Lab 05: Joins

Objective

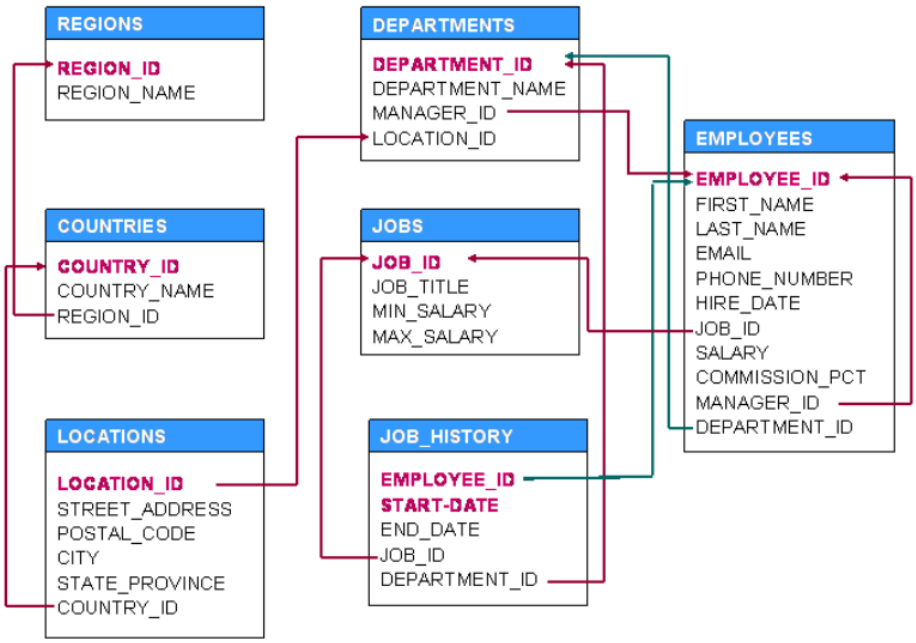
The students should be able to:

1. Understand different types of joins in SQL.
2. INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN, etc.
3. Understand the USING clause and ON clause.

Submission Requirements

Save your script file and upload it to LMS.

HR Database Schema



SQL Queries

Write and Execute SQL queries for the following information needs:

1. Find the first name, last name, department number, and department name for each employee.
    a. Use cartesian product with WHERE clause
    b. Use JOIN with USING clause
    c. Use JOIN with ON clause
    d. Use NATURAL JOIN clause
    e. Is there a difference in the output of the 4 methods above?
    f. What if the department ID was stored with different names in both tables, which of the methods will be more appropriate?
2. Find the first name, last name, department name, city, and state province for each employee.
3. Find the first name, last name, salary, and job title for all employees.
4. Output the full name, department number and department name of employees who work in Finance or Accounting department.
5. Output the full name of employees with their department name, job ID and a new column with cityname, province as “Location”. *Hint: recall string concatenation*
6. Repeat #5 but output all cities starting with letter S.
7. Output all information of employees with the full name of their respective managers.
8. Find the department name, city, state province for all departments that end with “ing”.
9. Find the full name of each employee with their department ID and department name. Your results should show the employees who do not have a department.
10. Display names of departments with no employee working in it.
11. Output the first name and last name of employee and manager. Those employees who do not have a manager should also be part of your results.
12. Output all information of the employee who is the top manager along with the department name.
13. Output the complete address information for each department. Output department name, street address, postal code, city, state_province, country name, region name.
14. Display full names of employees who are earning more than their own managers.
15. Find all employees who started a job between January 1993 and December 1995. Display the employee_name, job_title, department name and start_date.
16. Find all information of employees and their departments. Your results should also show employees that do not have a department or new departments where no employee is working yet.
17. Find the average salary for employees in different departments. Make sure to output the department name and the average salary.
18. Calculate the difference between maximum salary of a job_title and salary of each employee. Display the employee_name, job_title, salary_difference. Order your results by the salary difference in increasing order.
19. Find the number of employees for each job_title.
20. Find the number of departments in each city.