

Human Computer Interaction and Graphics

Laboratory Manual

Course code: CSC6503

Department of Computer Science



Lahore Garrison University

**Main Campus,
Sector-C Phase-VI,
DHA Lahore**

Guidelines for Laboratory Procedure

The laboratory manual is the record of all work on your experiments. A complete, neat, and organized data record is as important as the experiment itself. Please follow these guidelines for efficient performance in the laboratory:

- 1.** Attend the lab orientation to familiarize yourself with the lab setup.
- 2.** Follow the designated lab schedule and complete assignments on time.
- 3.** Write clear and well-documented code, avoiding plagiarism and unauthorized collaboration.
- 4.** Seek help from lab instructors or peers if you encounter difficulties with programming concepts.
- 5.** Regularly back up your code and project files to prevent data loss.
- 6.** Use lab resources responsibly, including computers and software licenses.
- 7.** If collaboration is allowed, work effectively with peers, ensuring each member contributes meaningfully.
- 8.** Maintain a clean and organized workspace for better focus and efficiency.
- 9.** Thoroughly test your code to identify and fix errors before submission.
- 10.** Engage in lab discussions, share insights, and actively participate to enhance the learning experience.

Safety Precautions

- 1.** Handle equipment carefully to prevent damage and avoid placing liquids near electronic devices.
- 2.** Maintain an ergonomic workspace for comfortable and strain-free programming.
- 3.** Save work frequently and use surge protectors to prevent data loss due to power issues.
- 4.** Keep software and antivirus programs up to date and avoid downloading from untrusted sources.
- 5.** Regularly back up code and important files to prevent data loss.
- 6.** Establish clear communication and collaboration guidelines when working with others.
- 7.** Be aware of emergency exits, fire extinguisher locations, and evacuation procedures.

Safety Undertaking

I have read all the above, and I agree to conform to its contents.

Name: _____

Roll No.: _____

Student Signature: _____

Date: _____

Lab Instructor : _____

Lab's Course Learning Outcomes

- **Course Title:** Human Computer Interaction and Graphics
- **Instructor:** Sir Hamza Awan, Sir Abid, Sir Naseer, Sir Husnain Ali
- **Designation:** Lecturer
- **E-mail:** husnainmunir@cs.lgu.edu.pk

Students will be able to:

To provide a classroom and laboratory environment that enables students to become proficient in multiple UI/UX making software.

- Students are not assumed to have a background in multiple UI/UX making software and therefore introductory material on enhancing the interaction between user and software's and development will be presented.
- However, most of the courses will be on the UI making software's(Figma, HTML/ CSS/JS, Adobe, Canva etc.).
- Students completing this course will be able to compile various programs on the user-interface computer.

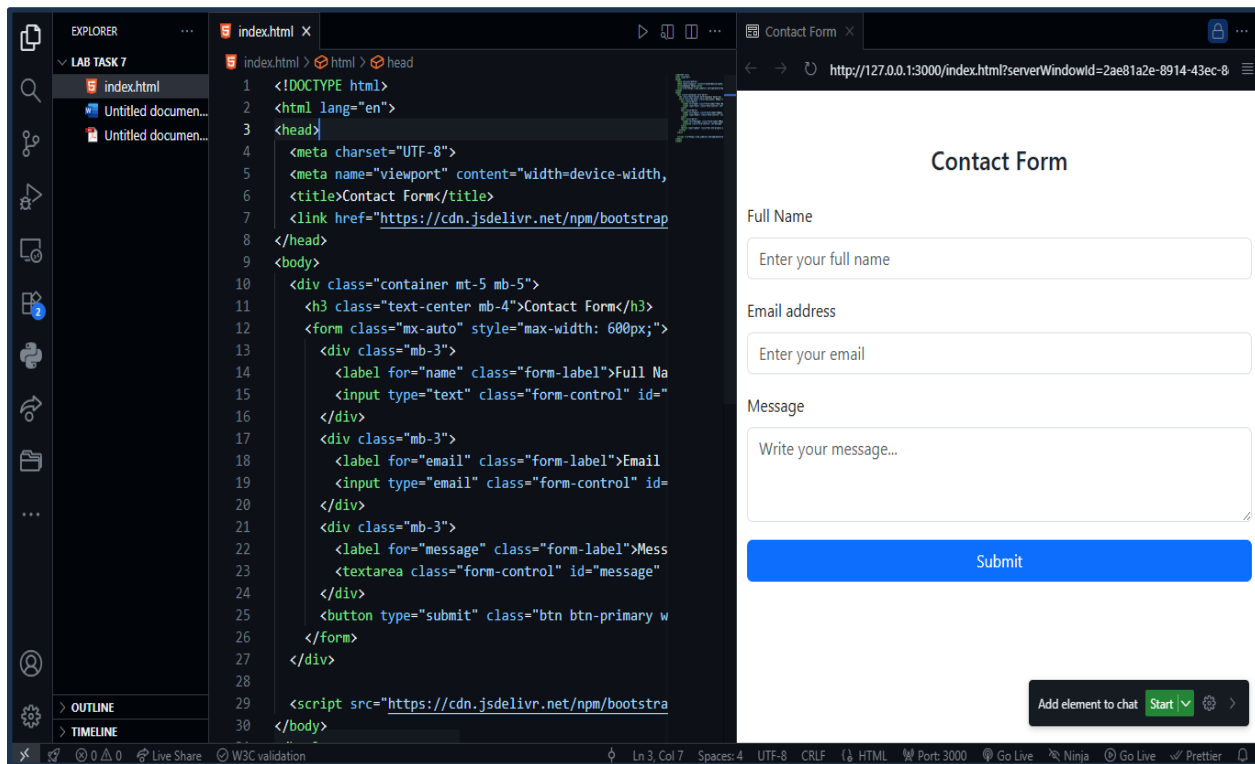
Mapping of Course Learning Outcomes (CLO) to Program Learning Outcomes (PLO) / Graduate Attributes

Course Code	CLOs / PLOs	PLO 1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO 10
CSC6503	CLO 1				X						
	CLO 2		X								
	CLO 3										

- PLO1: Academic Education
- PLO2: Knowledge of Solving Computing Problems
- PLO3: Problem Analysis
- PLO4: Design/ Development of Solution
- PLO5: Modern Tool Usage
- PLO6: Individual and Teamwork
- PLO7: Communication
- PLO8: Computing Professionalism and Society
- PLO9: Ethics
- PLO10: Lifelong Learning

Lab Task number 6

- Create a Form using HTML, Bootstrap

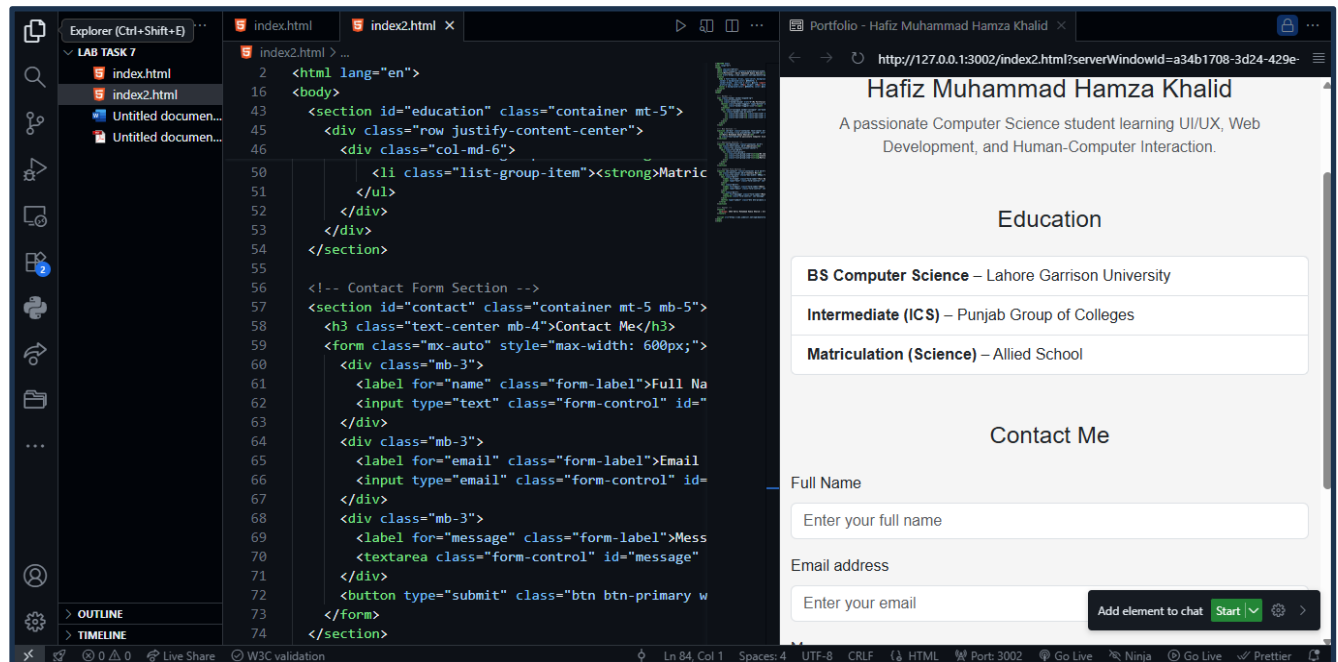


- Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Contact Form</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-5 mb-5">
    <h3 class="text-center mb-4">Contact Form</h3>
    <form class="mx-auto" style="max-width: 600px;">
      <div class="mb-3">
        <label for="name" class="form-label">Full Name</label>
        <input type="text" class="form-control" id="name" placeholder="Enter your full name">
      </div>
      <div class="mb-3">
        <label for="email" class="form-label">Email address</label>
        <input type="email" class="form-control" id="email" placeholder="Enter your email">
      </div>
      <div class="mb-3">
        <label for="message" class="form-label">Message</label>
        <textarea class="form-control" id="message" rows="3" placeholder="Write your message..."></textarea>
      </div>
      <button type="submit" class="btn btn-primary w-100">Submit</button>
    </form>
  </div>
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```

- Create the portfolio webpage that contains your name, bio, image, navbar, Education, footer



- Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Portfolio - Hafiz Muhammad Hamza Khalid</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
  <style>
    body { font-family: Arial, sans-serif; background-color: #f5f5f5; }
    .navbar { background-color: #0d6efd; }
    .navbar-brand, .nav-link { color: white !important; }
    .profile-img { width: 150px; height: 150px; border-radius: 50%; object-fit: cover; }
    footer { background-color: #0d6efd; color: white; text-align: center; padding: 10px; margin-top: 30px; }
  </style>
</head>
<body>

  <!-- Navbar -->
  <nav class="navbar navbar-expand-lg">
    <div class="container">
      <a class="navbar-brand" href="#">My Portfolio</a>
      <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav ms-auto">
          <li class="nav-item"><a class="nav-link" href="#bio">Bio</a></li>
          <li class="nav-item"><a class="nav-link" href="#education">Education</a></li>
          <li class="nav-item"><a class="nav-link" href="#contact">Contact</a></li>
        </ul>
      </div>
    </div>
  </nav>
```

```

</nav>

<!-- Bio Section -->
<section id="bio" class="container text-center mt-5">
  
  <h2>Hafiz Muhammad Hamza Khalid</h2>
  <p class="text-muted">A passionate Computer Science student learning UI/UX, Web Development, and Human-Computer Interaction.</p>
</section>

<!-- Education Section -->
<section id="education" class="container mt-5">
  <h3 class="text-center mb-4">Education</h3>
  <div class="row justify-content-center">
    <div class="col-md-6">
      <ul class="list-group">
        <li class="list-group-item"><strong>BS Computer Science</strong> – Lahore Garrison University</li>
        <li class="list-group-item"><strong>Intermediate (ICS)</strong> – Punjab Group of Colleges</li>
        <li class="list-group-item"><strong>Matriculation (Science)</strong> – Allied School</li>
      </ul>
    </div>
  </div>
</section>

<!-- Contact Form Section -->
<section id="contact" class="container mt-5 mb-5">
  <h3 class="text-center mb-4">Contact Me</h3>
  <form class="mx-auto" style="max-width: 600px;">
    <div class="mb-3">
      <label for="name" class="form-label">Full Name</label>
      <input type="text" class="form-control" id="name" placeholder="Enter your full name">
    </div>
    <div class="mb-3">
      <label for="email" class="form-label">Email address</label>
      <input type="email" class="form-control" id="email" placeholder="Enter your email">
    </div>
    <div class="mb-3">
      <label for="message" class="form-label">Message</label>
      <textarea class="form-control" id="message" rows="3" placeholder="Write your message..."></textarea>
    </div>
    <button type="submit" class="btn btn-primary w-100">Submit</button>
  </form>
</section>

<!-- Footer -->
<footer>
  <p>&copy; 2025 Hafiz Muhammad Hamza Khalid | All Rights Reserved</p>
</footer>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>

```

CLO	PLO	LL
1	4	4

- **Conclusion:**

In this lab task, I created a responsive portfolio webpage using **HTML** and **Bootstrap**.

The webpage includes a **navbar**, **bio section**, **profile image**, **education list**, **contact form**, and **footer**.

Through this task, I learned how to structure a clean and user-friendly web interface and apply basic responsive design principles.

- **Rubrics:**

Description	Total Marks	Marks Obtained
Ability to Conduct Practical	5	
Data Analysis & Interpretation	5	
Structure	5	
Efficiency	5	
Total Marks Obtained	20	

Instructor's Signature: _____