README

Overview

This project implements a Cinema Data Warehouse that is built on top of our previous Parts 1 and 2. The project includes:

- A revised data warehouse design (schema file: `create_cinema_schema.sql`) that now stores derived attributes (e.g., `ScreeningPeriod` in the fact table and `TransactionType` in PaymentDim).

- Comprehensive SQL queries (in `cinema_queries.sql`) covering queries 1–18. Each query is preceded by the full question text as a comment.

- Python code (in `Md_DbFill.py`) to populate the database with synthetic data spanning 2014 to 2024, ensuring at least 1,000,000 fact table rows.

- A Docker Compose file (`docker-compose.yml`) and a requirements file (`requirements.txt`) for setting up the PostgreSQL and pgAdmin environment.

File Structure

`create_cinema_schema.sql` — Contains the SQL commands to create the revised database schema.

`cinema_queries.sql` — Contains all SQL queries (1–18) that generate the required pivot tables and analytics. Each query begins with a comment stating the full question.

`Md_DbFill.py` — A Python script that populates all dimension tables and the fact table with synthetic data.

`docker-compose.yml` — Defines the Docker services for PostgreSQL and pgAdmin.

`requirements.txt` — Lists the Python dependencies (psycopg2-binary and Faker).

Setup and Execution Instructions

1. **Start the Docker containers:**

   ```
   docker-compose up -d
   ```

2. **Create the schema:** Ensure `create_cinema_schema.sql` is in your project directory. Then, from your host terminal run:

   ```
   psql "host=127.0.0.1 dbname=mydatabase user=admin password=admin123 gssencmode=disable" -f create_c
   ```

3. **Populate the database:** Create and activate a virtual environment, install dependencies using `requirements.txt`, and run:

   ```
   python Md_DbFill.py
   ```

4. **Run the queries:** Ensure `cinema_queries.sql` is in your project directory, then run:

   ```
   psql "host=127.0.0.1 dbname=mydatabase user=admin password=admin123 gssencmode=disable" -f cinema_q
   ```

GitHub Repository

All source code is available on GitHub at:

   https://github.com/LenoreWoW/CinemaDB