Top 5 Complex SQL Queries for Car Data Analysis

1. What percentage of cars are sold by individual sellers?

```
WITH percent AS (
    SELECT COUNT(*) AS Ind FROM car WHERE seller_type = 'Individual'
)
SELECT ((Ind / COUNT(*)) * 100) AS Percent
FROM car
JOIN percent ON car.name = percent.name
WHERE seller_type = 'Individual';
```

Summary: Calculates the percentage of cars sold by individual sellers using a CTE (Common Table Expression).

2. What is the distribution of car sales based on km driven ranges (e.g., <50,000 km, 50,000-100,000 km, etc.)?

```
SELECT
    CASE
        WHEN km_driven < 50000 THEN '<50,000 km'
        WHEN km_driven BETWEEN 50000 AND 100000 THEN '50,000-100,000 km'
        WHEN km_driven BETWEEN 100000 AND 150000 THEN '100,000-150,000 km'
        ELSE '150,000+ km'
    END AS km_range,
    COUNT(*) AS total_cars
FROM car
GROUP BY km_range
ORDER BY total_cars DESC;
```

Summary: Groups cars into different mileage categories using a CASE statement.

3. What is the highest and lowest selling price recorded?

```
SELECT
    MIN(selling_price) AS lowest_selling_price,
    MAX(selling_price) AS highest_selling_price
FROM car;
```

Summary: Finds the minimum and maximum selling prices in the dataset.

4. What is the percentage distribution of transmission types?

```
SELECT
    transmission,
    COUNT(*) AS Total_Cars,
    (COUNT(*) * 100.0 / SUM(COUNT(*)) OVER ()) AS percentage
```

```
FROM car
GROUP BY transmission
ORDER BY percentage DESC;
```

Summary: Calculates the percentage of each transmission type using window functions.

5. What percentage of cars are first-owner, second-owner, and third-owner or more?

```
SELECT
    owner,
    COUNT(*) AS total_cars,
    (COUNT(*) * 100.0 / SUM(COUNT(*)) OVER ()) AS percentage
FROM car
GROUP BY owner;
```

Summary: Computes the percentage of cars based on ownership status using window functions.