

3.4 Database Querying in SQL

1. Refining your Query

```
SELECT film_id, title FROM film;
```

In our case there is no difference in cost or score, so it doesn't really matter if we use the raw or the refined query.

2. Ordering Data

```
SELECT title, release_year, rental_rate
FROM film
ORDER BY title, release_year, rental_rate DESC;
```

CSV file is attached (3.4_2).

3. Grouping Data

```
SELECT rating, AVG(rental_rate)
FROM film
GROUP BY rating;
```

CSV file is attached (3.4_3.1).

```
SELECT rating,
    MIN(rental_duration) AS "MIN rental duration",
    MAX(rental_duration) AS "MAX rental duration"
FROM film
GROUP BY rating;
```

CSV file is attached (3.4_3.2).

4. Database Migration

ETL

The procedure is called ETL (Extract, Transform, Load). A Data Engineer sources the data, transforms it into a compatible format and loads it into a database.

Problems of analyzing data before it's loaded into the data warehouse

There data could be raw and not cleaned yet which means more work which isn't necessary.

5. Bonus

```
SELECT
    MIN(replacement_cost) AS "MIN replacement cost",
    MAX(replacement_cost) AS "MAX replacement cost"
FROM film
GROUP BY
    CASE
        WHEN rating = 'G' THEN 1
        WHEN rating = 'PG' THEN 2
        WHEN rating = 'PG-13' THEN 3
        WHEN rating = 'R' THEN 4
        ELSE 5
    END;
```