One-Day Assignment for Junior Developer – Python Assignment

Project Title: Task Manager CLI Application

Objective: Build a command-line interface (CLI) application to manage tasks. The application should allow users to add, view, and delete tasks, as well as save and load tasks from a file.

Tasks Breakdown

1. **Project Setup**
    - Create a new directory for the project, e.g., task_manager.
    - Inside the directory, create a Python file named task_manager.py.
2. **Define Task Structure**
    - Create a simple Task class to represent a task. Each task should have the following attributes:
        - id: an integer for the task ID.
        - title: a string for the task title.
        - completed: a boolean indicating if the task is completed.
3. **Implement Task Management Functions**
    - Implement functions to handle the following functionalities:
        - **Add a Task:** Allow the user to add a new task to the task list.
        - **View Tasks:** Display all tasks, showing their status (completed or not).
        - **Delete a Task:** Allow the user to remove a task by its ID.
        - **Mark Task as Complete:** Update the task status to completed.
4. **File Handling**
    - Implement functions to save and load tasks to/from a file using JSON:
        - **Save Tasks:** Save the list of tasks to a file named tasks.json.
        - **Load Tasks:** Load tasks from tasks.json when the application starts.
5. **Create a Command-Line Interface**
    - Use a simple loop to create a CLI that allows the user to interact with the application:
        - Display a menu with options to add, view, delete, complete tasks, and exit the application.
        - Use input to get user commands and execute the corresponding functions.
6. **Documentation**
    - Create a README.md file that includes:

    - Project title and description.
    - Instructions on how to run the application (e.g., python task_manager.py).
    - Overview of functionalities implemented.

Expected Deliverables

- A complete CLI task manager application (task_manager.py).
- Source code with clear and concise comments.
- A README.md file with project details.

Assessment Criteria

- **Functionality:** The application works as intended with all specified features.
- **Code Quality:** Code is clean, well-structured, and appropriately commented.
- **User Experience:** The CLI is user-friendly, and instructions are clear.