From: bootcamp@techcreator.io
Subject: Grade for homework: Dimensional Data Modeling Homework Submission
Date: 22 June 2025 at 16:32
To: farzad.vahidi73@gmail.com

FINAL GRADE: B

** This feedback is auto-generated from an LLM **

Here is the feedback for your submission on Dimensional Data Modeling – Week 1. Let's go through each task to evaluate your efforts and accuracy:

Task 1: DDL for `actors` table

- Your definition of the custom types `film_stats` and `quality_class` is correct.
- The `actors` table is set up properly with the required fields and types.
- The `primary key` has been correctly defined on `actorid`.

Task 2: Cumulative table generation query (`actors` table)

- Your query seems to aggregate data correctly by `actorid` and `actor`.
- The `films` array and the calculation of `quality_class` are implemented properly.
- Your approach to determine the `is_active` status using `MAX(year) = (SELECT MAX(year) FROM actor_films)` is appropriate for checking if the actor is active.

Task 3: DDL for `actors_history_scd` table

- The `actors_history_scd` table DDL is correctly defined for Type 2 SCD.
- You have accurately included `start_date` and `end_date` columns.
- The primary key is correctly specified as a combination of `actorid` and `start_date`.

Task 4: Backfill query for `actors_history_scd`

- The insertion logic captures all required fields and aggregates accordingly.
- The backfill handles `quality_class` and `is_active` logically.
- However, there is a flaw in the `GROUP BY` clause that includes `year`, which should be excluded. It misaligns with the logic of capturing historical data for the same actor across years.

Task 5: Incremental query for `actors_history_scd`

- Your incremental query correctly checks and handles non-existing records in `actors_history_scd`.
- The logic for computing the `start_date` is handled well, ensuring only new records get inserted.

Areas for Improvement:

1. **Backfill Query Adjustment**: The `GROUP BY actorid, actor, year` in the backfill query should be adjusted to eliminate `year` so the data across different years for the same actor is treated properly in history records, aligning more closely with Type 2 SCD requirements.
2. **Testing and Validation**: Ensure more thorough testing is done on your queries to handle potential edge cases like actors with multiple entries a year and transitioning between different states effectively.

Final Comments:

You've shown a good understanding of dimensional data modeling concepts, especially handling Type 2 SCDs. The creation and utilization of custom data types demonstrate attention to detail and solid SQL skills. Just ensure minor adjustments in handling historical data in the backfill logic.

FINAL GRADE


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This represents a solid attempt, with room for improvement primarily in the backfill query logic to ensure data accuracy over historical tracking. Keep up the good work and strive for these refinements in future assignments!