**STEP 1**

**Compare the cost of the original query and the revised query.**

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AI-generated content may be incorrect.

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Both have the same cost because the same search was conducted throughout the entire table.

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AI-generated content may be incorrect.

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An attempt was made to minimize costs using the ORDER BY and LIMIT functions, but even so, the result increased the cost.

**STEP 2**

* **In the pgAdmin Query Tool, run a query that selects every film from the “film” table, with the movies sorted by title from A to Z, then by most recent release year, and then by highest to lowest rental rate.**

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**STEP 3**

**What is the average rental rate for each rating category?**

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**What are the minimum and maximum rental durations for each rating category?**

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AI-generated content may be incorrect.**

**STEP 4:**

**Procedure for Migrating Data from the Rockbuster Android App to the Data Warehouse**

Data Collection & Storage

Responsible: Mobile App Development Team

The app collects user behavior data using an external tool.

Data Extraction

Responsible: ETL (Extract, Transform, Load) Engineers

Extract raw data from the external tool’s API, database, or storage system.

Define a schedule for data extraction (real-time streaming or batch processing).

Data Transformation & Cleaning

Responsible: Data Engineering Team

Standardize formats (e.g., timestamps, user IDs).

Handle missing or duplicate data.

Map the extracted data to the correct schema used in the data warehouse.

Data Loading into the Data Warehouse

Responsible: ETL Engineers & Database Administrators

Load transformed data into the data warehouse.

Implement indexing and partitioning for efficient querying.

Validation & Quality Assurance

Responsible: Data Analysts & QA Team

Run queries to verify data integrity and completeness.

Cross-check with raw data to ensure accuracy.

Data Analysis & Reporting

Responsible: Data Analysts & Business Intelligence Team

Once validated, data is used for analytics, dashboards, and reporting.

Analysts can now derive insights from user behavior in the Rockbuster Android app.

**Problems If Analysis Starts Before Data is Loaded into the Data Warehouse**

Incomplete Data

If the data hasn’t been fully migrated, reports will be inaccurate or misleading.

Inconsistent Formats

Raw data may have inconsistencies (different date formats, missing values), leading to errors in analysis.

Performance Issues

Running queries on raw or scattered data sources may be slow and inefficient compared to querying a structured data warehouse.

Duplicate or Redundant Data

Without proper ETL processes, duplicate records might distort analysis results.

Security & Compliance Risks

Analyzing unverified data could expose sensitive information without proper access controls.

Wrong Business Decisions

If key stakeholders act on unprocessed or incorrect data, it could lead to faulty strategies and decisions.