TUTORIAL 2: BASIC 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 1: BASIC QUERIES

Write SQL statements that return the following:

1. Names of the employees and names of the respective departments where they work.
2. Names of employees (pair) who work at the same department
3. Calculate income increasement (+50) for employees who have started working before 1/1/2012. Do not list repetitive records
4. Name and position of employee who have double or higher income than other.
5. Number, name and income of employees whose names start with L and has at least 3 characters
6. Union employees from DP1 and DP2 department, listing number, name and position
7. Names of the departments and names of the respective employees who are supervisors and directors of the department.
8. Names of the departments and names of the respective employees who are supervisors and directors of the department.
9. Code of the positions and names of the departments where these positions exist.

EXERCISE 2: WITH SUB QUERIES (IN, NOT IN, ANY, SOME, ALL)

10. Using EXIST, write this query: Names of the departments and names of the respective employees who are supervisors and directors of the department.
11. Numbers of the employees who are directors or supervisors (use Set Operators).
12. Codes of the positions which belonged to employees of departments located in Hanoi, and currently are positions of employees of departments whose director's name starts with the letter P. (Assume that an employee cannot change department). [*No sub queries needed here*]

13. Names, incomes, and department' names of the supervisors who do not supervised employees who work in Hanoi.
14. Name of employee with highest income
15. Names and id of employees who supervise at least one another person.
16. Names of employees whose salary is higher than all employees in department DP1
17. Names and id of employees who do not supervise anyone
18. Names of employees who supervise all employees who work in HCMC