# LAB 4

## Title: Operators in SQL

**Objective:**

- To be familiar with different operators in SQL
- To be familiar with DISTINCT, AS, aggregate functions, ORDER BY,GROUP BY AND HAVING CLAUSE, Subquery

**Theory:** (This portion is left for student)

**Problem:**

- **Create any database and in such database create a table named employee with the following columns by considering employee_id as primary key**

**employee(empoyee_id,first_name,last_name, age,address, department,postion,salary)**

create table employee(employee_id int PRIMARY KEY,first_name varchar(20),last_name varchar(20),age int,address varchar(30),department varchar(30), position varchar(30),salary decimal(10,2));

- **Now insert at least any 10 records of employee.**

| employee_id | first_name | last_name | age | address | department | position | salary |
|---|---|---|---|---|---|---|---|
| 1 | anish | sharma | 26 | kathmandu | finance | manager | 80000.25 |
| 2 | roshan | pokhrel | 28 | pokhara | sales | analyst | 60000.45 |
| 3 | aakriti | bagale | 30 | butwal | purchase | manager | 95000.52 |
| 4 | rojina | karki | 25 | pokhara | marketing | manager | 85000.55 |
| 5 | keshav | ghimire | 35 | kathmandu | purchase | analyst | 65000.35 |
| 6 | roshan | pandey | 38 | chitwan | operations | analyst | 70000.12 |
| 7 | sita | pokhrel | 23 | laltipur | marketing | analyst | 68000.85 |
| 8 | srijana | bhattrai | 29 | butwal | finance | analyst | 62000.65 |
| 9 | niraj | acharya | 40 | kathmandu | sales | manager | 90000.54 |
| 10 | nikita | Giri | 15 | pokhara | purchase | secretary | 25000.86 |

Now, Write a SQL query to perform the following operations

## Arithmetic, logical and relational operators

1. Display the first_name and last_name of employee whose deparment is finance
2. Display all the information of employee in employee table whose address is not kathmandu
3. Increment the salary of all employees by 15%
4. Decrease the salary of manager by 5%
5. Delete information of employee whose age is less than 18
6. Display the position of employee whose salary is greater than or equals to 50000
7. Display information of employee whose position is manager and address is kathmandu
8. Display information of employee whose positon is manager or address is kathmandu

9. Display information of employee who either live in pokhara or kathmandu but age is greater than 25
10. Display first_name,last_name and position of employee whose salary is in the range of 70000 to 80000
11. Display first_name,last_name and position of employee whose salary is not in the range of 70000 to 80000
12. Display the information of employee whose salary is equal to 69000,30000,35000,40000,71300,80500
13. Display information of employee whose department is (sales, purchase ) but not salary equal to (69000,71300,80500)

## Like operator with wildcard characters

14. **D**isplay information of employees whose first_name starts with letter 'a'
15. Display information of employees whose first_name starts with letter 'ro'
16. Display information of employees whose last_name ends with letter 'el'
17. Display information of employees whose first_name has exactly six characters
18. Display information of employees whose first_name starts with r and has exactly six characters
19. Display the information of employees which contains substring of first_name as 'sha'
20. Display information of employees whose second position of first_name contains letter 'o'
21. Display the information of employees whose third postion of first_name contains the letter 's'
22. Display information of employees which have first_name of at least six characters
23. **Display the information of employees whose first_name begins with a,k,m,s,r .**
24. **Display information of employees whose first_name begins with [a-s] and ends with l**
25. **Display information of employees whose first_name does not start with d but ends with h**

## DISTINCT

26. Display the different position available for employee
27. List out the unique address available for employee table
28. List out the employee who have unique first_name and address

## AS

29. Write a query to get first_name,last_name , ssf of all employees .ssf is calculated as 31% of salary
30. write a query to get the employee _id, name (first_name, last_name), location (address) from employee

## ORDER BY

31. Display the information of employees in ascending order by address

32. Display the information of employees in descending order by address

33. Display the information of employees in ascending order by address and department

## Aggregate functions

34. Count the number of employees

35. Count the number of unique first_name of employees

36. To get the number of different number of positions available for employees table

37.To get the total salaries payable to employees.

38. Find the average salary of employees

39. Find the minimum salary of employees

40. Display first_name, last_name of employees with highest salary

41. Display first_name,last_name,department,postion whose salary is less than average salary of all employees

## GROUP BY and HAVING clause

42. Find the average salary of employees in each department

43.Find the average salary of employees for each position

44.Find the department with their average salary is greater than 60000

45. Find the position of the employee in which average salary of position is greater than 60000

## Subquery

46. Display information of employee whose salary is greater than average salary of all employees

47. Display information of employee whose salary is greater than at least one employee of IT department.

48. Display information of employee whose salary is greater than that of all employees of IT department.

49. Increase the salary of employees by 10% whose salary is greater than the average salary of all employees.

50. Delete the information of employees whose salary is less than average salary of all employees.

**Discussion:** (This portion is left for student)

**Conclusion:** (This portion is left for student)

*******THE END*******