

Task List No. 1

SQL queries: SELECT, usage of clauses WHERE and ORDER BY. SQL expressions and operators. In the following, use the table employee.

1. Select all data of all employees.
2. Select first and last name of each employee (columns LAST_NAME, FIRST_NAME).
3. Select first and last name (FULL_NAME) and salary (SALARY) for any employee.
4. For each employee from department with number 000 (DEPT_NO), select its first name, last name and department number.
5. Select first name, last name, country (JOB_COUNTRY) for each such employee, whose country is different from USA.
6. Select first name, last name and hire date (HIRE_DATE) for each employee, who was hired after 15 January 1990.
7. Display a list of employees, whose salaries are in the range 50000 and 10000. Use the BETWEEN operator.
8. Display a list of employees, whose salaries are in the range 50000 and 10000, without using the BETWEEN operator (use SQL operators AND, OR instead).
9. Display a list of employees, who were hired between 18 January 1990 and 31 December 1992.
10. Display a list of employees having a phone number (PHONE_EXT).
11. Display a list of employees without a phone number.
12. Display in one column first, last names and jobs (JOB_CODE) of employees. Name this column as *data* (create an alias for this column).
13. For each employee, display its last name, salary and tax counted in the following way: 19 percent of salary minus 1200. Make an alias *tax* for the expression.
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14. Display a list of employees (all data) ordered with respect to salaries (in an ascending order). Display this list in a descending order.
15. Display a list of employees in an alphabetical order (with respect to their last and first names). Display this list in the reverse order.
16. Display a list of employees from department number 000, ordered by their salaries and hire dates, in a descending order.
17. Display a list of employees ordered by their phone numbers (PHONE_EXT).
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18. Select all employees from USA, hired after 1 January 1994, but exclude employees from department number 000.
19. Display a list of employees hired in department number 000, 100 or 115, but with salary at least 100000. (a) Solve the task using the operator IN. (b) Solve the task not using the operator IN.
20. Display a list of employees satisfying the reverse of the condition from task 19.
21. Display a list of employees whose last name (a) starts with the letter *N*; (b) ends with the letter *a*.
22. Display a list of employees whose job contains the sequence *NG*.

Task List No. 2

SELECT with clauses WHERE, GROUP BY and HAVING.

Usage of aggregate functions (MIN, MAX, SUM, AVG, COUNT).

Using the operator DISTINCT. SQL functions: EXTRACT, UPPER, LOWER.

In the following, use the table *employee*.

1. Count the number of employees from table *employee*.
2. Count the number of employees not having a phone (PHONE_EXT).
3. Display distinct first names of employees from table *employee*.
4. Count, how many distinct first names are recorded in this table.
5. Count, how many distinct first names starting with *R* are recorded in the table *employee*.
6. Count, from how many countries the employees are.
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7. Display the list of data (last names, salaries and country) of employees from *USA*.
8. Display the total sum and average of salaries of employees from *USA*.
9. Display the list showing the total sum of salaries in each country.
10. Display the list showing the total sum of salaries in each country. Order the list with respect to this sum (in a descending order).
11. Display the list showing the total sum of salaries and taxes in each country. The tax of a single employee is counted in the following way: 19 percent of salary minus 1200.
12. Display the list showing the total sum of salaries in each such country which satisfies the condition that there are at least two employees hired in this country.
13. Display the list showing the minimum and maximum salary in each department, but take into account only these employees, which are from *USA* and only these departments, for which the minimum salary of employees from *USA* is greater than 40000.
14. Count, how many distinct values of salaries are paid for employees in each country.
15. Find out, if there are first names which occurs at least twice in the table *employee*. If so, display a list of them (including the number of occurrences).
16. Find out, if there are employees which are hired in the same country and with the same job (JOB_CODE). If so, display a list of them.
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17. Display a list: first and last name, hire year (use function EXTRACT), month salary (SALARY divided by 12).
18. Display the data of employees hired in December (in any year).
19. Display the data of employees hired in the first day of any month in the year 1993.
20. Find out, if there are employees hired on Friday? If so, select their data.
21. For each employee display hire date, current date, how many days are between today and hire date.
22. For each employee display last name in capital letters, first name in small letters. Hint. use UPPER or LOWER.