**Interview Task for Developer (Falsk Backend,Team Lead)**

**1. Backend Development Task**

* **Implement a RESTful API Endpoint**
  + Task: Create a user registration endpoint /register that accepts user details (first name, last name, email, phone number, password) and saves them to the database.
  + Requirements:
    - Validate the input data.
    - Hash the password before saving.
    - Handle errors and edge cases.
    - Provide appropriate responses (success, validation error, server error).
* **Database Design**
  + Task: Design a database schema for a simple e-commerce application with tables for Users, Products, Orders, and OrderItems.
  + Requirements:
    - Provide an ER diagram.
    - Use SQLAlchemy scripts to create the tables.
    - Ensure proper relationships between tables (foreign keys).

**2. Front-End Development Task**

**4. Team Leadership Task**

* **Code Review**
  + Task: Conduct a code review for a given piece of code (provided as part of the interview).
  + Requirements:
    - Identify issues or improvements in the code.
    - Provide constructive feedback and suggest improvements.
    - Focus on code quality, readability, and best practices.
* **Task Management**
  + Task: Given a project scenario, create a task breakdown and assign tasks to a hypothetical team.
  + Requirements:
    - Use a project management tool (e.g., Jira, Trello) to create and assign tasks.
    - Provide a brief explanation of how you would manage the project and ensure timely delivery.
    - Include tasks for front-end, and mobile app development.

**5. Problem-Solving and Algorithmic Task**

* **Algorithm Implementation**
  + Task: Write a function to find the longest common subsequence between two strings.
  + Requirements:
    - Optimize for time and space complexity.
    - Handle edge cases.
    - Provide test cases to validate the solution.

**6. Testing and Quality Assurance Task**

* **Write Unit Tests**
  + Task: Write unit tests for the user registration endpoint created in the backend task.
  + Requirements:
    - Use a testing framework (e.g., pytest, unittest).
    - Cover various test cases (valid inputs, invalid inputs, edge cases).
    - Ensure tests are easy to understand and maintain.

**7. Documentation Task**

* **API Documentation**
  + Task: Create API documentation for the user registration endpoint.
  + Requirements:
    - Use Postman to document the API.
    - Include details about request parameters, responses, and error messages.
    - Ensure the documentation is clear and easy to follow.

**Instructions for the Candidate:**

1. **Submission**: Submit the completed tasks in a GitHub repository. Provide a README file with instructions on how to run the project and any other necessary information.
2. **Time**: Allocate a reasonable amount of time for each task. Typically, a week is sufficient for completing all tasks.
3. **Evaluation Criteria**: Focus on code quality, adherence to best practices, problem-solving skills, and the ability to manage and lead a team effectively.