**Exercises for SQL query**

**Write SQL Queries as following requirements.**

**Notes:**

* **You can write in different ways for example using subquery, join or union.**
* **You should use Training database to practice on it.**
* **The exercise should be submitted with .sql file.**

1. Create a query that displays the last name and hire date of any employee in the same department as the employee with name = Zlotkey and excluding employee Zlotkey from the result returns.

2. Create a report that displays the employee number, last name, and salary of all employees who earn more than the average salary. Sort the results in order of ascending salary.

3. Write a query that displays the employee number and last name of all employees who work in a department with any employee whose last name contains the letter “u”

4. The HR department needs a report that displays the last name, department number, and job ID of all employees whose department location ID is 1700.

5. Create a report for HR that displays the last name and salary of every employee who reports to King.

6. Create a report for HR that displays the department number, last name, and job ID for every employee in the Executive department.

7. Create query to display the employee number, last name, and salary of all the employees who earn more than the average salary and who work in a department with any employee whose last name contains a letter “u”.

8. Find the highest, lowest, sum, and average salary of all employees. Label the columns as Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number

9. Write a query that displays the last name (with the first letter in uppercase and all the other letters in lowercase) and the length of the last name for all employees whose name starts with the letters “J,” “A,” or “M.” Give each column an appropriate label. Sort the results by the employees’ last names.

10. The HR department needs a report to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary

11.The HR department needs a report with the following specifications:

* Last name and department ID of all employees from the employees table, regardless of whether or not they belong to a department
* Department ID and department name of all departments from the departments table, regardless of whether or not they have employees working in them

Write a compound query to accomplish this.

12. Produce a list of employees who joined the company later than their manager and who work in Toronto. Display the employee\_id by using the set operators.

--1.Create a query that displays the last name and hire date of any employee in the same department as the employee with name = Zlotkey and excluding employee Zlotkey from the result returns.

SELECT e1.last\_name, e1.hire\_date

FROM employees e1

inner join employees e2 on e1.department\_id = e2.department\_id

WHERE e2.last\_name = 'Zlotkey' and e1.last\_name <> 'Zlotkey'

--2.Create a report that displays the employee number, last name, and salary of all employees who earn more than the average salary. Sort the results in order of ascending salary.

SELECT employee\_id, last\_name

FROM employees

WHERE salary > (SELECT AVG(salary)

FROM employees)

ORDER BY salary;

--3.Write a query that displays the employee number and last name of all employees who work in a department with any employee whose last name contains the letter “u”

SELECT employee\_id, last\_name

FROM employees

WHERE department\_id IN (SELECT department\_id

FROM employees

WHERE last\_name like '%u%');

--4.The HR department needs a report that displays the last name, department number, and job ID of all employees whose department location ID is 1700.

SELECT last\_name, department\_id, job\_id

FROM employees

WHERE department\_id IN (SELECT department\_id

FROM departments

WHERE location\_id = 1700);

--4.The HR department needs a report that displays the last name, department number, and job ID of all employees whose department location ID is 1700.

SELECT e1.last\_name, e1.department\_id, e1.job\_id

FROM employees e1

inner join departments e2 on e1.department\_id = e2.department\_id

WHERE location\_id = 1700

SELECT e1.last\_name, e1.department\_id, e1.job\_id

FROM employees e1

inner join departments e2 on e1.department\_id = e2.department\_id

inner join locations e3 on e3.location\_id = e2.location\_id

WHERE city = 'Seattle'

--5.Create a report for HR that displays the last name and salary of every employee who reports to King.

SELECT last\_name, salary

FROM employees

WHERE manager\_id IN (SELECT employee\_id

FROM employees

WHERE last\_name = 'King');

--6.Create a report for HR that displays the department number, last name, and job ID for every employee in the Executive department.

SELECT department\_id, last\_name, job\_id

FROM employees

WHERE department\_id IN (SELECT department\_id

FROM departments

WHERE department\_name = 'Executive');

--7.Create query to display the employee number, last name, and salary of all the employees who earn more than the average salary and who work in a department with any employee whose last name contains a letter “u”.

SELECT employee\_id, last\_name, salary

FROM employees

WHERE department\_id IN (SELECT department\_id

FROM employees

WHERE last\_name like '%u%')

AND salary > (SELECT AVG(salary)FROM employees);

--8.Find the highest, lowest, sum, and average salary of all employees. Label the columns as Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number

SELECT ROUND(MAX(salary),0) "Maximum",

ROUND(MIN(salary),0) "Minimum",

ROUND(SUM(salary),0) "Sum",

ROUND(AVG(salary),0) "Average"

FROM employees;

--9. Write a query that displays the last name (with the first letter in uppercase and all the other letters in lowercase) and the length of the last name for all employees whose name starts with the letters “J,” “A,” or “M.” Give each column an appropriate label. Sort the results by the employees’ last names.

SELECT INITCAP(last\_name) "Name",

LENGTH(last\_name) "Length"

FROM employees

WHERE last\_name LIKE 'J%'

OR last\_name LIKE 'A%'

OR last\_name LIKE 'M%'

ORDER BY last\_name ;

--10.The HR department needs a report to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary

SELECT employee\_id, last\_name, salary,

salary+(salary\*15.5/100) "New Salary"

FROM employees;

--11.The HR department needs a report with the following specifications:

--Last name and department ID of all employees from the employees table, regardless of whether or not they belong to a department

--Department ID and department name of all departments from the departments table, regardless of whether or not they have employees working in them

Write a compound query to accomplish this.

SELECT last\_name, department\_id, CAST(NULL AS varchar(1))

FROM employees

UNION

SELECT CAST(NULL AS varchar(1)), department\_id, department\_name

FROM departments

ORDER BY 1;

--12.Produce a list of employees who joined the company later than their manager and who work in Toronto. Display the employee\_id by using the set operators.

SELECT e.employee\_id

FROM employees e

JOIN employees m

ON e.manager\_id = m.employee\_id

WHERE e.hire\_date > m.hire\_date

UNION

SELECT e.employee\_id

FROM employees e

JOIN departments d

ON (e.department\_id = d.department\_id)

JOIN locations l

ON (d.location\_id = l.location\_id)

WHERE LOWER(l.city) = 'Toronto'