**Fix Synchronization Issues:**

* **Ensure Unique Identifiers: Both the Google Sheet and the database should have a unique identifier (e.g., id) for each row. This helps track changes and maintain data consistency.**
* **Two-Way Sync Logic: Make sure your sync logic covers both directions:**
  + **Google Sheets → Database: Detect changes in Google Sheets and apply them to the database.**
  + **Database → Google Sheets: Detect changes in the database and apply them to Google Sheets.**
* **Avoid Duplicate Entries: Implement logic to avoid inserting duplicate rows. This often involves checking if a record already exists before inserting.**
* **Concurrency Handling: If changes can happen concurrently in both Google Sheets and the database, consider implementing mechanisms to handle conflicts (e.g., using timestamps or change logs).**

**Best Way to Go Forward:**

* **Refactor and Modularize:**
  + Refactor your current code to separate CRUD operations into individual modules.
  + Create a central sync.py file that coordinates synchronization using these modules.
* **Debug Synchronization Issues:**
  + Log the changes being detected and applied to see where things might be going wrong.
  + Ensure that data is not duplicated or overwritten unintentionally.
* **Test Step-by-Step:**
  + Start by testing CRUD operations on both Google Sheets and the database individually.
  + Test one-way synchronization first (e.g., Google Sheets to the database), then the other way around.
  + Finally, test full two-way synchronization with conflict resolution.

If you share your current code structure or specific errors you're encountering, I can help you further troubleshoot and refine the synchronization logic.

In manual\_sync\_CRUD.py:

Does manuad crud operations

Data\_sync.py does the bidirectional sync between google sheet and db

On running manual\_sync\_CRUD.py:

 Add an entry in Google Sheets and the database.

 Read the data from both sources.

 Update the first row in both sources.

 Delete the first row in both sources.

On running data\_sync.py

 Read data from Google Sheets and synchronize it with the database.

 Clear the existing data in Google Sheets.

 Write the latest data from the database back to Google Sheets.