Assignment: Build a Mini Agent-Based Data Fixing System

Overview:
In this assignment, you will simulate a lightweight *agentic system*—where independent "agents" handle different tasks in cleaning and enriching a dataset. Each agent should operate as a separate function or module with a clear role, and agents should pass work to each other to achieve a complete self-fixing pipeline.

Your Task:
Design and implement a basic agentic workflow to process a messy CSV file containing customer records. Your system should include at least **three agents**:

1. **Detection Agent**
    - Scans the data to find common issues:
        - Missing or malformed customer attributes (e.g - email addresses)
        - Duplicate rows
        - Incorrect data values
2. **Correction Agent**
    - Takes flagged issues and applies rules to fix them:
        - Standardize the data values
        - Remove duplicates
        - Correct country names using fuzzy matching against a list of valid countries
3. **Enrichment Agent**
    - Adds new, useful attributes to the data. For example:
        - Enrich the missing data – using LLMs
4. **(Optional) UI Agent**
    - Build a simple CLI or web interface to upload a CSV, view cleaned data, and download results

Each agent should log its own actions (e.g., what it fixed or added). The agents should work together in sequence but be modular enough that each could run independently.

What to Submit:

- Your code files

- A sample input CSV (with 30–50 messy rows)
- Cleaned output CSV
- Agent logs (CSV or TXT)
- A README (and optionally a 1–2 video) explaining how it works