NEPAL COLLEGE OF INFORMATION TECHNOLOGY

BALKUMARI LALITPUR



(Affiliated To Pokhara University)

SUBJECT: Database Management System

LAB REPORT #3

TITLE: Data Query Language (DQL) Commands

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OBJECTIVE

To practice and Implement data query language commands.

LAB EXERCISE:

→ Creating a Database named 'lab3' and table called 'employee' with following structure :

Column Name	DataType	
eid	int	
ename	varchar(20)	
job	Varchar(20)	
country	varchar(25)	
city	varhchar(25)	
salary	int	

- = create database lab3;
- = use lab3;
- = create table employee(eid INT NOT NULL,ename VARCHAR(20) NOT NULL,job VARCHAR(20),country VARCHAR(25),city VARCHAR(25),salary INT NOT NULL);

```
MariaDB [(none)]> show databases;
| Database
| employee
  information_schema
 insurance
 mysql
 performance_schema
6 rows in set (0.013 sec)
MariaDB [(none)]> create database lab3;
Query OK, 1 row affected (0.001 sec)
MariaDB [(none)]> show databases;
| Database
  information_schema
  insurance
 lab3
 mysql
 performance_schema
7 rows in set (0.001 sec)
MariaDB [(none)]> use lab3;
Database changed
MariaDB [lab3]> create table employee(eid INT NOT NULL, ename VARCHAR(20) NOT NULL, job VARCHAR(20), country VARCHAR(25),
city VARCHAR(25), salary INT NOT NULL);
Query OK, 0 rows affected (0.016 sec)
```

- → Inserting values into 'employee' table :
 - = INSERT into employee VALUES(1,'Pradip','Manager','Nepal','Pokhara',20000),
 - (2,'John','Programmer','Germany','Munich',5000),(3,'Bishnu','Doctor','Germany','Berlin',2500),
 - (4,'Prabin','Banker','Germany','Hamburg',3400),(5,'Ujjwal','Analyst','Nepal','Makawanpur',1300),
 - (6, 'Harry', 'Engineer', 'Nepal', 'Dhampus', 200), (7, 'Sabin', 'Army', 'India', 'Delhi', 2000),
 - (8, 'Ron', 'Manager', 'UK', 'Manchester', 20000), (9, 'Binod', 'Lecturer', 'India', 'Bihar', 240),
 - (10, 'Madhav', 'Pilot', 'Finland', 'London', 20000);

MariaDB [lab3]> INSERT into employee VALUES(1,'Pradip','Manager','Nepal','Pokhara',2000),(2,'John','Programmer','Germany','Munich',5000),(3,'Bishnu','Doctor','Germany','Berlin',2500),(4,'Pra bin','Banker','Germany','Hamburg',3400),(5,'Ujiyal','Analyst','Nepal','Makawanpur',1300),(6,'Harry','Engineer','Nepal','Dhampus',200),(7,'Sabin','Army','India','Delhi',2000),(8,'Ron','Manager','UK','Manchester',20000),(9,'Binod','Lecturer','India','Bihar',240),(10,'Madhav','Pilot','Finland','London',20000);
Query OK, 10 rows affected (0.012 sec)
Records: 10 Duplicates: 0 Warnings: 0

- 1) Select all information from employee table.
 - = SELECT * FROM employee;

MariaDB [lab3]> SELECT * FROM employee;							
eid	ename	job	country	city	salary		
1 2 3 4 5 6 7 8 9	Pradip John Bishnu Prabin Ujjwal Harry Sabin Ron Binod Madhav	Manager Programmer Doctor Banker Analyst Engineer Army Manager Lecturer Pilot	Nepal Germany Germany Germany Nepal Nepal India UK India	Pokhara Munich Berlin Hamburg Makawanpur Dhampus Delhi Manchester London	20000 5000 2500 3400 1300 200 2000 240 20000		
++++++++							

- 2) Select employee name and job from employee table.
 - = SELECT ename,job FROM employee;

```
MariaDB [lab3]> SELECT ename,job FROM employee;
  ename
           job
  Pradip | Manager
           Programmer
  Bishnu
           Doctor
  Prabin
          Banker
           Analyst
  Ujjwal
           Engineer
  Harry
  Sabin
           Army
  Ron
           Manager
  Binod
           Lecturer
  Madhav
           Pilot
  rows in set (0.000 sec)
```

- 3) Display all information from employee with country 'Germany' and salary greater than 2000.
 - = SELECT * FROM employee WHERE country = 'Germany' AND salary>2000;

```
MariaDB [lab3]> SELECT * FROM employee WHERE country = 'Germany' AND salary>2000;
 eid | ename | job
                            | country | city
                                                 | salary
    2
                 Programmer | Germany
                                         Munich
                                                     5000
    3
        Bishnu
                 Doctor
                              Germany
                                         Berlin
                                                     2500
    4
        Prabin
                 Banker
                             | Germany
                                        Hamburg
                                                     3400
 rows in set (0.001 sec)
```

- 4) Display name, country, job and salary of employee with either job is 'programmer' or 'manager'.
 - = SELECT ename, country, job, salary FROM employee WHERE job

IN('Programmer','Manager');

OUTPUT:

```
MariaDB [lab3]> SELECT ename,country,job,salary FROM employee WHERE job IN('Programmer','Manager');
  ename
           country
                     job
                                   salary
  Pradip
           Nepal
                      Manager
                                    20000
                                     5000
  John
           Germany
                      Programmer
           UK
  Ron
                      Manager
                                    20000
```

- 5) Display all information from employee with country 'Germany' and city either 'Munich' or 'berlin'.
- = SELECT * FROM employee WHERE country = 'Germany' AND city IN('Munich', 'Berlin');

OUTPUT:

- 6) Display all information form employee sorted in descending order.
 - = SELECT * FROM employee ORDER BY eid DESC;

```
MariaDB [lab3] > SELECT * FROM employee ORDER BY eid DESC;
                | job
 eid
      | ename
                               country
                                          city
                                                        salary
        Madhav
                  Pilot
                                Finland
                                                         20000
   10
                                          London
        Binod
                  Lecturer
                                          Bihar
                                India
                                                           240
    8
        Ron
                  Manager
                                UK
                                          Manchester
                                                         20000
                                                          2000
        Sabin
                  Army
                                India
                                          Delhi
                  Engineer
                                                           200
                                Nepal
                                          Dhampus
        Harry
        Ujjwal
                  Analyst
                                Nepal
                                          Makawanpur
                                                          1300
    4
        Prabin
                  Banker
                                Germany
                                          Hamburg
                                                          3400
                                          Berlin
                                                          2500
        Bishnu
                  Doctor
                                Germany
    2
                  Programmer
                                                          5000
        John
                                Germany
                                          Munich
        Pradip
                  Manager
                                Nepal
                                          Pokhara
                                                         20000
10 rows in set (0.001 sec)
```

- 7) Select all employees with name starting with letter 'j'.
 - = SELECT * FROM employee WHERE ename LIKE 'j%';

- 8) Select all employees with country ending with letter 'y'.
 - = SELECT * FROM employee WHERE country LIKE '%y';

OUTPUT:

```
MariaDB [lab3]> SELECT * FROM employee WHERE country LIKE
  eid
        ename
                 job
                               country
                                          city
                                                     salary
    2
        John
                  Programmer
                               Germany
                                          Munich
                                                       5000
        Bishnu
                  Doctor
                                Germany
                                          Berlin
                                                       2500
        Prabin
                  Banker
                               Germany
                                          Hamburg
                                                       3400
```

- 9) Select all employees with country containing pattern 'e'.
 - = SELECT * FROM employee WHERE country LIKE '%e%';

OUTPUT:

```
MariaDB [lab3]> SELECT * FROM employee WHERE country LIKE '%e%';
 eid | ename
                | job
                               country | city
                                                      | salary
        Pradip
                                Nepal
                                          Pokhara
                                                         20000
    1
                 Manager
                                                          5000
        John
                  Programmer
                                Germany
                                          Munich
    3
                                                          2500
        Bishnu
                  Doctor
                                Germany
                                          Berlin
    4
        Prabin
                  Banker
                                Germany
                                          Hamburg
                                                          3400
        Ujjwal
                  Analyst
                                Nepal
                                          Makawanpur
                                                          1300
    6
                                                           200
        Harry
                  Engineer
                                Nepal
                                          Dhampus
       in set (0.001 sec)
```

- 10) Select all employees with country not containing pattern 'land'.
 - = SELECT * FROM employee WHERE country NOT LIKE '%land%';

```
MariaDB [lab3]> SELECT * FROM employee WHERE country NOT LIKE '%land%';
  eid | ename
                | job
                                country | city
                                                        salary
                                                         20000
        Pradip
                  Manager
                                Nepal
                                          Pokhara
                                                          5000
                  Programmer
        John
                                Germany
                                          Munich
        Bishnu
                  Doctor
                                Germany
                                          Berlin
                                                           2500
        Prabin
                                          Hamburg
                                                          3400
                  Banker
                                Germany
    5
        Ujjwal
                  Analyst
                                Nepal
                                          Makawanpur
                                                           1300
    6
        Harry
                  Engineer
                                Nepal
                                          Dhampus
                                                           200
                                          Delhi
        Sabin
                  Army
                                India
                                                          2000
    8
        Ron
                  Manager
                                UK
                                          Manchester
                                                         20000
                                India
    9
        Binod
                                                            240
                  Lecturer
                                          Bihar
 rows in set (0.000 sec)
```

- 11) Select all employees with city starting with any character followed by "erlin".
 - = SELECT * FROM employee WHERE city LIKE '%erlin';

- 12) Select all employees with a city starting with 'l', followed by any character, followed by 'n', followed by any character, followed by 'on'.
 - = SELECT * FROM employee WHERE city LIKE 'l_n_on';

OUTPUT:

- 13) Select all employees with a city starting with 'b', 'm' or 'd'.
- = SELECT * FROM employee WHERE city LIKE 'b%' OR city LIKE 'm%' OR city LIKE 'd%';

OUTPUT:

```
MariaDB [lab3]> SELECT * FROM employee WHERE city LIKE 'b%' OR city LIKE 'm%' OR city LIKE 'd%';
 eid
        ename
                  job
                               country |
                                          city
                                                        salary
                                                          5000
        John
                  Programmer
                               Germany
                                          Munich
        Bishnu
                                                          2500
                  Doctor
                               Germany
                                          Berlin
                                                          1300
        Ujjwal
                  Analyst
                               Nepal
                                          Makawanpur
    6
        Harry
                  Engineer
                               Nepal
                                          Dhampus
                                                           200
        Sabin
                  Army
                                India
                                          Delhi
                                                          2000
    8
        Ron
                  Manager
                               UK
                                          Manchester
                                                         20000
                               India
        Binod
                  Lecturer
                                          Bihar
                                                           240
       in set (0.000 sec)
```

- 14) Select all employees with a city starting with 'a', 'b' or 'c'.
- = SELECT * FROM employee WHERE city LIKE 'a%' OR city LIKE 'b%' OR city LIKE 'c%';

```
MariaDB [lab3]> SELECT * FROM employee WHERE city LIKE 'a%' OR city LIKE 'b%' OR city LIKE 'c%';
  eid
      | ename
                 job
                            country |
                                       city
                                                salary
        Bishnu
                 Doctor
                            Germany
                                       Berlin
                                                  2500
    9
       Binod
                                                   240
                            India
                                       Bihar
                 Lecturer
 rows in set (0.001 sec)
```

- 15) Select all employees with a city not starting with 'b', 'm' or 'd'.
- = SELECT * FROM employee WHERE city NOT LIKE 'b%' AND city NOT LIKE 'm%' AND city NOT LIKE 'd%';

```
MariaDB [lab3]> SELECT * FROM employee WHERE city NOT LIKE 'b%' AND city NOT LIKE 'm%' AND city NOT LIKE 'd%';
 eid
       ename
                 job
                           country
                                      city
                                               | salary
                                      Pokhara
                                                 20000
   1
       Pradip
                 Manager
                           Nepal
       Prabin
                 Banker
                                      Hamburg
                                                  3400
                           Germany
  10
       Madhav
                 Pilot
                           Finland
                                                 20000
                                      London
 rows in set (0.000 sec)
```

- 16) Select all employees with a city of 'Delhi' or 'Manchester' use IN operator.
 - = SELECT * FROM employee WHERE city IN('Delhi', 'Manchester');

OUTPUT:

```
MariaDB [lab3]> SELECT * FROM employee WHERE city IN('Delhi','Manchester');
 eid
                job
                          country | city
                                                  salary |
       ename
        Sabin
                           India
                                     Delhi
                                                     2000
                Army
        Ron
                                                    20000
                Manager
                          UK
                                     Manchester
2 rows in set (0.001 sec)
```

- 17) Select all employees with salary BETWEEN 20000 and 35000.
 - = SELECT * FROM employee WHERE salary BETWEEN 20000 and 35000;

OUTPUT:

```
MariaDB [lab3]>
                 SELECT * FROM employee WHERE salary BETWEEN 20000 and 35000;
                 job
                           country | city
                                                    salary
 eid
        ename
        Pradip
                 Manager
                            Nepal
                                      Pokhara
                                                     20000
   8
        Ron
                 Manager
                            UK
                                      Manchester
                                                     20000
   10
        Madhav
                 Pilot
                            Finland
                                      London
                                                     20000
 rows in set (0.000 sec)
```

- 18) Select all employees with salary BETWEEN 10000 and 40000, but employees with a ID of 1,2, or 3 should not be displayed.
- = SELECT * FROM employee WHERE salary BETWEEN 10000 and 40000 AND eid NOT IN(1,2,3);

```
MariaDB [lab3]> SELECT * FROM employee WHERE salary BETWEEN 10000 and 40000 AND eid NOT IN(1,2,3);
 eid
        ename
                 job
                           country
                                      city
                                                    salary
                                      Manchester
                                                     20000
                 Manager
   10
        Madhav
                 Pilot
                            Finland
                                      London
                                                     20000
 rows in set (0.001 sec)
```

- 19) Select all employees with city beginning with any of the letter BETWEEN 'b' and 'm'.
 - = SELECT * FROM employee WHERE city BETWEEN 'b' and 'm';

```
MariaDB [lab3]> SELECT * FROM employee WHERE city BETWEEN 'b'
                                                                  and 'm';
                 job
                                                   salary
  eid
        ename
                              country
                                        city
                                        Berlin
    3
        Bishnu
                  Doctor
                              Germany
                                                      2500
                  Banker
        Prabin
                              Germany
                                        Hamburg
                                                      3400
    4
    6
        Harry
                  Engineer
                              Nepal
                                        Dhampus
                                                       200
    7
                              India
                                        Delhi
                                                      2000
        Sabin
                  Army
                              India
    9
                  Lecturer
                                        Bihar
                                                       240
        Binod
   10
        Madhav
                  Pilot
                                        London
                                                    20000
                              Finland
  rows in set (0.001 sec)
```

- 20) Select all employees with city beginning with any of the letter NOT BETWEEN 'b' and 'm'.
 - = SELECT * FROM employee WHERE city NOT BETWEEN 'b' and 'm';

MariaDI	3 [lab3]>	SELECT * FROM	1 employee	WHERE city N	OT BETWEEN	'b' and 'm';	
eid	ename	job	country	city	salary		
1 2 5 8	Pradip John Ujjwal Ron	Manager Programmer Analyst Manager	Nepal Germany Nepal UK	Pokhara Munich Makawanpur Manchester	20000 5000 1300 20000		
++++ 4 rows in set (0.001 sec)							