

# Database Systems

CMPT 308

## - Lab 4: SQL Queries - The Subqueries Sequel - 20 points

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Goals	To write some interesting SQL queries <b>using subqueries</b> and set operations. Please do not use joins; save them for the next assignment.
Before you begin	Check that your instance of our beloved CAP database is <b>exactly</b> the same as mine in the script on our class web site.
Instructions	<p>Use CAP to answer all of these questions. For each question, first write the SQL query yourself and validate your answer against the CAP database as shown on our web site. Then use an AI to generate the SQL and run that. Compare your answer to the results from the AI-generated query and grade the AI's output. Be certain to end each query with a semi-colon and to label each query with the question number in a comment. Remember that CAP is a snapshot in time and your queries must return the correct answer for all time. <b>Do not</b> use primary key values in the queries. E.g., you may not assume that customer "Bond" has id 007. Also, please do not use joins to answer these queries; use sub-queries instead.</p> <ol style="list-style-type: none"><li>1. Get all the People data for people who are customers.</li><li>2. Get all the People data for people who are agents.</li><li>3. Get all of People data for people who are <b>both</b> customers <b>and</b> agents.</li><li>4. Get all of People data for people who are <b>neither</b> customers <b>nor</b> agents.</li><li>5. Get the ID of customers who ordered <b>either</b> product <i>p01</i> <b>or</b> <i>p03</i> (or both). List the IDs in order from lowest to highest. Include each ID only once.</li><li>6. Get the ID of customers who ordered <b>both</b> products <i>p01</i> <b>and</b> <i>p03</i>. List the IDs in order from highest to lowest. Include each ID only once.</li><li>7. Get the first and last names of agents who sold products <i>p05</i> or <i>p07</i> in order by last name from A to Z.</li><li>8. Get the home city and birthday of agents booking an order for the customer whose pid is 007, sorted by home city from Z to A.</li><li>9. Get the unique ids of products ordered through any agent who takes at least one order from a customer in Saginaw, sorted by id from highest to lowest. (This is not the same as asking for ids of products ordered by customers in Saginaw.)</li><li>10. Get the last name and home city for all customers who place orders through agents in Regina or Pinner in order by last name from A to Z.</li></ol>
Advice	Test. A lot. Then push your work to your GitHub repository early and often. Be sure to write meaningful commit messages. I enjoy reading these.
Resources	<ul style="list-style-type: none"><li>• Chapters 6.1 - 6.4 in our text, especially 6.3 and 6.4</li><li>• SQL tag at Stack Overflow - <a href="http://stackoverflow.com/questions/tagged/sql">http://stackoverflow.com/questions/tagged/sql</a></li></ul>
Submitting	Submit your work as a text file with a <i>.sql</i> extension. Or even better, use Markdown. Push your work to your GitHub repository <b>before</b> the due date (see syllabus). Remember to include your name, the date, and the assignment in the (copious) comments in your code.