Task List No. 3

SELECT with clauses GROUP BY and HAVING. Subselects.

In the following, display all data of the employee.

1. (a) Find the employee (or employees) with the highest salary. (b) Find the employee (or employees) with the smallest salary.
2. Find all the employees which worked longest and shortest time among all employees.
3. Find all employees from the same department as Nelson Robert ($FULL\_NAME$ = 'Nelson, Robert').
4. (a) Display the average salary of employees. (b) Find all employees, with salaries higher than the average salary.
5. Find all employees from department no. 623, whose salaries are higher than the average salary in department 623.

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   In the following, display the department number and the average salary.

6. For each department, find the average salary in the department. Order the departments according to the average salary.
7. Find all the departments, in which the average salary is higher than 100000.
8. Find all the departments, in which the average salary is higher than 100000, but take into account only the employees from USA.

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9. For each department, find the employee (or employees), whose salary is the highest one in this department.
10. For each department, find the employee (or employees), whose salary is either the highest one or the smallest one in this department.
11. Find all the departments, in which there are at least 4 employees.
12. Find all the departments which satisfy the following condition: there is at least one employee in this department with salary equals at least 100000. Use EXISTS.
13. Find all the departments which satisfy the following condition: there are more than two employees in this department with salary at most 100000. Use COUNT.
14. Find all the departments, in which there is no employee from USA.

Task List No. 4

SELECT with JOIN

1. Display a list with the following data: columns FIRST_NAME, LAST_NAME from table EMPLOYEE and column DEPARTMENT from table DEPARTMENT (join the tables using the field DEPT_NO).

2. Display a list with the following data: columns FIRST_NAME, LAST_NAME, JOB_COUNTRY from table EMPLOYEE and column DEPARTMENT from table DEPARTMENT (join the tables using the field DEPT_NO), but only for employees from USA.

3. Find all employees from the same department as Nelson Robert ($FULL\_NAME$ = 'Nelson, Robert'), but use **join** instead of subselect.

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4. Display a list of **all** departments (which are in the table DEPARTMENT). For each department, put on the list the following information: department name, the number of employees, total sum of salaries, average salary, maximum and minimum salary.

5. Display names of projects (PROJ_NAME, from table PROJECT) and for each of them, the name of its boss (FULL_NAME, from table EMPLOYEE) - join the tables using the fields EMPLOYEE.EMP_NO and PROJECT.TEAM_LEADER.

6. Solve task 5 including on the list also the projects without a boss (use outer join).

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7. For each employee display the following information: the salary of a given employee, and moreover, the average, maximum, minimum salary and the number of employees in the department of the given employee.

8. For each employee display the data: the name, salary, and compute what is the percentage share of the salary of a given employee in the cost (i.e., in the total sum of salaries) in the department of given employee.

9. From all employees choose the one with the highest percentage share counted in task 8.

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10. For each department compute the difference between its budget (BUDGET in table DEPARTMENT) and the total sum of salaries of the employees from the given department (include on the list all departments which are in table DEPARTMENT, display also their names and numbers).

11. For each department count, from how many countries are the employees in this department (include on the list only these departments, which hire at least one employee).

12. For each department count the total sum of salaries for these employees in this department which are managers (JOB_CODE in table employee is 'Mngr').

13. For each department count how many employees from this department was hired in particular years.