

Program 1: Build a responsive web application for shopping cart with registration, login, catalog and cart pages using CSS3 features, flex and grid.

Sol: Creating index

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-
scale=1.0">
  <title>Shopping Cart</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
      background-color: #f2f2f2;
    }
    header {
      background-color: #333;
      color: #fff;
      padding: 20px;
      text-align: center;
    }
    nav ul {
      list-style-type: none;
      padding: 0;
      margin: 0;
    }
    nav ul li {
      display: inline;
      margin-right: 10px;
    }
    nav ul li a {
      text-decoration: none;
      color: #fff;
    }
    .container {
      display: grid;
      grid-template-columns: 1fr 1fr;
      gap: 20px;
      max-width: 1200px;
      margin: 20px auto;
      padding: 0 20px;
    }
    .catalog {
      background-color: #fff;
      border: 1px solid #ccc;
      border-radius: 5px;
      padding: 20px;
    }
    .cart {
      background-color: #fff;
      border: 1px solid #ccc;
```

```

        border-radius: 5px;
        padding: 20px;
    }
    .product-card {
        border: 1px solid #ccc;
        border-radius: 5px;
        padding: 10px;
        margin-bottom: 10px;
        background-color: #f9f9f9;
    }
    .product-card:hover {
        background-color: #e5e5e5;
    }
    .cart-items {
        list-style-type: none;
        padding: 0;
    }
    .cart-item {
        padding: 10px;
        border-bottom: 1px solid #ccc;
    }
}
</style>
</head>
<body>
    <header>
        <h1>Shopping Cart</h1>
        <nav>
            <ul>
                <li><a href="#catalog">Catalog</a></li>
                <li><a href="#cart">Cart</a></li>
                <li><a href="./login.html">Login</a></li>
                <li><a href="./Registration.html">Register</a></li>
            </ul>
        </nav>
    </header>
    <div class="container">
        <div class="catalog">
            <h2>Catalog</h2>
            <div class="product-card">
                <h3>Product 1</h3>
                <p>$20</p>
                <button onclick="addToCart(20)">Add to Cart</button>
            </div>
            <div class="product-card">
                <h3>Product 2</h3>
                <p>$30</p>
                <button onclick="addToCart(30)">Add to Cart</button>
            </div>
            <div class="product-card">
                <h3>Product 3</h3>
                <p>$25</p>
                <button onclick="addToCart(25)">Add to Cart</button>
            </div>
        </div>
        <div class="cart">
            <h2>Cart</h2>
            <ul class="cart-items" id="cartItems">
                <!-- Cart items will be displayed here -->
            </ul>
        </div>
    </div>

```

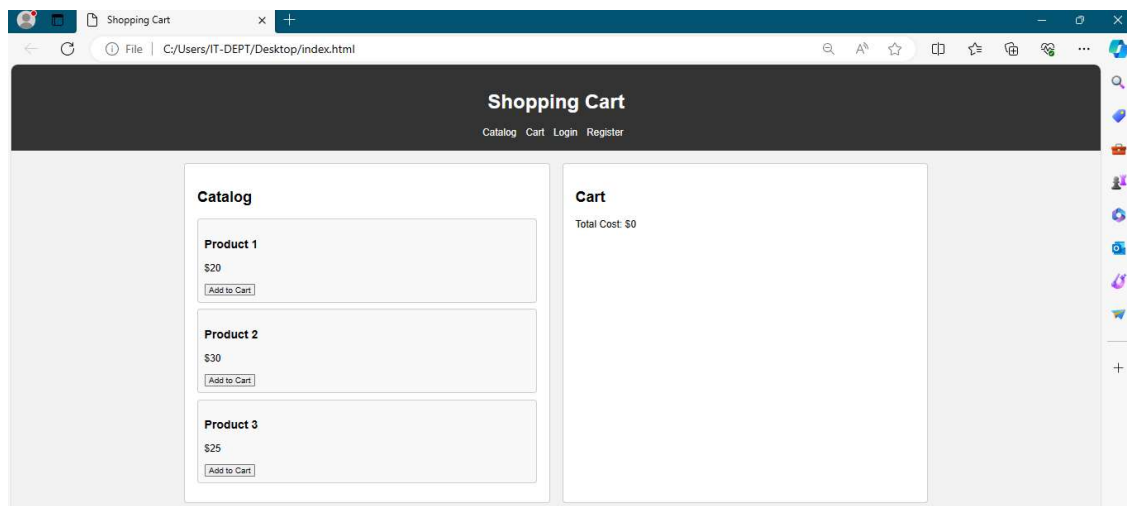
```

        </ul>
        <p>Total Cost: <span id="totalCost">$0</span></p>
    </div>
</div>
<script>
    let cartTotal = 0;

    function addToCart(price) {
        cartTotal += price;
        document.getElementById('totalCost').textContent =
`$$${cartTotal}`;
    }
</script>
</body>
</html>

```

Output:



Creating login page:

```

<!DOCTYPE html>
<html lang="en">
<!--
Website: divinectorweb.com
Subscribe Us: https://www.youtube.com/c/Divinector Support Us:
https://www.buymeacoffee.com/divinector
-->

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Responsive Login Form Design using flexbox</title>
    <link rel="stylesheet" href="style.css">

```

```

</head>

<body style="background-color: #988c8c;">
  <div class="form-box" style="display: flex;
  justify-content: center;">
    <div class="wrapper">
      <div class="img-area">
        
      </div>
      <div class="form-area">
        <h3>Login Form</h3>
        <form>
          <div class="single-form">
            <input type="text" style="      height: 30px;
width: 200px;      border-radius: 10px;

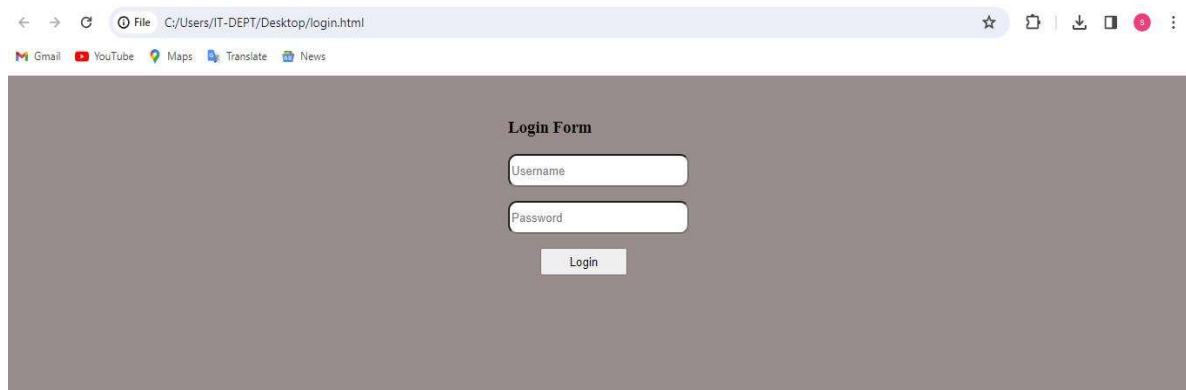
" placeholder="Username" />
          </div>
          <div class="single-form" style="padding-block:
15px"><input type="password" style="      height: 30px;      border-radius:
10px;

      width: 200px;
" placeholder="Password" />
          </div>
          <input type="submit" style="      margin-left: 37px;
height: 30px;
width: 100px;" value="Login" />
        </form>
      </div>
    </div>
  </div>
</body>

</html>

```

Output:



Creating registration:

```
<!DOCTYPE html>
<html>
<head>
  <title>Registration Page</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
      background-color: #988c8c;
    }
    form {
      background-color: #fff;
      max-width: 600px;
      margin: 50px auto;
      padding: 20px;
      border-radius: 10px;
      box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    }
    h1 {
      text-align: center;
    }
    label {
      font-weight: bold;
    }
    input[type="text"],
    textarea {
      width: 100%;
      padding: 10px;
      margin-bottom: 10px;
      border-radius: 5px;
      border: 1px solid #ccc;
      box-sizing: border-box;
    }
    input[type="radio"] {
      margin-right: 10px;
    }
    input[type="submit"],
    input[type="button"] {
      padding: 10px 20px;
      border: none;
      border-radius: 5px;
      background-color: #988c8c;
      color: #fff;
      cursor: pointer;
      margin-left: 90px;
    }
  </style>
</head>
<body>
  <form id="Reset">
    <h1>Student Registration Form</h1>
    <label>Firstname:</label>
    <input type="text" name="firstname" size="30"/><br>
    <label>Middlename:</label>
```

```

<input type="text" name="middlename" size="30"/><br>
<label>Lastname:</label>
<input type="text" name="lastname" size="30"/><br><br>

<label>Gender:</label><br>
<input type="radio" name="gender" value="male" /> Male
<input type="radio" name="gender" value="female"/> Female
<br><br>

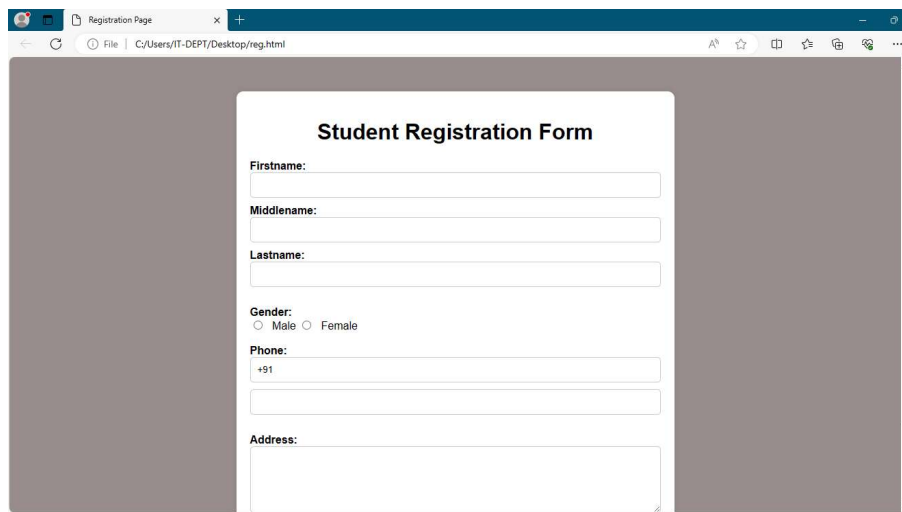
<label>Phone:</label>
<input type="text" name="country code" value="+91" size="2"/>
<input type="text" name="phone" size="10"/><br><br>

<label>Address:</label><br>
<textarea cols="80" rows="5" name="address"></textarea><br><br>

<input type="submit" name="submit" value="Submit">
<input type="button" value="Reset" onClick="fun()" />
<script>
    function fun(){
        document.getElementById("Reset").reset();
    }
</script>
</form>
</body>
</html>

```

Output:



The screenshot shows a web browser window with a single tab titled 'Registration Page'. The address bar shows the file path 'C:/Users/IT-DEPT/Desktop/reg.html'. The main content area displays a form titled 'Student Registration Form' centered on a light gray background. The form contains the following fields and controls:

- Firstname:** A text input field.
- Middlename:** A text input field.
- Lastname:** A text input field.
- Gender:** Two radio buttons labeled 'Male' and 'Female'.
- Phone:** A text input field with a placeholder '+91'.
- Address:** A multi-line text area.

At the bottom of the form, there are two buttons: 'Submit' and 'Reset'.

Program 2 : Make the above web application responsive web application using Bootstrap framework.

Sol:

Creating Index:

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <title>Bootstrap 4 - Shopping Cart</title>
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.m
in.css"
      integrity="sha384-
Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm"
crossorigin="anonymous">
  <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"
      integrity="sha384-
KJ3o2DKtIkvYIK3UENzmM7KChRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>
  <script
src="https://cdn.jsdelivr.net/npm/popper.js@1.12.9/dist/umd/popper.min.
js"
      integrity="sha384-
ApNbgh9B+Y1QKtV3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous"></script>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/js/bootstrap.min
.js"
      integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
crossorigin="anonymous"></script>
  <script src="https://code.jquery.com/jquery-3.6.4.min.js"></script>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/js/bootstrap.min
.js"
      integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
crossorigin="anonymous"></script>

  <link rel="stylesheet" href="assets/css/style.css">
  <link rel="icon" type="image/png" href="images/cart-icon.png">

</head>

<body>
  <!-- partial:index.partial.html-->
  <header class="bg-dark text-white text-center py-3">
    <h1>Shopping Cart</h1>
    <nav>
      <ul class="nav justify-content-center">
```

```

        <li class="nav-item"><a class="nav-link"
href="#catalog">Catalog</a></li>

        <li class="nav-item"><a class="nav-link"
href="./login.html">Login</a></li>
        <li class="nav-item"><a class="nav-link"
href="./Registration.html">Register</a></li>
        <li class="nav-item"><span data-toggle="modal" data-
target="#cart" style="padding: 10px;
color: dodgerblue;">Cart</span></li>
    </ul>
</nav>
</header>
<div>
    <!-- Nav -->
    <nav class="navbar navbar-inverse bg-inverse fixed-top bg-
faded">
        <div class="row">
            <div class="col">
                <span data-toggle="modal" data-target="#cart">
                    
                </span>
                <span>
                    <button class="clear-cart btn btn-danger ml-2"
id="clearCart">
                        <i class="fas fa-undo"></i> Clear
                    </button>
                </span>
            </div>
        </div>
    </nav>

    <!-- Main -->
    <div class="container">

        <br>

        <h3 class="text-center">Bootstrap 4 - Shopping Cart</h3>
        <hr>

        <div class="row">
            <div class="col-sm-12 col-md-6 col-xl-4">
                <figure class="card card-product zoom">
                    <div class="img-wrap"></div>
                    <figcaption class="info-wrap">
                        <h4 class="title">Beautiful dress</h4>
                        <p class="desc">"Adorn yourself in the
allure of timeless beauty with our collection, where
each dress is a masterpiece of grace
and charm."</p>
                        <div class="rating-wrap">
                            <<div class="label-rating">132
reviews</div>
                            <div class="label-rating">154 orders
</div>

```



```

        <br />
        <small class="text-muted">#9733;
#9733;
        #9733; #9733; #9734;</small>
    </div> <!-- rating-wrap.-->
</figcaption>
    <div class="bottom-wrap">
        <a href="" class="btn btn-sm btn-primary
float-right add-to-cart show-
toast" data-product_id="1" data-pimage="images/item-1.jpeg" data-
name="Beautiful dress" data-price="220">
            <i class="fas fa-shopping-cart"></i>
Add to cart
        </a>
        <div class="price-wrap h5">
            <span class="price-new">$220</span>
<del class="price-old">$180</del>
            <div>
            </div>
            <!--price-wrap.-->
        </div>
        <!--bottom-wrap.-->
    </figure>
</div>
<!--col-->

    <div class="col-sm-12 col-md-6 col-xl-4">
        <figure class="card card-product zoom">
            <div class="img-wrap">
            </div>

            <figcaption class="info-wrap">
                <h4 class="title">Elegant style</h4>
                <p class="desc">"Elevate your wardrobe with
an essence through our collection, where
                elegance becomes a signature
style."</p>

                <div class="rating-wrap">
                    <div class="label-rating">122
reviews</div>

                    <div class="label-rating">120 orders
</div>

                    <br />
                    <small class="text-muted">#9733;
#9733;
                    #9733; #9733; #9734;</small>
                </div>

                <!-- rating-wrap.-->
            </figcaption>
            <div class="bottom-wrap">
                <a href="" class="btn btn-sm btn-primary
float-right add-to-cart show-toast"
                    data-product_id="2" data-
pimage="images/item-2.jpeg" data-name="Elegant style"
                    data-price="115">

```

```

        <i class="fas fa-shopping-cart"></i>
Add to cart
        </a>
        <div class="price-wrap h5">
            <span class="price-new">$115</span>
<del class="price-old">$180</del>
            <div>

                <!--price-wrap.-->
            </div>
            <!--bottom-wrap.-->
        </figure>
    </div>
    <!--col-->
    <div class="col-sm-12 col-md-6 col-xl-4">

        <figure class="card card-product zoom">
            <div class="img-wrap"></div>

            <figcaption class="info-wrap">
                <h4 class="title">Modern fashion</h4>
                <p class="desc">"Discover the epitome of
modern fashion, where style meets innovation in
                every stitch and silhouette."</p>
                <div class="rating-wrap">
                    <div class="label-rating">138
reviews</div>
                    <div class="label-rating">159
orders</div>
                    <br />

                    <small class="text-muted">&#9733;
&#9733;&#9733;&#9733;&#9734</small>
                </div>
                <!-- rating-wrap.-->
            </figcaption>

            <div class="bottom-wrap">
                <a href="" class="btn btn-sm btn-primary
float-right add-to-cart show-toast"
                data-product_id="3" data-
pimage="images/item-3.jpeg" data-name="Modern fashion"
                data-price="680">
                    <i class="fas fa-shopping-cart"></i>
Add to cart
                </a>
                <div class="price-wrap h5">
                    <span class="price-new">$680</span>
<del class="price-old">$980</del>
                </div> <!-- price-wrap.-->
            </div> <!-- bottom-wrap.-->
        </figure>
    </div> <!-- col -->
</div> <!-- row.-->

<div class="row p-2">

```

```

        <p class="text-info font-weight-bold">

        <p class="text-info font-weight-bold">
            Welcome to our cutting-edge shopping cart website!
Immerse yourself in the world of effortless
            shopping and a seamless checkout experience.
        </p>

    </p>

</div>
<!--contalner.-->
<!--Modal-->

    <div class="modal fade" id="cart" tabindex="-1"
role="dialog" aria- labelledby="exampleModalLabel"
        aria-hidden="true">
        <div class="modal-dialog modal-lg" role="document">
            <div class="modal-content">
                <form action="index.html" method="get"
class="cart-form">
                    <div class="modal-header">
                        <h5 class="modal-title"
id="exampleModalLabel"><i class="fas fa-shopping-
cart text-black"></i> Shopping Cart</h5>
                        <button type="button" class="close"
data-dismiss="modal" aria-label="Close">
                            <span aria-
hidden="true">&times;</span>
                        </button>
                    </div>
                    <div class="modal-body">
                        <table class="show-cart table">
                            </table>

                        <div class="font-weight-bold">Total
price: $<span class="total-cart text-
danger"></span></div>
                    </div>
                    <div class="modal-footer">
                        <button type="button" class="btn btn-
danger" data- dismiss="modal">Close</button>
                        <button type="submit" class="btn btn-
success">Checkout</button>
                    </div>
                </form>
            </div>
        </div>
    </div>
</div>
<!--partial-->
<script src="assets/js/jquery.min.js"></script>
<script src="assets/js/script.js"></script>

<!-- Shopping Cart Add Toast-->

```

```

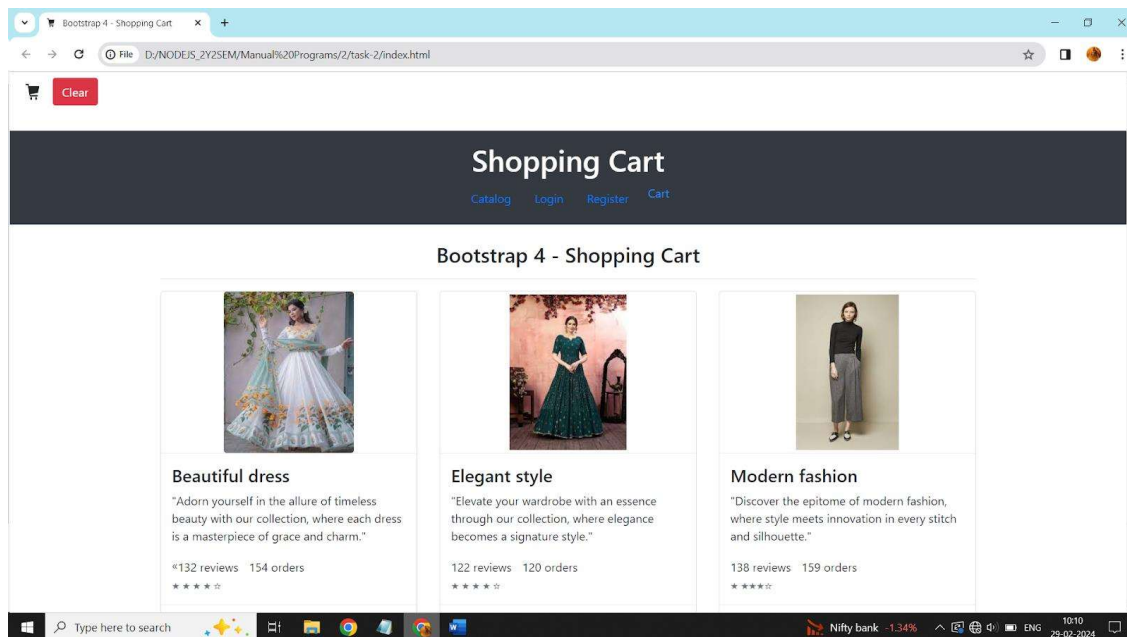
        <div id="product-toast">
            <div id="img">
                <i class="fas fa-shopping-cart"></i>Cart
            </div>
            <div id="desc"><span id="item-name"></span> added to
cart </div>
        </div>

    </div>
</body>

</html>

```

Output:



Creating Login:

```

<!DOCTYPE HTML>
<html lang="en">

<head>
    <title>Login</title>
    <meta name="viewport" content="width=device-width, initial-
scale=1">
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min
.css">
    <!-- Bootstrap Icons CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap-
icons/font/bootstrap-icons.css" rel="stylesheet">
    <style>
        body {

```

```

        background-color: #f8f9fa; /* Background color */
    }
    .container {
        background-color: #fff; /* Form container background color
*/
        border-radius: 10px;
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        padding: 20px;
        margin-top: 50px;
    }
    .form-group label {
        font-weight: bold;
        color: #555;
    }
    .form-group input {
        border-radius: 5px;
        border: 1px solid #ccc;
    }
</style>
</head>

<body>
    <div class="container mt-5">
        <h3 class="text-center mb-4">Login</h3>
        <form id="loginForm" action="./index.html">
            <div class="form-group">
                <label for="username">Username</label>
                <input type="text" class="form-control" id="username"
required>
            </div>
            <div class="form-group">
                <label for="password">Password</label>
                <div class="input-group">
                    <input type="password" class="form-control"
id="password" required>
                    <div class="input-group-append">
                        <button class="btn btn-outline-secondary"
type="button" onclick="togglePasswordVisibility()">
                            <span id="eyeIcon" class="bi bi-eye-
slash"></span>
                        </button>
                    </div>
                </div>
                <div id="passwordValidation" class="invalid-
feedback"></div>
            </div>
            <button type="button" class="btn btn-
primary">Login</button>
        </form>
    </div>
<script>
    function togglePasswordVisibility() {
        var passwordInput = document.getElementById("password");
        var eyeIcon = document.getElementById("eyeIcon");
        if (passwordInput.type === "password") {
            passwordInput.type = "text";
            eyeIcon.classList.remove("bi-eye-slash");
            eyeIcon.classList.add("bi-eye");

```

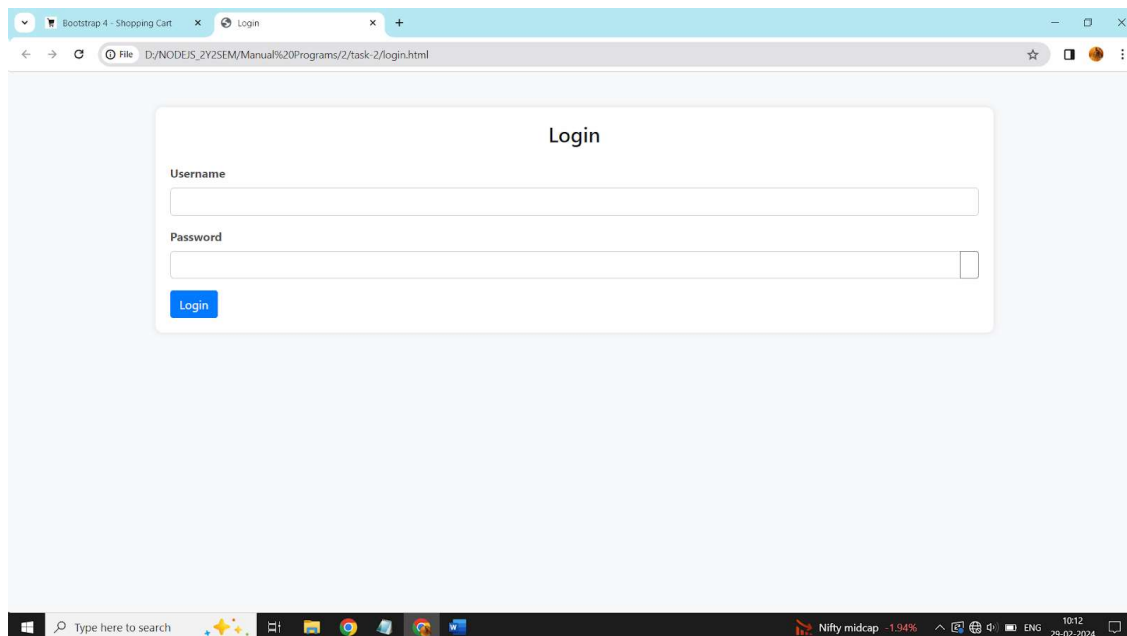
```

    } else {
        passwordInput.type = "password";
        eyeIcon.classList.remove("bi-eye");
        eyeIcon.classList.add("bi-eye-slash");
    }
}
</script>
</body>

</html>

```

Output:



Creating registration:

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Registration Page</title>
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min
.css">
    <style>
        body {
            background-color: #f0f0f0;
        }
        .container {
            max-width: 500px;
            background-color: #fff;
            border-radius: 10px;
            box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        }
    </style>

```

```

        padding: 40px;
        margin-top: 50px;
    }
    .form-group label {
        font-weight: bold;
        color: #555;
    }
    .form-group input, .form-group select, .form-group textarea {
        border-radius: 5px;
        border: 1px solid #ccc;
    }
</style>
</head>
<body>

<div class="container">
    <form id="registrationForm" class="needs-validation" novalidate>
        <h1 class="mb-4 text-center">Registration Form</h1>

        <div class="form-group">
            <label for="firstname">Firstname:</label>
            <input type="text" class="form-control" id="firstname"
name="firstname" required>
            <div class="invalid-feedback">Please provide a valid
firstname.</div>
        </div>

        <div class="form-group">
            <label for="middlename">Middlename:</label>
            <input type="text" class="form-control" id="middlename"
name="middlename">
        </div>

        <div class="form-group">
            <label for="lastname">Lastname:</label>
            <input type="text" class="form-control" id="lastname"
name="lastname" required>
            <div class="invalid-feedback">Please provide a valid
lastname.</div>
        </div>

        <div class="form-group">
            <label>Gender:</label>
            <div class="form-check form-check-inline">
                <input class="form-check-input" type="radio"
name="gender" id="male" value="male" required>
                <label class="form-check-label" for="male">Male</label>
            </div>
            <div class="form-check form-check-inline">
                <input class="form-check-input" type="radio"
name="gender" id="female" value="female" required>
                <label class="form-check-label"
for="female">Female</label>
            </div>
            <div class="invalid-feedback">Please select a gender.</div>
        </div>
    </form>
</div>

```

```

        <div class="form-group">
            <label for="phone">Phone:</label>
            <input type="text" class="form-control" id="phone"
name="phone" required>
            <div class="invalid-feedback">Please provide a valid phone
number.</div>
        </div>

        <div class="form-group">
            <label for="address">Address:</label>
            <textarea class="form-control" id="address" name="address"
rows="3" required></textarea>
            <div class="invalid-feedback">Please provide a valid
address.</div>
        </div>

        <div class="text-center">
            <button type="submit" class="btn btn-
primary">Submit</button>
            <button type="button" class="btn btn-secondary"
onclick="resetForm()">Reset</button>
        </div>
    </form>
</div>

</body>
</html>

```

Output :

The screenshot displays a web browser window with a single tab titled 'Registration Page'. The address bar shows the local file path 'C:\Users\user\Documents\20Programs\2\task-2\Registration.html'. The page content features a 'Registration Form' centered on a light gray background. The form includes the following elements:

- Form Title:** 'Registration Form' in bold black text.
- Input Fields:** Five text input fields labeled 'Firstname:', 'Middlename:', 'Lastname:', 'Phone:', and 'Address:'.
- Gender Selection:** A label 'Gender:' followed by two radio buttons, 'Male' and 'Female'.
- Buttons:** Two buttons at the bottom of the form: a blue 'Submit' button and a gray 'Reset' button.

The browser's status bar at the bottom indicates 'Airplane mode off' and shows system icons for temperature (23°C), weather (Haze), and time (10:13, 29-02-2024).

Program 3:Use JavaScript for doing client – side validation of the pages for the above 2 web applications.

Sol:

Creating login:

```
<!DOCTYPE HTML>
<html lang="en">

<head>
    <title>Login</title>
    <meta name="viewport" content="width=device-width, initial-
scale=1">
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstr
ap.min.css">
    <!-- Bootstrap Icons CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap-
icons/font/bootstrap-icons.css" rel="stylesheet">
    <style>
        body {
            background-color: #f8f9fa; /* Background color */
        }
        .container {
            background-color: #fff; /* Form container background
color */
            border-radius: 10px;
            box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
            padding: 20px;
            margin-top: 50px;
        }
        .form-group label {
            font-weight: bold;
            color: #555;
        }
        .form-group input {
            border-radius: 5px;
            border: 1px solid #ccc;
        }
    </style>
</head>

<body>
    <div class="container mt-5">
        <h3 class="text-center mb-4">Login</h3>
        <form id="loginForm">
            <div class="form-group">
                <label for="username">Username</label>
                <input type="text" class="form-control"
id="username" required>
```

```

        </div>
        <div class="form-group">
            <label for="password">Password</label>
            <div class="input-group">
                <input type="password" class="form-control"
id="password" required>
                <div class="input-group-append">
                    <button class="btn btn-outline-secondary"
type="button" onclick="togglePasswordVisibility()">
                        <span id="eyeIcon" class="bi bi-eye-
slash"></span>
                    </button>
                </div>
            </div>
            <div id="passwordValidation" class="invalid-
feedback"></div>
        </div>
        <button type="button" class="btn btn-primary"
onclick="validateLogin()">Login</button>
    </form>
</div>

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

        if (username.trim() === "") {
            alert("Please enter your username.");
            return;
        }

        if (password.trim() === "") {
            alert("Please enter your password.");
            return;
        }

        // Validate password format
        if (password.length !== 8) {
            alert("Password length should be 8.");
            return;
        }

        if (!/[a-z]/.test(password)) {
            alert("Password should contain at least one
lowercase letter.");
            return;
        }

        if (!/[A-Z]/.test(password)) {

```

```

        alert("Password should contain at least one
uppercase letter.");
        return;
    }

    if (!/^[^a-zA-Z0-9]/.test(password)) {
        alert("Password should contain at least one
special character.");
        return;
    }

    // If all validation passes, submit the form
    document.getElementById("loginForm").submit();
}

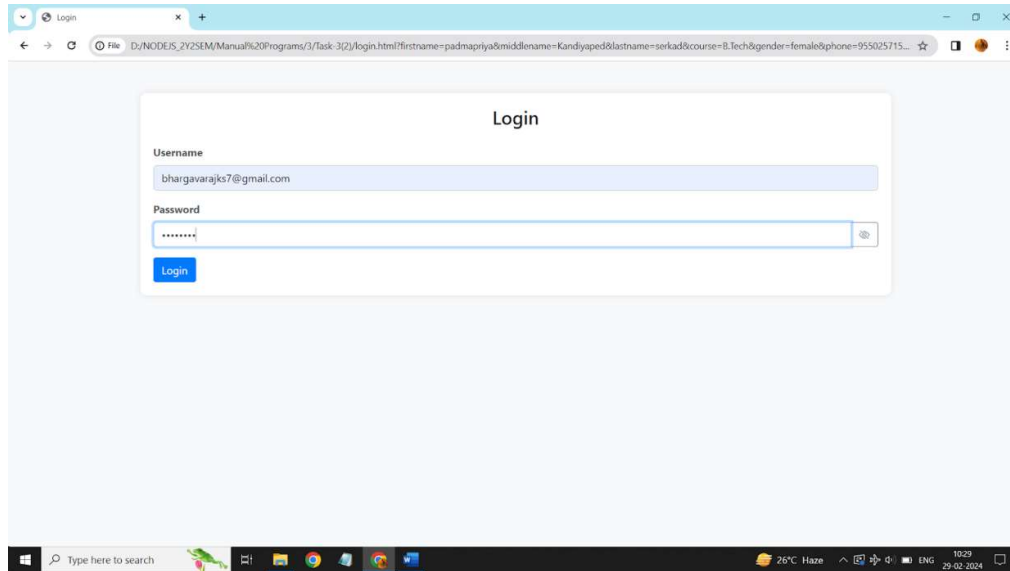
function togglePasswordVisibility() {
    var passwordInput =
document.getElementById("password");
    var eyeIcon = document.getElementById("eyeIcon");
    if (passwordInput.type === "password") {
        passwordInput.type = "text";
        eyeIcon.classList.remove("bi-eye-slash");
        eyeIcon.classList.add("bi-eye");
    } else {
        passwordInput.type = "password";
        eyeIcon.classList.remove("bi-eye");
        eyeIcon.classList.add("bi-eye-slash");
    }
}
</script>

</body>

</html>

```

Output:



Creating Registration:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-
scale=1.0">
  <title>Registration Page</title>
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min
.css">
  <style>
    body {
      background-color: #f0f0f0;
    }
    .container {
      max-width: 500px;
      background-color: #fff;
      border-radius: 10px;
      box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
      padding: 40px;
      margin-top: 50px;
    }
    .form-group label {
      font-weight: bold;
      color: #555;
    }
    .form-group input, .form-group select, .form-group textarea {
      border-radius: 5px;
      border: 1px solid #ccc;
    }
  </style>
</head>
```

```

<body>

<div class="container">
  <form id="registrationForm" class="needs-validation"
action="/login.html" novalidate>
    <h1 class="mb-4 text-center">Registration Form</h1>

    <div class="form-group">
      <label for="firstname">Firstname:</label>
      <input type="text" class="form-control" id="firstname"
name="firstname" required>
      <div class="invalid-feedback">Please provide a valid
firstname.</div>
    </div>

    <div class="form-group">
      <label for="middlename">Middlename:</label>
      <input type="text" class="form-control" id="middlename"
name="middlename">
    </div>

    <div class="form-group">
      <label for="lastname">Lastname:</label>
      <input type="text" class="form-control" id="lastname"
name="lastname" required>
      <div class="invalid-feedback">Please provide a valid
lastname.</div>
    </div>

    <div class="form-group">
      <label for="course">Course:</label>
      <select class="form-control" id="course" name="course"
required>
        <option value="">Choose...</option>
        <option value="B.Tech">B.Tech</option>
        <option value="BCA">BCA</option>
        <option value="BBA">BBA</option>
        <option value="MBA">MBA</option>
        <option value="MCA">MCA</option>
        <option value="M.Tech">M.Tech</option>
      </select>
      <div class="invalid-feedback">Please select a course.</div>
    </div>

    <div class="form-group">
      <label>Gender:</label>
      <div class="form-check form-check-inline">
        <input class="form-check-input" type="radio"
name="gender" id="male" value="male" required>
        <label class="form-check-label" for="male">Male</label>
      </div>
      <div class="form-check form-check-inline">
        <input class="form-check-input" type="radio"
name="gender" id="female" value="female" required>
        <label class="form-check-label"
for="female">Female</label>
      </div>
      <div class="invalid-feedback">Please select a gender.</div>

```

```

</div>

<div class="form-group">
  <label for="phone">Phone:</label>
  <input type="text" class="form-control" id="phone"
name="phone" pattern="[0-9]{10}" maxlength="10" required>
  <div class="invalid-feedback">Please provide a valid 10-
digit phone number.</div>
</div>

<div class="form-group">
  <label for="address">Address:</label>
  <textarea class="form-control" id="address" name="address"
rows="3" required></textarea>
  <div class="invalid-feedback">Please provide a valid
address.</div>
</div>

<div class="text-center">
  <button type="submit" class="btn btn-
primary">Submit</button>
  <button type="button" class="btn btn-secondary"
onclick="resetForm()">Reset</button>
</div>
</form>
</div>

<script
src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.6.0/jquery.min.js"
></script>
<script
src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.j
s"></script>
<script>
  // Bootstrap form validation
  (function() {
    'use strict';
    window.addEventListener('load', function() {
      var forms = document.getElementsByClassName('needs-
validation');
      var validation = Array.prototype.filter.call(forms,
function(form) {
        form.addEventListener('submit', function(event) {
          if (form.checkValidity() === false) {
            event.preventDefault();
            event.stopPropagation();
          }
          form.classList.add('was-validated');
        }, false);
      });
    }, false);
  })();

  function resetForm() {
    document.getElementById("registrationForm").reset();
  }

```

```
</script>
```

```
</body>
```

```
</html>
```

Output:

The screenshot shows a web browser window titled "Registration Page" with the address bar displaying "D:/NODEJS_2YZSEM/Manual%20Programs/3/Task-3(2)/reg-2.html". The main content area features a "Registration Form" with the following fields and values:

- Firstname: padmapriya
- Middlename: Kandyaped
- Lastname: serkad
- Course: B.Tech (selected from a dropdown menu)
- Gender: ☐ Male ☒ Female
- Phone: 9550257153
- Address: Hyderabad

At the bottom of the form are two buttons: "Submit" and "Reset". The browser's taskbar at the bottom shows the Windows logo, a search bar, and various application icons. The system tray on the right indicates a temperature of 26°C, Haze weather, and the date/time as 10:31 on 29-02-2024.

Program 4: Develop a java stand alone application that connects with the database (Oracle / mySql) and perform the CRUD operation on the database tables.

Db connection:

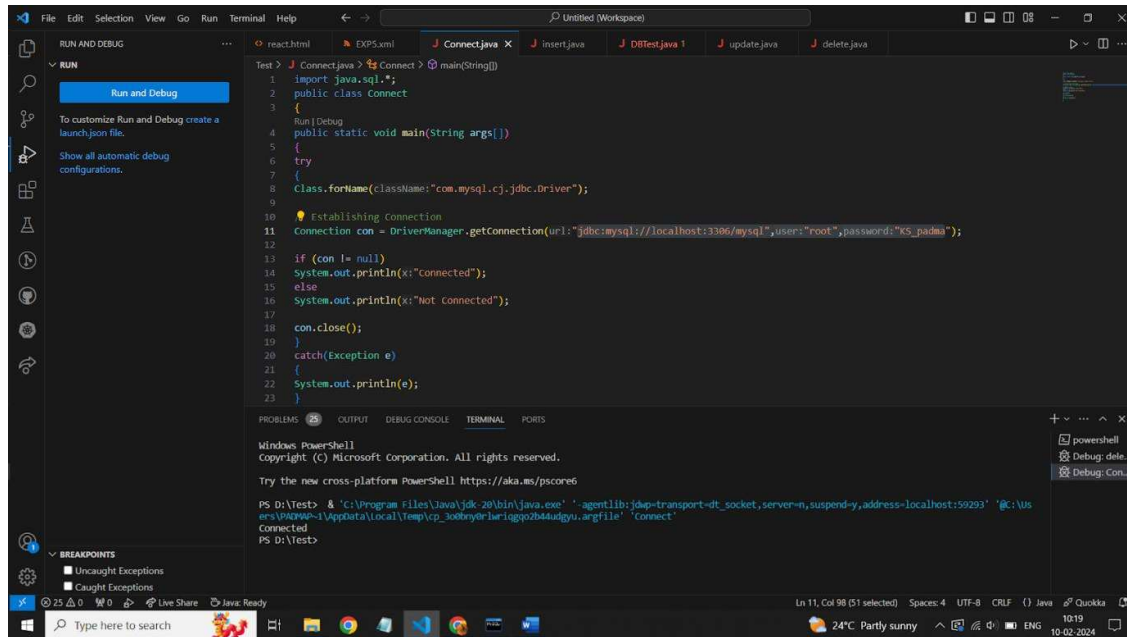
```
import java.sql.*;
public class Connect
{
    public static void main(String args[])
    {
        try
        {
            Class.forName("com.mysql.jdbc.Driver");

            // Establishing Connection
            Connection con =
            DriverManager.getConnection("jdbc:mysql://localhost:3306/mysql","root","KS
            _padma");

            if (con != null)
                System.out.println("Connected");
            else
                System.out.println("Not Connected");

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


Output:



Insertion:

```
import java.sql.*;
```

```
public class insert
```

```
{
```

```
public static void main(String args[])
```

```
{
```

```
String id = "id3";
```

```
String pwd = "pwd3";
```

```
String fullname = "Keerthipriya";
```

```
String email = "gnits.org";
```

```
try
```

```
{
```

```
Class.forName("com.mysql.cj.jdbc.Driver");
```

```
Connection con =
```

```
DriverManager.getConnection("jdbc:mysql://localhost:3306/mysql","root","KS_padma");
```

```

Statement stmt = con.createStatement();

// Inserting data in database

String q1 = "insert into userid values('"+id+"', '"+pwd+"', '"+fullname+"', '"+email+"')";

int x = stmt.executeUpdate(q1); if (x > 0)

System.out.println("Successfully Inserted"); else

System.out.println("Insert Failed");

con.close();

}

catch(Exception e)

{

System.out.println(e);

}

}

}

}

```

Output:

The screenshot shows an IDE with a Java file named 'insert.java'. The code defines a class 'insert' with a 'main' method. It uses JDBC to connect to a MySQL database and execute an SQL insert statement. The output window shows the execution results, including the SQL query, the number of rows affected, and the data inserted into the 'userid' table.

```

Test > J insert.java > %insert % mainString()
1 import java.sql.*;
2
3 public class insert
4 {
5     Run(Debug)
6     public static void main(String args[])
7     {
8         String id = "id1";
9         String pwd = "pwd1";
10        String fullname = "keerthipriya";
11        String email = "gnits.org";
12    }
13    try
14    {
15        Class.forName("com.mysql.*");
16        Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/gnits", "root", "root");
17        Statement stmt = con.createStatement();
18        // Inserting data in database
19        String q1 = "insert into userid values('"+id+"', '"+pwd+"', '"+fullname+"', '"+email+"')";
20        int x = stmt.executeUpdate(q1); if (x > 0)
21        System.out.println("Successfully Inserted"); else
22        System.out.println("Insert Failed");
23    }
24    catch(Exception e)
25    {
26        System.out.println(e);
27    }
28    }
29    }
30    }

```

MySQL Command Line Client

```

mysql> insert into userid(id,pwd,fullname,email) values('id2','123hp','haripriya','123hp@vit.org');
Query OK, 1 row affected (0.01 sec)

mysql> select * from userid;
+----+----+-----+-----+
| id | pwd | fullname | email |
+----+----+-----+-----+
| id1 | newpad | Padmapriya | geeks@geeks.org |
| id2 | 123hp | haripriya | 123hp@vit.org |
+----+----+-----+-----+
2 rows in set (0.00 sec)

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```

id | pwd | fullname | email
id1 | newpad | Padmapriya | geeks@geeks.org
id2 | 123hp | haripriya | 123hp@vit.org
2 rows in set (0.00 sec)

```

Windows PowerShell

```

PS D:\Test> java -cp . insert
Successfully Inserted

```

Updation:

```
import java.sql.*;

public class update
{
    public static void main(String args[])
    {
        String id = "id1"; String pwd = "newpwd";
        String newPwd = "pwd1";

        try
        {
            Class.forName("com.mysql.cj.jdbc.Driver");

            Connection con =
            DriverManager.getConnection("jdbc:mysql://localhost:3306/mysql","root","KS
            _padma");

            Statement stmt = con.createStatement();

            // Updating database

            String q1 = "UPDATE userid set pwd = " + newPwd + " WHERE id = " + id +
            " AND pwd = " + pwd + """;

            int x = stmt.executeUpdate(q1);

            if (x > 0)

                System.out.println("Password Successfully Updated"); else

                System.out.println("ERROR OCCURRED :(");

            con.close();

        }

        catch(Exception e)
```

```

{
System.out.println(e);
}
}
}
}

```

Output:

The screenshot shows an IDE with a Java file named `update.java` and its output in the console. The code connects to a MySQL database and updates a record. The console output shows the successful execution of the update query.

```

Test > J update.java > update > main(String[])
1 import java.sql.*;
2
3 public class update
4 {
5     Run | Debug
6     public static void main(String arg
7     {
8         String id = "id1"; String pwd = "ne
9         String newPwd = "pwd1";
10        try
11        {
12            Class.forName(className:"com.mysql
13            Connection con = DriverManager.get
14            Statement stmt = con.createStatement
15            // Updating database
16            String q1 = "UPDATE userid set pwd
17            int x = stmt.executeUpdate(q1);
18            if (x > 0)
19            {
20                System.out.println(x:"Password Suc
21                System.out.println(x:"ERROR OCCURR
22            }
23        }
24        catch (Exception e)
25        {
26            System.out.println(e);
27        }
28    }
29 }

```

MySQL 8.0 Command Line Client

```

mysql> select * from userid;
+----+-----+-----+-----+
| id | pwd | fullname | email |
+----+-----+-----+-----+
| id1 | newpwd | Padmapriya | geeks@geeks.org |
+----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from userid;
+----+-----+-----+-----+
| id | pwd | fullname | email |
+----+-----+-----+-----+
| id1 | newpwd | Padmapriya | geeks@geeks.org |
| id3 | pwd3 | Keerthipriya | gnits.org |
+----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from userid;
+----+-----+-----+-----+
| id | pwd | fullname | email |
+----+-----+-----+-----+
| id1 | pwd1 | Padmapriya | geeks@geeks.org |
| id3 | pwd3 | Keerthipriya | gnits.org |
+----+-----+-----+-----+
2 rows in set (0.00 sec)

```

Windows PowerShell

```

PS D:\test> & 'C:\Program Files\Java\jdk-20
ers\bin\java.exe' -cp 'C:\Program Files\Java\jdk-20
ers\bin\java.exe' -Djava.class.path='.' update
Password Successfully Updated
PS D:\test>

```

Deletion:

```

import java.sql.*;

public class delete
{
    public static void main(String args[])
    {
        String id = "id2"; String pwd = "123hp";

```

```

try
{
Class.forName("com.mysql.cj.jdbc.Driver");

Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/mysql","root","KS
_padma");

Statement stmt = con.createStatement();

// Deleting from database

String q1 = "DELETE from userid WHERE id = " + id + " AND pwd = " +
pwd + """;

int x = stmt.executeUpdate(q1); if (x > 0)

System.out.println("One User Successfully Deleted");

else

System.out.println("ERROR OCCURRED :(");


con.close();

}

catch(Exception e)

{

System.out.println(e);

}

}

}

```

Output:

```
Test > J delete.java > delete > main(String[])
1 import java.sql.*;
2
3 public class delete
4 {
5     Run | Debug
6     public static void main(String args[])
7     {
8
9         mysql insert userid into(id,pwd,fullname,email) values('id2','123hp','haripriya','123hp@vjit.org');
10        ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version
11        for the right syntax to use near 'into(id,pwd,fullname,email) values('id2','123hp','haripriya','123hp@vjit.org')' at li
12        ne 1
13        mysql insert into userid(id,pwd,fullname,email) values('id2','123hp','haripriya','123hp@vjit.org');
14        Query OK, 1 row affected (0.01 sec)
15
16        mysql select * from userid;
17
18        +----+-----+-----+-----+
19        | id | pwd | fullname | email |
20        +----+-----+-----+-----+
21        | id1 | newpwd | Padmapriya | geeks@geeks.org |
22        | id2 | 123hp | haripriya | 123hp@vjit.org |
23        +----+-----+-----+-----+
24        2 rows in set (0.00 sec)
25
26        mysql select * from userid;
27
28        +----+-----+-----+-----+
29        | id | pwd | fullname | email |
30        +----+-----+-----+-----+
31        | id1 | newpwd | Padmapriya | geeks@geeks.org |
32        | id2 | 123hp | haripriya | 123hp@vjit.org |
33        +----+-----+-----+-----+
34        2 rows in set (0.00 sec)
35
36        mysql:
37        c
38
39        PS D:\Test> cd 'd:\Test'; & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localh
40        ost:59268' '@C:\Users\Padmapriya\AppData\Local\Temp\cp_308ny8r\lw1qgo2b44adgyu.argfile' 'delete'
41        One User Successfully Deleted
42        PS D:\Test>
```

Program 5: Create an xml for the bookstore. Validate the same using both DTD and XSD.

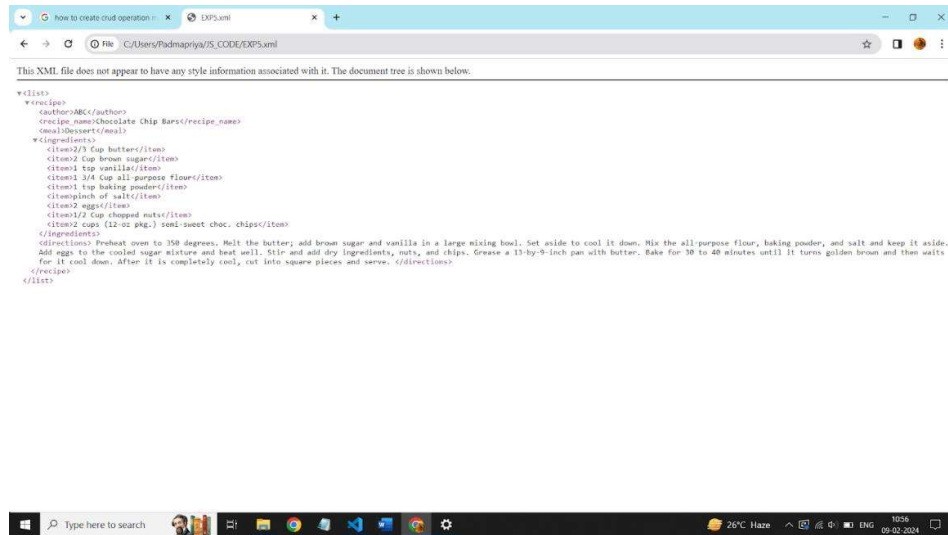
Sol:

```
<!ELEMENT list (recipe+)>
<!ELEMENT recipe (author, recipe_name, meal, ingredients, directions)>
<!ELEMENT author (#PCDATA)>
<!ELEMENT recipe_name (#PCDATA)>
<!ELEMENT meal (#PCDATA)>
<!ELEMENT ingredients (item+)>
<!ELEMENT item (#PCDATA)>
<!ELEMENT directions (#PCDATA)>
```

Validation with DTD

```
<?xml version="1.0"?>
<!DOCTYPE list SYSTEM "simple_recipe.dtd">
<list>
  <recipe>
    <author>ABC</author>
    <recipe_name>Chocolate Chip Bars</recipe_name>
    <meal>Dessert</meal>
    <ingredients>
      <item>2/3 Cup butter</item>      <item>2 Cup brown sugar</item>
      <item>1 tsp vanilla</item> <item>1 3/4 Cup all-purpose flour</item>
      <item>1 tsp baking powder</item>
      <item>pinch of salt</item> <item>2 eggs</item>
      <item>1/2 Cup chopped nuts</item>
      <item>2 cups (12-oz pkg.) semi-sweet choc. chips</item>
    </ingredients>
    <directions>
      Preheat oven to 350 degrees.
      Melt the butter; add brown sugar and vanilla in a large mixing bowl.
      Set aside to cool it down. Mix the all-purpose flour, baking powder, and salt and keep it
      aside. Add eggs to the cooled sugar mixture and beat well.
      Stir and add dry ingredients, nuts, and chips. Grease a 13-by-9-inch pan with butter.
      Bake for 30 to 40 minutes until it turns golden brown and then waits for it cool down. After it
      is completely cool, cut into square pieces and serve.
    </directions>
  </recipe>
</list>
```

Output:



```
<?xml?>
<?xml:namespace prefix="recipe" />
<recipe name="Chocolate Chip Bars" recipe_name="Chocolate Chip Bars" />
<author>ABC/author>
<recipe_name>Chocolate Chip Bars</recipe_name>
<meal>Dessert</meal>
<ingredients>
  <item>2/3 Cup butter</item>
  <item>2 Cup brown sugar</item>
  <item>1 tsp vanilla</item>
  <item>1 3/4 Cup all purpose flour</item>
  <item>1 tsp baking powder</item>
  <item>pinch of salt</item>
  <item>3 eggs</item>
  <item>1/2 Cup chopped nuts</item>
  <item>2 cups (12-oz pkg.) semi-sweet choc. chips</item>
</ingredients>
<directions>
  Preheat oven to 350 degrees. Melt the butter; add brown sugar and vanilla in a large mixing bowl. Set aside to cool it down. Mix the all-purpose flour, baking powder, and salt and keep it aside. Add eggs to the cooled sugar mixture and beat well. Stir and add dry ingredients, nuts, and chips. Grease a 13-by-9-inch pan with butter. Bake for 30 to 40 minutes until it turns golden brown and then wait for it cool down. After it is completely cool, cut into square pieces and serve.
</directions>
</recipe>
</list>
```


Program 6: Design a controller with servlet that provides the interaction with web application

Sol:

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

public class HelloWorld extends HttpServlet {

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Hello World!</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h1>Hello World!</h1>");
        out.println("</body>");
        out.println("</html>");
    }
}
```

Output:



Hello World!

Program 7: Maintaining the transactional history of any user is very important. Explore the various session tracking mechanism using Cookies

Sol:

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

public class CookieExample extends HttpServlet {

    public void doGet(HttpServletRequest request, HttpServletResponse response)
    throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

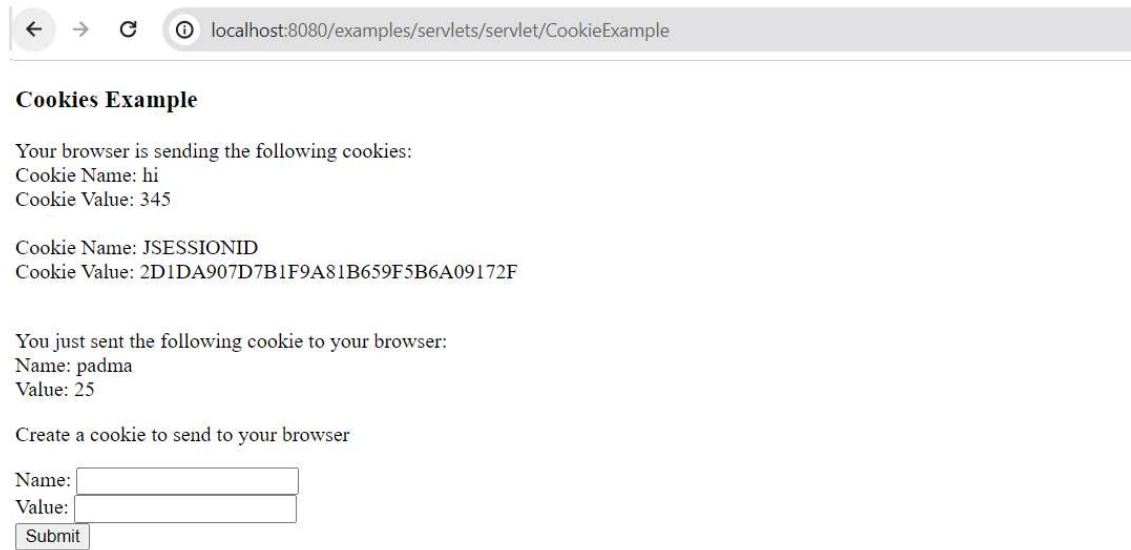
        // print out cookies

        Cookie[] cookies = request.getCookies();
        for (int i = 0; i < cookies.length; i++) {
            Cookie c = cookies[i];
            String name = c.getName();
            String value = c.getValue();
            out.println(name + " = " + value);
        }

        // set a cookie

        String name = request.getParameter("cookieName");
        if (name != null && name.length() > 0) {
            String value = request.getParameter("cookieValue");
            Cookie c = new Cookie(name, value);
            response.addCookie(c);
        }
    }
}
```

Output:



The screenshot shows a web browser window with the address bar displaying "localhost:8080/examples/servlets/servlet/CookieExample". The page content is titled "Cookies Example" and displays the following information:

Your browser is sending the following cookies:
Cookie Name: hi
Cookie Value: 345

Cookie Name: JSESSIONID
Cookie Value: 2D1DA907D7B1F9A81B659F5B6A09172F

You just sent the following cookie to your browser:
Name: padma
Value: 25

Create a cookie to send to your browser

Name:
Value:

Program 8: Maintaining the transactional history of any user is very important. Explore the various session tracking mechanism using Sessions.

Sol:

```
import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class SessionExample extends HttpServlet {

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException, ServletException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession(true);

        // print session info

        Date created = new Date(session.getCreationTime());
        Date accessed = new Date(session.getLastAccessedTime());
        out.println("ID " + session.getId());
        out.println("Created: " + created);
        out.println("Last Accessed: " + accessed);

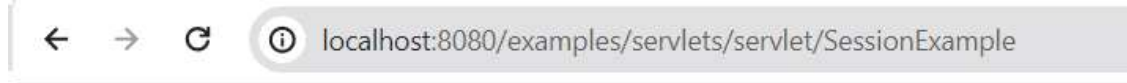
        // set session info if needed

        String dataName = request.getParameter("dataName");
        if (dataName != null && dataName.length() > 0) {
            String dataValue = request.getParameter("dataValue");
            session.setAttribute(dataName, dataValue);
        }

        // print session contents

        Enumeration e = session.getAttributeNames();
        while (e.hasMoreElements()) {
            String name = (String)e.nextElement();
            String value = session.getAttribute(name).toString();
            out.println(name + " = " + value);
        }
    }
}
```

Output:



Sessions Example

Session ID: 2D1DA907D7B1F9A81B659F5B6A09172F

Created: Thu Feb 29 12:17:37 IST 2024

Last Accessed: Thu Feb 29 12:23:57 IST 2024

The following data is in your session:

hi = 123

foo = bar

Name of Session Attribute:

Value of Session Attribute:

GET based form:

Name of Session Attribute:

Value of Session Attribute:

[URL encoded](#)