

# 1. City-wise Department Performance

**Goal:** Find the department in each city with the highest total salary payout.

**Approach:**

- **CTE1:** Calculate total salary per city and department.
- **CTE2:** Rank departments per city by total salary using `ROW_NUMBER()`.
- **CTE3:** Select top-ranked department per city.

# 2. Salary Distribution & Ranking

**Goal:** Rank employees based on salary within each department and city.

**Approach:**

- **CTE1:** Calculate salary rank per department using `RANK()`.
- **CTE2:** Calculate salary rank per city using `RANK()`.
- **CTE3:** Combine CTE1 and CTE2 to find employees with high ranks in both metrics.

# 3. Categorize employees into salary tiers (Low, Medium, High) and rank them within departments.

**Approach:**

- **CTE1:** Add a `salary_tier` column using `CASE` (e.g., Low < 30000, Medium 30000–70000, High > 70000).
- **CTE2:** Rank employees within each department by salary using `RANK()`.
- **CTE3:** Select top 2 employees in each department and show salary tier.

## 4. Age & Salary Bracket Ranking

**Goal:** Classify employees by age groups and rank by salary within each group.

**Approach:**

- **CTE1:** Use CASE to define **Age\_Group** (e.g., <30 = Young, 30-50 = Mid, >50 = Senior).
- **CTE2:** Rank employees within each age group by salary DESC.
- **CTE3:** Show top 3 earners per age group.