**Task One: Personal Profile Website**

**SDLC Phases**

1. **Planning Phase**

Objective: Define the purpose, goals, and scope of the portfolio website.

* **Purpose:** The website is used to show my projects, skills, blog posts, contact form and provide a way for visitors to contact me
* **Feature Planning**
  + **Home Page:** Overview of skills and a summary of recent projects
  + **Portfolio Section:** Description of projects
  + **Blog Section:** Posts with technical topics
  + **Contact Form:** Allow visitors to contact me

1. **Design Phase**

Objective: Create the blueprint for the website’s structure and visuals.

* **Wireframes**: Developed low-fidelity sketches of the website
* **User Experience (UX)**
  + Make it friendly
  + Optimize for mobile and desktop devices
* **Visual Design**
  + Define the color pallet and fonts
* **Database Design**
* **Diagrams**
  + **Class Diagram:** Represent the components (users, blog posts, contact forms, etc.) and their relationships.
  + **Sequence Diagram**: Outline user interactions, like browsing projects and submitting the contact form.

1. **Development Phase**

Objective: build the functional components of the website

* **Frontend development**
  + Implement the visual design using HTML, CSS
* **Backend Development**
  + Set up a server using Node.js or Django
  + Connect to database (MySQL) to store and retrieve content dynamically
* **Integration**
  + Connect the frontend and backend.
  + Implement APIs to fetch blog posts or submit contact form data.

1. **Testing Phase**

Objective: Identify and fix any issues before launching the website.

* **Functional Testing:**
  + Verify that all features, such as project viewing and contact form submission, work as intended.
* **Usability Testing:**
  + Test the website with real users to ensure its intuitive and user-friendly.
* **Performance Testing:**
  + Measure load times and optimize code for speed.
  + Use tools like Lighthouse to evaluate performance and accessibility.
* **Bug Fixing:** Resolve issues found during testing to ensure a smooth user experience.

1. **Maintenance Phase**

Objective: Keep the website updated and functional after launch.

* **Regular Updates:** Regularly update the portfolio with new projects and blog posts.
* **Bug Fixes:** Address any bugs or issues reported by users.
* Performance Monitoring:
  + Use tools like Google Analytics to track user behavior.
  + Monitor server uptime and page loading speeds.
* **Security Updates:** Regularly update dependencies and ensure the website is secure from vulnerabilities.