Lab 1: Problem Framing & Agentic Architecture

Focus	Strategic Planning, System Design, & Environment Readiness

Objective

The goal of this lab is to move beyond a simple "chatbot" and define a high impact Agentic Use Case. You will identify a business process that cannot be solved with a single prompt, map out the required tools/data, and design the high-level architecture using the LangGraph framework.

The Agentic Boundary

In an industrial setting, we don't just "chat" with AI. We give it a Goal, a Toolbox, and Boundaries. Your task is to identify a process where an agent can:

- **Perceive:** Extract data from multiple sources (Docs, APIs, DBs).
- **Reason:** Use LangGraph logic to plan multi step actions.
- **Execute:** Call external Python functions to interact with the world.

Mandatory Tasks

- ✓ **Task 1: Use Case Selection**

  Select an industry vertical (e.g., FinTech, Supply Chain, Healthcare, HR). Define a Poblem Statement that requires more than a single LLM response.

- ✓ **Task 2: Tool & Data Inventory**

  Identify the External World your agent needs to interact with:

  - **Knowledge Sources:** What PDFs, Wikis, or DBs will ground the agent?
  - **Action Tools:** What specific APIs or Python scripts will the agent call? (e.g., get_weather(), query_sql(), update_notion_page()).

- ✓ **Task 3: System Architecture Diagram (LangGraph Focus)**

Expected Outcomes (Submission Checklist)

Submit a GitHub link containing:

1. **PRD.md**: A markdown file containing:
    - ✓ **Problem Statement:** What specific bottleneck are you solving?
    - ✓ **User Personas:** Who is the primary user?
    - ✓ **Success Metrics:** How will you measure success
2. **Architecture_Diagram.png**: A visual map of your system components.

Assessment Rubric

Criteria	Weightage	Full Marks Requirements
Requirements	4	
Documentation	3	
Viva	3	