**Section 1 — Conceptual Understanding**

Answer briefly (2-3 sentences each):

1. In your own words, describe each SDLC phase.  
   How do these phases connect in a real project like the one you worked on?

Sdlc phases – initiate, plan, design, develop, test, deploy, maintain

Initiate is where we brain storm the ps and try to

1. What’s the purpose of using Git branches and pull requests instead of committing directly to main?
2. Why is documentation (README, CONTRIBUTING) important even in small projects?
3. What is the advantage of using virtual environments in Python?
4. How does your data ingestion script ensure that only clean, valid data reaches the database?
5. When writing SQL queries, how do you decide whether to use WHERE or HAVING?
6. What’s the purpose of indexing in a database, and when could it slow queries down instead?

**Section 2 — Hands-On Confidence**

Rate yourself from 1 (low) to 5 (high) on each area:

| **Skill Area** | **1** | **2** | **3** | **4** | **5** |
| --- | --- | --- | --- | --- | --- |
| Understanding SDLC phases and Agile flow |  |  |  |  |  |
| Git workflow: branching, commits, merges |  |  |  |  |  |
| Python setup & environment management |  |  |  |  |  |
| Data ingestion using pandas + SQLAlchemy |  |  |  |  |  |
| SQL queries – SELECT, JOIN, GROUP BY, CTE |  |  |  |  |  |
| Translating business questions into SQL |  |  |  |  |  |

Add one sentence below each rating explaining *why* you chose that number.

**Section 3 — Mini Review Challenge**

To check your practical readiness, attempt the following small tasks.  
Do them in your own repo or a scratch workspace — the goal is understanding, not perfection.

1. **Git:**
   * Create a new branch, make a small change in the README, and open a pull request.
   * Merge it cleanly into main.
   * Note anything that confused you during the process.
2. **Python:**
   * Write a quick script to load a new CSV (returns.csv) into a new table in Postgres.
   * Include validation (e.g., no negative values or missing IDs).
3. **SQL:**
   * Write queries for:  
     a. Top 5 products by total revenue.  
     b. Customers who haven’t ordered in the last 30 days.  
     c. Average order value per region.

Save your answers and code in a folder named week1\_review\_challenge/.

**Section 4 — Personal Reflection**

Write short paragraphs for each prompt:

* **Top 3 things I learned this week:**  
  (Be specific — e.g., *how indexing changed query speed*.)
* **The hardest concept for me was:**  
  (Explain what made it hard — syntax, logic, or theory.)
* **How I applied the SDLC mindset to my project:**  
  (Which stage are you strongest in, and which needs work?)
* **If I repeated this week, I’d improve by:**  
  (Think of a workflow, coding habit, or tool you’d use better.)