SQL Real-World Mastery: PDF Guide

📘 Welcome!

Thank you for choosing **SQL Real-World Mastery** — a hands-on guide designed to help you master SQL through real-world problems and PostgreSQL projects.

🔍 What's Inside This Guide?

This PDF contains:

- ✅ Overview of database schema and project scope

- ✅ Setup instructions (PostgreSQL tools + dataset)

- ✅ SQL scripts for creating and populating your database

- ✅ 40 Problem Statements + Detailed Solutions

- ✅ Concepts behind each query (so you know *why*, not just *how*)

🧰 Tools You Need

Make sure you've installed:

- **PostgreSQL** (v13+ recommended)

- **pgAdmin / DBeaver / DataGrip** (for SQL execution)

- **Any text editor** (VSCode, Notepad++)

🎬 Project Setup

1. Open your SQL tool (e.g., pgAdmin)

2. Run the **Create Database Command** to create database

3. Run **Table Creation Scripts** to populate records

4. Use **Problem Statements** to try the problems

5. Refer Answers for guidance

📊 Database Overview

The dataset simulates a banking system with entities like:

- Customers

- Accounts

- Transactions

- Loans

Includes realistic relationships (1:N, M:N) and foreign keys.

🔥 40 Real-World SQL Problems

Grouped by Difficulty:

- 🔷 10 Easy: SELECT, WHERE, COUNT, DISTINCT, SUM, ORDER BY
- 🔶 10 Intermediate: CASE , Subquery, JOINs, GROUP BY, HAVING
- 🔺 10 Advanced: Date Trunc , Join with sub query
- 🔼 10 Hard: Window functions, CTEs, CASE , Nested queries, anti-joins

Each problem includes:

- Problem description
- Required output format
- Optimized solution
- Commentary on best practices

🧠 Advanced Topics Covered

- Subqueries (Scalar & Correlated)
- Common Table Expressions (CTEs)
- Window Functions (ROW_NUMBER, RANK, LAG)
- CASE Statements
- Aggregate Filters (FILTER)
- Date Manipulation
- Anti-Joins

🗃 Folder Structure (in your ZIP file)

📁 SQL-Real-World-Mastery

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├── 🔷 SQL_Guide.pdf

├── 🔷 Table Creation Scripts.pdf

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├── 📁 Problem Statements Scripts
|   ├── Easy Problem Statements.pdf
|   ├── Intermediate Problem Statements.pdf
|   └── Advance Problem Statements.pdf
|   └── Hard Problem Statements.pdf
├── 📁 Answers
|   └── Easy Answers.pdf
|   └── Intermediate Answers.pdf
|   └── Advance Answers.pdf
|   └── Hard Answers.pdf
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❓Need Help?

Reach out via:

- 📧 [8420006458] What's App Only
- 💬 Topmate chat for support & future queries

Let's master SQL together — one query at a time!