**CASE STUDY 9**

1. In the tutorial.city\_populations dataset, add a column which tells how many cities have less population than the city mentioned in the row.
2. **SELECT \*, (**

**SELECT COUNT(\*)**

**FROM tutorial.city\_populations AS c2**

**WHERE c2.population\_estimate\_2012 < c1.population\_estimate\_2012**

**) AS num\_cities\_with\_lower\_population**

**FROM tutorial.city\_populations AS c1;**

1. In the tutorial.city\_populations dataset, add a column which tells the rank of city in terms of population. City with highest population should get rank = 1.
2. **select city, population\_estimate\_2012, DENSE\_RANK() OVER(ORDER BY population\_estimate\_2012 DESC) AS RANK\_OF\_CITY from tutorial.city\_populations;**
3. Write a query that counts the number of companies founded and acquired by quarter starting in Q1 2012. Create the aggregations in two separate queries, then join them. Use: tutorial.crunchbase\_companies, tutorial.crunchbase\_acquisitions tables.
4. **WITH COM AS**

**(SELECT founded\_quarter AS quarter, COUNT(\*) AS companies\_founded**

**FROM tutorial.crunchbase\_companies**

**WHERE founded\_quarter >= '2012-Q1'**

**GROUP BY founded\_quarter),**

**ACQ AS**

**(SELECT acquired\_quarter AS quarter, COUNT(\*) AS companies\_acquired**

**FROM tutorial.crunchbase\_acquisitions**

**WHERE acquired\_quarter >= '2012-Q1'**

**GROUP BY acquired\_quarter)**

**SELECT**

**COALESCE(COM.quarter, ACQ.quarter) AS quarter,**

**COALESCE(COM.companies\_founded, 0) AS companies\_founded,**

**COALESCE(ACQ.companies\_acquired, 0) AS companies\_acquired**

**FROM COM FULL OUTER JOIN ACQ**

**ON COM.quarter = ACQ.quarter**

**ORDER BY quarter;**

1. Write a query that ranks investors from the combined dataset above by the total number of investments they have made. Use: tutorial.crunchbase\_investments\_part1, tutorial.crunchbase\_investments\_part2 tables.
2. **WITH combined\_investments AS (**

**SELECT investor\_name FROM tutorial.crunchbase\_investments\_part1**

**UNION ALL**

**SELECT investor\_name FROM tutorial.crunchbase\_investments\_part2**

**),**

**investment\_counts AS (**

**SELECT investor\_name, COUNT(\*) AS total\_investments**

**FROM combined\_investments**

**WHERE investor\_name IS NOT NULL**

**GROUP BY investor\_name**

**)**

**SELECT**

**investor\_name, total\_investments, RANK() OVER (ORDER BY total\_investments DESC) AS investor\_rank**

**FROM investment\_counts;**

1. Write a query that ranks investors from the combined dataset above by the total number of investments they have made. Consider only the companies whose status is operating. Use: tutorial.crunchbase\_investments\_part1, tutorial.crunchbase\_investments\_part2 tables for investment. Use: tutorial.crunchbase\_companies for status.
2. **WITH combined\_investments AS (**

**SELECT company\_permalink, investor\_name**

**FROM tutorial.crunchbase\_investments\_part1**

**UNION ALL**

**SELECT company\_permalink, investor\_name**

**FROM tutorial.crunchbase\_investments\_part2),**

**operating\_investments AS (**

**SELECT ci.investor\_name**

**FROM combined\_investments ci**

**JOIN tutorial.crunchbase\_companies c ON ci.company\_permalink = c.permalink**

**WHERE c.status = 'operating' AND ci.investor\_name IS NOT NULL),**

**investment\_counts AS (**

**SELECT investor\_name, COUNT(\*) AS total\_investments**

**FROM operating\_investments**

**GROUP BY investor\_name)**

**SELECT investor\_name,total\_investments, RANK() OVER (ORDER BY total\_investments DESC) AS investor\_rank**

**FROM investment\_counts;**