Task 3: Library Management System (Using OOP)

- **Objective: Develop a mini system to manage books and users.**
- **Tools :Java, VS Code, Terminal.**
- **Deliverables: Multi-class Java project.**

Hints/Mini Guide:

1. Create classes: Book, User, Library.
2. Implement book issue and return features.

Outcome: Solid understanding of OOP

Interview Questions:

1. What is abstraction?
2. Difference between interface and abstract class?
3. Explain polymorphism with example.
4. What is method overriding?
5. Explain "IS-A" vs "HAS-A" relationships.
6. Why use inheritance?
7. What is dynamic binding?
8. What is constructor chaining?
9. How to implement encapsulation?
10. Explain super keyword.

Key Concepts: **OOP (Abstraction, Inheritance, Polymorphism).**

📤 **Submit Here:**
After completing the task, paste your GitHub repo link and submit it using the link below:

- 👉 [Submission Link]

📌 **Task Submission Guidelines**

- ⏰ **Time Window:**

You can complete the task anytime between 10:00 AM to 10:00 PM on the given day. Submission link closes at 10 :00 PM

- 🔍 **Self-Research Allowed:**

You are free to explore, Google, or refer to tutorials to understand concepts and complete the task effectively.

- 🛠️ **Debug Yourself:**

Try to resolve all errors by yourself. This helps you learn problem-solving and ensures you don't face the same issues in future tasks.

- 💸 **No Paid Tools:**

If the task involves any paid software/tools, do not purchase anything. Just learn the process or find free alternatives.

- 📁 **GitHub Submission:**

Create a new GitHub repository for each task.
Add everything you used for the task — code, datasets, screenshots (if any), and a **short README.md** explaining what you did.

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