

TUTORIAL 3: MORE ON SQL QUERIES

BACKGROUND

Consider the following schema:

- position(code, title, income)
- employee(number, name, position.code position, employee.number supervisor, department.code department)
- department(code, name, location, employee.number director)
- commission(employee.number employee, date, value)
- history(employee.number employee, position.code position, start_date)

Some information and constraints about the schema:

- An employee may not have a supervisor (supervisor = NULL)
- A department may not have a director (director = NULL)
- An employee may have a supervisor from a different department
- The income value denotes the monthly income of an employee
- It is assumed that a director of a department works for that department

EXERCISE

Write SQL statements that return the following:

1. Names of all employees whose salary is between 200 and 600
2. Names of the departments and (total) number of employees who work there.
3. Names of the supervisors and the number of employees who they supervise
4. Names of the supervisors and the number of employees who they supervise and these employees must not work in Hanoi
5. Codes of the positions, names of the departments and the number of employees who are holding those positions in the respective department
6. Codes of the position, income for the position and the number of employees in each position and the employees must not work in Hanoi.
7. Names of the employees, and respective annual incomes (12 months), whose incomes are around the company's average monthly income with a maximum deviation of 100 dollars.
8. Names, income of ALL employees who work in Hanoi with highest salary
9. Names and number of supervisors who supervise the greatest number of employees together with the number of employees they supervise.
10. Names of director, the department they manage and the total number of employees in that department
11. Names of director whose department has the most number of employees together with the department name and the number of employees.
12. For each department with more than 2 employees, select name, number of the director and the number of employees in the department whose income is greater than 300.
13. For each department where the department average income is greater than the company's average income, select the employee with the lowest income in that department.

14. For each position whose income is smaller than the company's average income, select the average income of the supervisors who supervise employees in those position.