email and phone number fields by using regular expressions.
7. If any of the fields are invalid, show an alert message indicating the error and return false to prevent form submission.
8. If all the form elements are filled correctly, return true to allow form submission.

PROGRAM:

```
<!DOCTYPE html>
<html>
<head>
	<title>Form Validation</title>
	<link rel="stylesheet" href="style.css">
	<script src="script.js"></script>
</head>
<body>
	<header>
		<h1>Form Validation</h1>
	</header>
	<main>
		<form id="myForm" onsubmit="return validateForm()">
			<label for="name">Name:</label>
```

```
                    <input type="text" id="name" name="name"><br><br>
                    <label for="email">Email:</label>
                    <input type="email" id="email" name="email"><br><br>
                    <label for="phone">Phone:</label>
                    <input type="tel" id="phone" name="phone"><br><br>
                    <label for="age">Age:</label>
                    <input type="number" id="age" name="age"><br><br>
                     <input type="submit" value="Submit">
                </form>
        </main>
        <footer>
                <p>&copy; 2023 Form Validation. All rights reserved.</p>
        </footer>
</body>
</html>
body {
        font-family: Arial, sans-serif;
}

header {
        background-color: #333;
        color: #fff;
        padding: 10px;
        text-align: center;
}

main {
        padding: 10px;
}

form {
        background-color: #f2f2f2;
        border-radius: 5px;
        padding: 20px;
}
```

```
label {
        display: block;
        font-weight: bold;
        margin-bottom: 10px;
}

input[type="text"],
input[type="email"],
input[type="tel"],
input[type="number"] {
        border-radius: 3px;
        border: none;
        box-shadow: inset 0 1px 2px rgba(0, 0, 0, 0.1);
        padding: 10px;
        width: 100%;
}

input[type="submit"] {
        background-color: #333;
        border: none;
        border-radius: 3px;
        color: #fff;
        cursor: pointer;
        margin-top: 10px;
        padding: 10px;
        width: 100%;
}

input[type="submit"]:hover {
        background-color: #555;
}
// Get the form element
const form = document.getElementById('myForm');
```

```
// Get the form fields
const nameField = document.getElementById('name');
const emailField = document.getElementById('email');
const phoneField = document.getElementById('phone');

// Add event listener for form submission
form.addEventListener('submit', function(event) {
    // Prevent form from submitting
    event.preventDefault();

    // Reset previous error messages
    clearErrors();

    // Validate form fields
    let isValid = true;

    // Validate name field
    if (nameField.value.trim() === '') {
        setError(nameField, 'Name is required');
        isValid = false;
    }

    // Validate email field
    if (emailField.value.trim() === '') {
        setError(emailField, 'Email is required');
        isValid = false;
    } else if (!isValidEmail(emailField.value)) {
        setError(emailField, 'Please enter a valid email address');
        isValid = false;
    }

    // Validate phone field
    if (phoneField.value.trim() === '') {
        setError(phoneField, 'Phone is required');
        isValid = false;
```

```
    } else if (!isValidPhone(phoneField.value)) {
        setError(phoneField, 'Please enter a valid phone number');
        isValid = false;
    }

    // If form is valid, submit it
    if (isValid) {
        form.submit();
    }
});

// Function to clear error messages
function clearErrors() {
    const errors = document.querySelectorAll('.error');
    errors.forEach(function(error) {
        error.remove();
    });
}

// Function to set error message for a field
function setError(field, message) {
    const error = document.createElement('div');
    error.className = 'error';
    error.innerText = message;
    field.parentElement.insertBefore(error, field.nextSibling);
}

// Function to validate email address
function isValidEmail(email) {
    const emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
    return emailRegex.test(email);
}

// Function to validate phone number
function isValidPhone(phone) {
```

```
    const phoneRegex = /^\d{10}$/;
    return phoneRegex.test(phone);
}
```

OUTPUT:

RESULT:

Thus the implement form validation using JavaScript have been executed successfully.

Ex.No:3 CREATION OF SIMPLE PHP SCRIPTS

AIM:

To creation of simple php scripts to ensure that calculates the area of a rectangle.

ALGORITHM:

1. Define the length and width of the rectangle.
2. Calculate the area of the rectangle by multiplying the length by the width.
3. Output the result.

PROGRAM:

```
<?php
// Define the length and width of the rectangle
$length = 10;
$width = 5;

// Calculate the area of the rectangle
$area = $length * $width;

// Output the result
echo "The area of the rectangle is: " . $area;
?>
```

OUTPUT:

RESULT:

Thus the creation of simple php scripts to ensure that calculates the area of a rectangle have been executed successfully.

Ex.No:4 HANDLING MULTIMEDIA CONTENT IN WEB SITES

AIM:

The aim of handling multimedia content in web sites is to enhance the user experience and engagement by incorporating various forms of multimedia such as images, videos, animations, and audio files. Effective handling of multimedia content can help to communicate ideas, convey emotions, and provide additional information to the users in a more engaging and interactive way**.**

ALGORITHM:

1. Determine the type of multimedia content that will be used on the website and ensure that it aligns with the overall objectives and goals of the site.
2. Optimize multimedia files to ensure that they load quickly without compromising on quality. This can be done by compressing images and videos, reducing the size of audio files, and utilizing responsive design to ensure that multimedia content adapts to various devices and screen sizes.
3. Organize multimedia content in a logical and intuitive manner, such as creating separate galleries or categories for images and videos.
4. Use appropriate tags and descriptions for multimedia content to improve search engine optimization and make it easier for users to find relevant content.
5. Implement accessibility features such as captions, transcripts, and audio descriptions to ensure that multimedia content is accessible to all users, including those with disabilities.
6. Use multimedia content strategically to enhance the user experience and engagement, such as incorporating videos to demonstrate product features or using images to showcase a brand's visual identity.
7. Test multimedia content across various browsers and devices to ensure that it displays correctly and is functional on all platforms.

PROGRAM:

```
<!DOCTYPE html>
<html>
<head>
	<title>Handling Multimedia Content</title>
</head>
<body>
	<h1>Handling Multimedia Content</h1>
	<form action="/upload" method="post" enctype="multipart/form-data">
		<label for="file">Choose a file:</label>
		<input type="file" id="file" name="file" accept=".jpg, .jpeg, .png, .gif, .mp4, .webm, .ogg, .mp3, .wav"><br><br>
		<input type="submit" value="Upload">
	</form>
</body>
</html>
```

OUTPUT:

Handling Multimedia Content

RESULT:

Thus the handling multimedia content in web sites is to enhance the user experience have been executed successfully.

Ex.No:5 INVOKING SERVLET FROM HTML

AIM:

To write a html program for invoking servlet using html.

ALGORITHM:

1. In html program, define the html, head and title tag.
2. Then the title is Student Information Form and close the title and head tag.
3. Define the body tag inside the body tag create form and table simultaneously.
4. The table consists of following information Roll no, Student name, Address, Phone no and total marks.
5. In the servlet program, import the summary package and create a own servlet class extends with generic servlet.
6. In the service method defined to request and response.
7. Create the object and for print writer and get writer() value.
8. The enumeration object get the servlet request parameter.
9. Create objects for string method and it is displayed another object value received get parameter of name received and displayed the value received value.

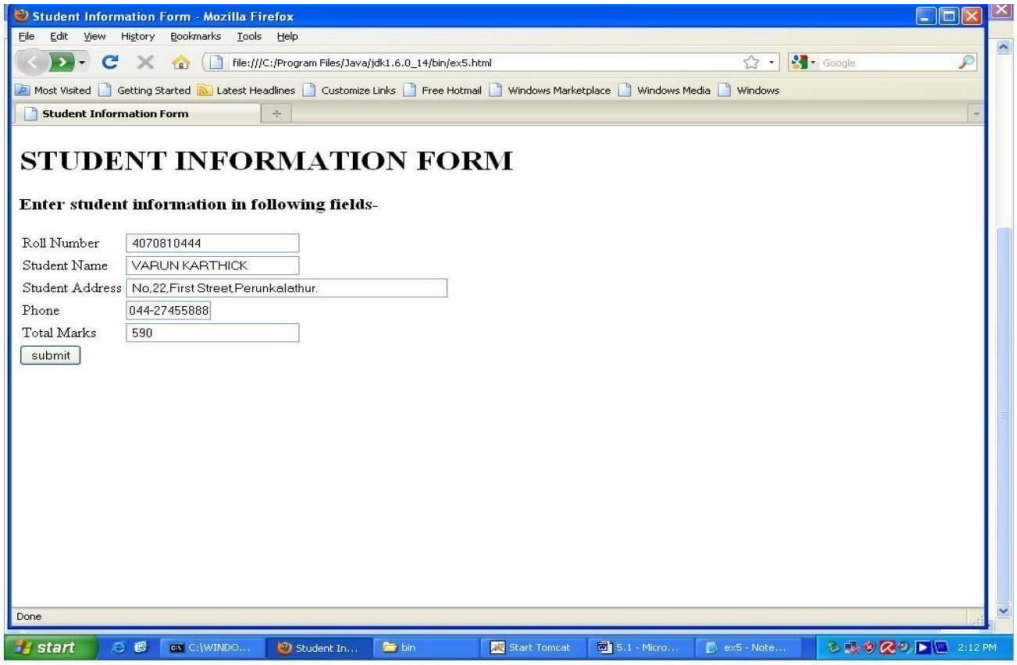
PROGRAM:

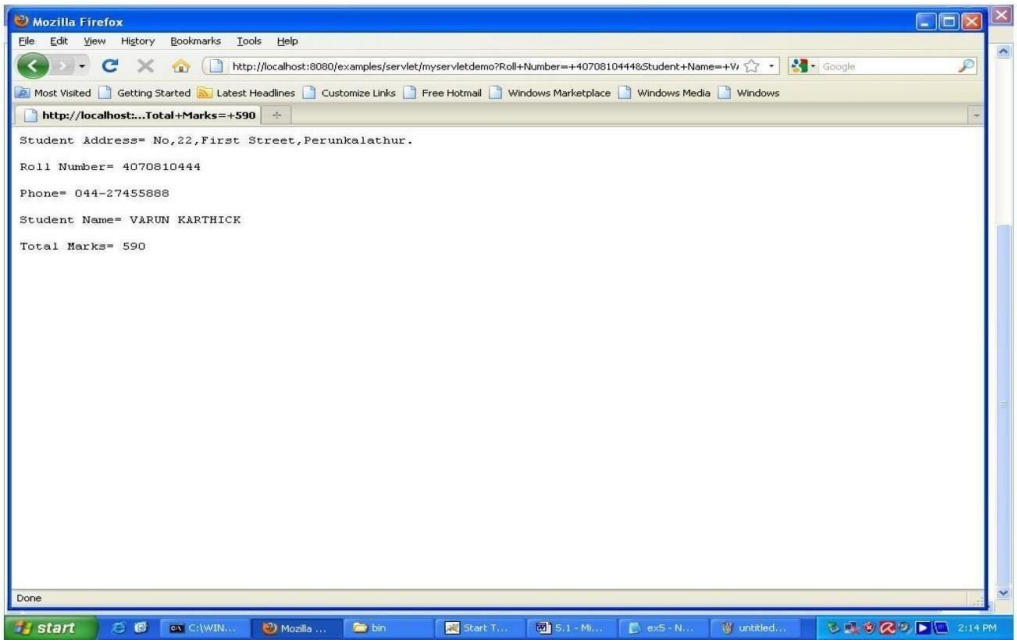
Java coding:

```
import java.io.*; import java.util.*; import javax.servlet.*;
public class myservletdemo extends GenericServlet

{

public void service(ServletRequest req,ServletResponse res) throws ServletException,IOException

{

PrintWriter out=res.getWriter(); Enumeration en=req.getParameterNames();
while(en.hasMoreElements()) {

String name_received=(String)en.nextElement(); out.print(name received+"=");

String value_received=req.getParameter(name received); out.println(value received);

out.println(" ");

}

out.close();


}

}


<html>
<head>

<title>Student Information Form</title>

</head>

<body>

<form name="form1" action="http://localhost:8080/examples/servlet/myservletdemo">
<h1>STUDENT INFORMATION FORM</H1>

<h3>Enter student information in following fields-</h3>

<table>

<tr>

<td>Roll Number</td>

<td><input type="text" name="Roll Number" size="25" value=" "></td>
```

```
</tr>
<tr>
<td>Student Name</td>
<td><input type="text" name="Student Name" size="25" value=" "></td>
</tr>
<tr>
<td>Student Address</td>
<td><input type="text" name="Student Address" size="50" value=" "></td> </tr>

<tr>
<td>Phone</td>
<td><input type="text" name="Phone" size="10" value=" "></td>
</tr>
<tr>
<td>Total Marks</td>
<td><input type="text" name="Total Marks" size="25" value=" "></td>
</tr>
</table>
<input type="submit" value="submit">
</form>
</center>
</body>
</html>
```

OUTPUT:





RESULT:

Thus the html program for invoking servlet have been executed successfully.

Ex.No:6 CREATION OF INFORMATION RETRIEVAL SYSTEM

AIM:

The aim of this project is to create an information retrieval system using the web, PHP, and MySQL.

ALGORITHM:

1. Create a database in MySQL to store the information.
2. Create a web page using HTML to collect the user's search query.
3. When the user submits the search query, use PHP to retrieve the data from the MySQL database based on the user's input.
4. Display the results to the user on the web page.

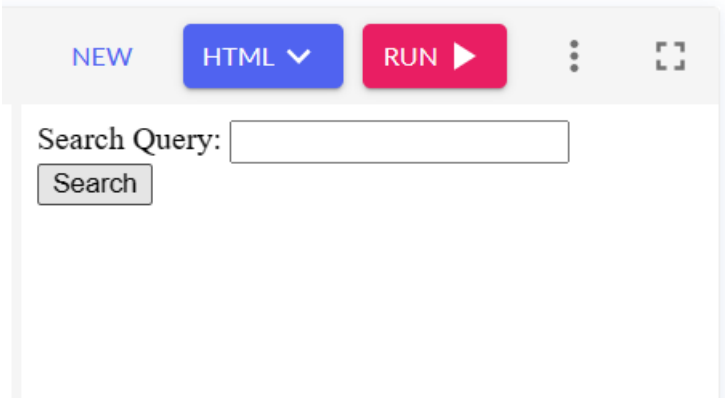
PROGRAM:

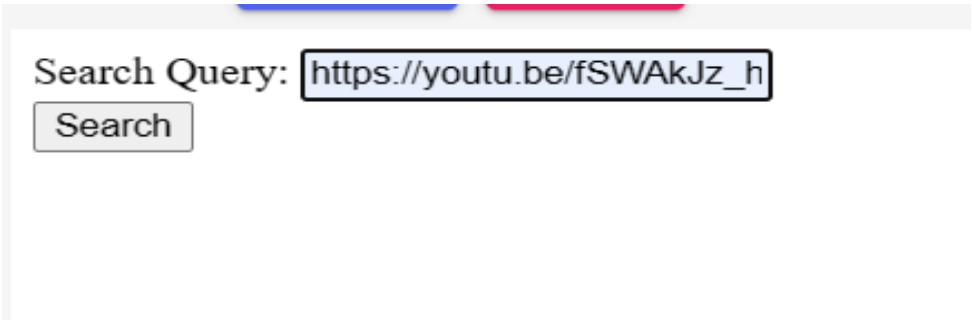
```
<!DOCTYPE html>
<html>
<head>
   <title>Search</title>
</head>
<body>
   <form method="post" action="search.php">
      <label>Search Query:</label>
      <input type="text" name="query" required>
      <br>
      <input type="submit" value="Search">
   </form>
</body>
</html>
```

```php
<?php
// Connect to the database
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "information_retrieval";
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Get the user's search query
$query = $_POST["query"];

// Construct the SQL query to retrieve the data
$sql = "SELECT * FROM data WHERE title LIKE '%$query%' OR content LIKE '%$query%'";

// Execute the query and get the results
$result = $conn->query($sql);

// Display the results to the user
if ($result->num_rows > 0) {
    while($row = $result->fetch_assoc()) {
        echo "<h3>" . $row["title"] . "</h3>";
        echo "<p>" . $row["content"] . "</p>";
        echo "<hr>";
    }
} else {
    echo "No results found.";
}

// Close the database connection
$conn->close();
```

```
?>
CREATE DATABASE information_retrieval;
USE information_retrieval;

CREATE TABLE data (
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    title VARCHAR(255) NOT NULL,
    content TEXT NOT NULL
);

INSERT INTO data (title, content)
VALUES
    ("Lorem Ipsum", "Lorem ipsum dolor sit amet, consectetur adipiscing elit."),
    ("Sed euismod", "Sed euismod augue at quam aliquam tristique."),
    ("Vestibulum ante", "Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae;"),
    ("Pellentesque habitant", "Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas."),
    ("Nulla auctor", "Nulla auctor libero at dolor porttitor vestibulum.");
```

OUTPUT:





RESULT:

Thus the create an information retrieval system using the web, PHP, and MySQL. have been executed successfully.

Ex.No:7 CREATION OF PERSONAL INFORMATION SYSTEM

AIM:

The aim of an HTML registration form is to collect user information from a website visitor, typically for the purpose of creating an account or subscribing to a service. The form allows users to enter their personal information such as name, email address, phone number, and other relevant details necessary for the service provider to communicate with the user and provide the necessary service.

ALGORITHM:

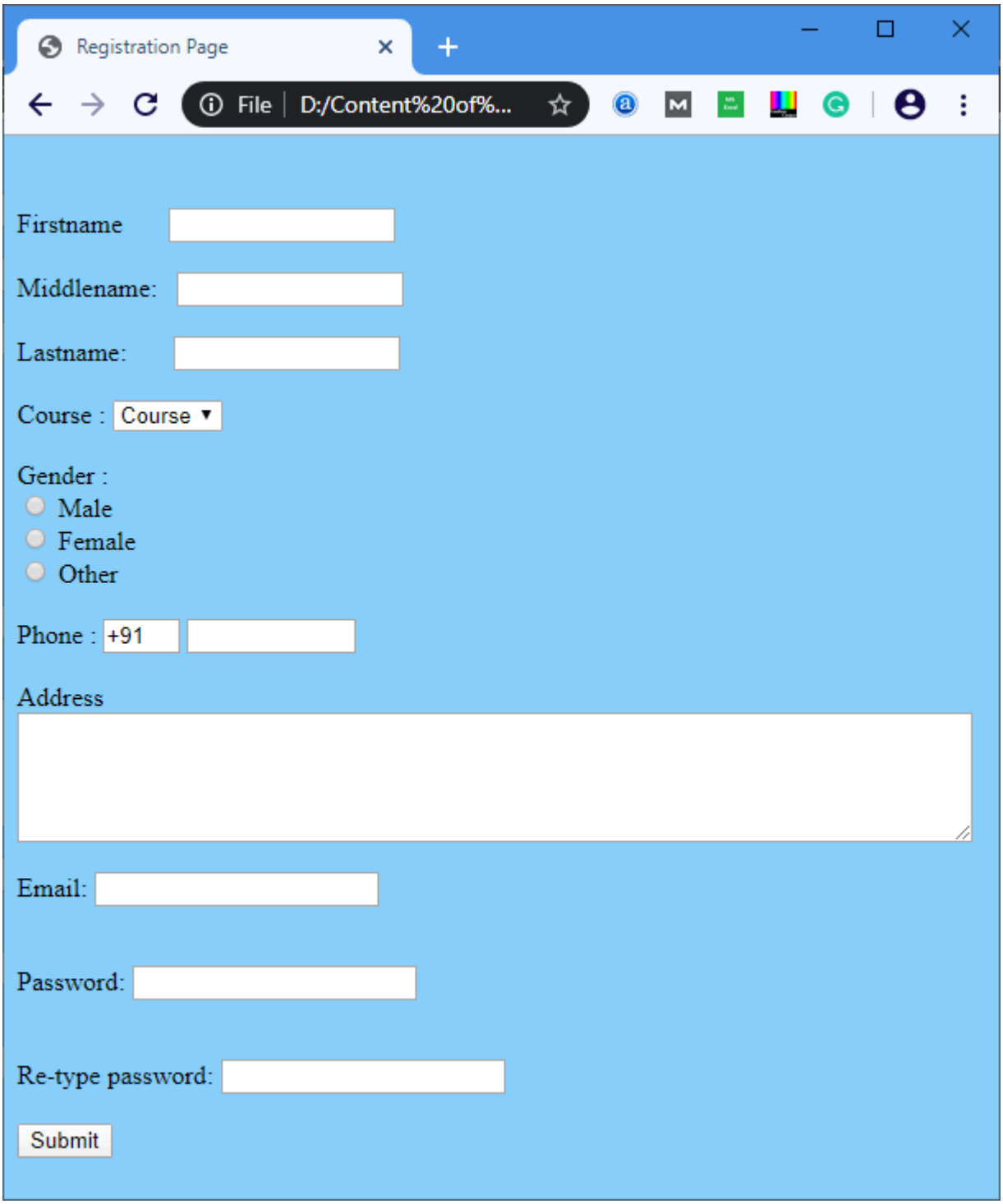
1. Define the form structure using HTML tags. The basic structure of an HTML form includes the <form> tag, which encloses all the form elements, and the <input> tag, which defines the form fields. Other tags such as <label>, <select>, <textarea>, and <button> can be used to enhance the functionality of the form.
2. Specify the form action and method. The form action attribute specifies the URL where the form data will be sent to, while the method attribute specifies the HTTP method to be used. Typically, the method is set to "POST" for sending form data securely.
3. Add form fields. Each form field is defined using the <input> tag with a type attribute that specifies the type of input expected, such as "text", "email", "password", "checkbox", "radio", and "submit". Each field also requires a name attribute that is used to identify the input when the form is submitted.
4. Add labels and instructions. Labels and instructions provide users with guidance on how to fill out the form. The <label> tag is used to associate a label with its corresponding input field, while the <textarea> tag is used for longer instructions.
5. Validate the form. To ensure that the form data is accurate and complete, client-side validation can be implemented using JavaScript. Server-side validation can also be implemented using a scripting language like PHP.
6. Submit the form. When the user clicks the "submit" button, the form data is sent to the specified URL using the specified HTTP method. The form data can then be processed on the server side to create a user account or provide the requested service.

PROGRAM:

```
<Html>
<head>
<title>
Registration Page
</title>
</head>
<body bgcolor="Lightskyblue">
<br>
<br>
<form>

<label> Firstname </label>
<input type="text" name="firstname" size="15"/> <br> <br>
<label> Middlename: </label>
<input type="text" name="middlename" size="15"/> <br> <br>
<label> Lastname: </label>
<input type="text" name="lastname" size="15"/> <br> <br>

<label>
Course :
</label>
<select>
<option value="Course">Course</option>
<option value="BCA">BCA</option>
<option value="BBA">BBA</option>
<option value="B.Tech">B.Tech</option>
<option value="MBA">MBA</option>
<option value="MCA">MCA</option>
<option value="M.Tech">M.Tech</option>
</select>
<br>
<br>
```

```
<label>
Gender :
</label><br>
<input type="radio" name="male"/> Male <br>
<input type="radio" name="female"/> Female <br>
<input type="radio" name="other"/> Other
<br>
<br>

<label>
Phone :
</label>
<input type="text" name="country code"  value="+91" size="2"/>
<input type="text" name="phone" size="10"/> <br> <br>
Address
<br>
<textarea cols="80" rows="5" value="address">
</textarea>
<br> <br>
Email:
<input type="email" id="email" name="email"/> <br>
<br> <br>
Password:
<input type="Password" id="pass" name="pass"> <br>
<br> <br>
Re-type password:
<input type="Password" id="repass" name="repass"> <br> <br>
<input type="button" value="Submit"/>
</form>
</body>
</html>
```

OUTPUT:



RESULT:

Thus the creation of personal information system have been executed successfully.