Laboratory Work #2

Requirements and comments for the work:

1. Where it was asked to explain something with the query, you need to leave your **answer** near code in **comment** part!

2. Some **requirements** for specific tasks were written in **brackets** next to the exercise. Please, follow them! Otherwise, **not acceptable** or maximum you could obtain **half points** for the task. Depends on the difficulty of the task.

3. The exercises that weigh more points than common are highlighted in red since they are a bit more complicated. Generally, the percentage is in blue. You should cover them. The percent of provided number points was written near each task.

4. **Prepare** your **work** carefully! Do not forget to provide all **necessary comments**, **screenshots**, **questions** (if they exist) and so on. For **lazy report** design I **DECREASE** AMOUNT OF **POINTS**!

5. Prepare you **lab works** in both **sql** and **pdf** formats. Name both files with your **surname** + **name** externally as well as internally (in sql just in top, in pdf prepare title).

6. **Screenshot** content should be **legible**. There is no need to archive the document and put screenshots in the archive. Screenshots are immediately inserted into the document, like a picture.

7. Please, submit your work to the Assignment **before** the deadline!

8. If you **miss** a practice lesson for no good reason, you'll **lose** points for homework!
9. GOOD LUCK!!! 😊

To perform the following tasks, you need to supplement the EMPLOYEES table with new data: add a **department_id** column with data type **integer**. For each department that is present on employees, assign the following numeric values (include the sql parts into report too):
 AD – '10';
MK – '20';
SH – '50';
IT – '60';
SA – '80';
AC – '110'.

1. Write a query to display all the information about employees whose salaries are higher than the average salary of programmers. 3 %
2. Write a query to display the list of employees with the longest full name (don't consider spaces). 3 %
3. Write a query to display the id, full names and salary of the employees with the minimum salaries in each department. 3 %
4. Write a query to display the information of department managed by the manager with the most experience (the one who got the job first). 5 %
5. Write a query to display the average salary for the most numerous department. 3 %
6. Write a query to display in which departments the minimum salary is greater than the minimum salary in the 50th department. 3 %
7. Write a query to display the maximum average salary by department. 4 %
8. Write a query to display the department names for each employee using JOIN. 3 %
9. Write a query to display all departments in which there is no employee. 3 %
10. Write a query to display the JOB_Grade for each employee. 4 %
11. Write a query to display the department name and number of employees (including manager's data as a separate column which is named 'manager_name') in each of the department. 6 %
12. Write a query to display the full name, job title, department name of employee, and hire date for all the jobs which started on or after 1st of January, 1995 and ending with on or before 11th of Febraury, 2021 and whose GRA is A, B or C. 4 %

Create the LOCATIONS table for the following tasks. Choose the names of the cities at your discretion. The table must include at least two countries.

LOCATIONS

LOC_ID	LOC_NAME	COUNTRY_ID
1700	Kyoto	ESP
1800	Tokyo	JPN
1500	Nara	JPN
1400	Madrid	ESP
2500	Valencia	ESP

13. Write a query to display the name of the cities for each employee. 3 %
14. Write a query to display the name of the cities for each employee and show their monthly and annual mandatory pension contributions (10% of the salary) indicating the column 'montly_pension_contribution', 'annual_pension_contribution' and show also medicine contributions for the rest money (10% of the remained salary after pension contributions). 5 %
15. Write a query to display the best 3 cities where work employees of those companies whose average salaries are the greatest among others. 6 %

16. Write a query to display all the information about those employees whose salaries are higher than their manager's salaries. Also add additional column in the query indicating 'manager is a loser' for the above condition. 5 %
17. The 142nd and 144th employees work in the same department. Write a query to display only their colleagues, without a manager. 3 %
18. Write a query to display data about the company whose average salary is on the third place from the bottom (means third from the end). 5 %
19. Write a query to display all the information about the employees whose department location is <select any city from the table LOCATIONS at your discretion>. 3 %
20. Write a query to display all employees who are not managers. 3 %
21. Write a query to display the city of the employee whose ID <select ID>. 3 %
22. Write a query to display the number of subordinates for each manager. 4 %
23. Write a query to display all the information about a manager who is also a subordinate.

    4 %

Create the COUNTRIES table for the following tasks. The data for the COUNTRIES table must be consistent with the data in the LOCATIONS table.

COUNTRIES

COUNTRY_ID	COUNTRY_NAME	REGION_ID
JPN	Japan	1
ESP	Spain	2

24. Calculate and display average salary of the first 2 employees for Japan and Spain (2 from each mandatory). The first two people salary info must be from Japan and the rest from Spain. Sort employees by full name alphabetically internally (for each country separately). Finally display: The average salary is 'average_salary' of 2 employees in 'country_name'. Finally must be 2 sentences (2 rows of output) in one your query. 5 %
25. Write a query to display the country name, city, and number of those departments where at least 2 employees are working. 3 %
26. Your query. This query must include a subquery and be interesting. 5 %