Lab # 2: SQL: Data Retrieval Introduction

Subject: **Database Systems**

Course: **BESE15 B**

Date: **28th September, 10**

EXERCISE:
Execute these queries and analyze the results.

Selecting All Columns

```
SELECT * FROM dept;
```

Selecting Specific Columns

```
SELECT deptno, loc FROM dept;
```

Using Arithmetic Operators

```
SELECT ename, sal, sal + 300 FROM emp;
SELECT ename, sal, 12*sal+100 FROM emp;
SELECT ename, sal, 12*sal+100 FROM emp;
```

Defining a Null Value

```
SELECT ename, job, sal, comm  FROM emp;
SELECT ename, 12*sal*comm  FROM emp;
```

Using Column Aliases

```
SELECT ename AS name, comm FROM emp;
SELECT ename "Name", sal*12 "Annual Sal" FROM emp;
```

Concatenation Operator

```
SELECT ename||job AS "Employees" FROM emp;
SELECT ename ||' is a '||job AS "Employee Details" FROM emp;
```

Duplicate Rows

```
SELECT deptno  FROM emp;
SELECT DISTINCT deptno  FROM emp;
```

Using the WHERE Clause

```
SELECT empno, ename, job, deptno FROM emp WHERE deptno = 90 ;
SELECT ename, job, deptno FROM emp WHERE ename = 'JOHN' ;
```

Using Comparison Conditions

```
SELECT ename, sal FROM emp WHERE sal <= 3000 ;
SELECT ename, sal FROM emp WHERE sal BETWEEN 2500 AND 3500 ;
SELECT empno, ename, sal, mgr FROM emp WHERE mgr IN (100, 101, 201) ;
SELECT ename FROM emp WHERE ename LIKE 'S%' ;
SELECT ename, mgr FROM emp WHERE mgr IS NULL ;
```

AND Operator

```
SELECT empno, ename, job, sal FROM emp WHERE salary >=10000 AND job LIKE
'%MAN%' ;
SELECT empno, ename, job, sal FROM emp WHERE salary >= 10000 OR job LIKE '%MAN%'
;
```

Order By

```
SELECT ename, job, deptno, hire_date FROM emp ORDER BY hiredate ;
```

```
SELECT ename, job, deptno, hire_date FROM emp ORDER BY hiredate DESC ;
SELECT empno, ename, sal*12 annsal FROM emp ORDER BY annsal ;
SELECT ename, deptno, sal FROM emp ORDER BY deptno, sal DESC;
```

TASK:

1. Select all rows from emp/dept table.
2. Select department name and department id where the dept id is between 20 and 40 from the department table.
3. Select unique records from dept table displaying only the location and department name.
4. Select all records from dept table in which department name begins with or contains the letter ‘C’.
5. Select all records from employee table sorted by their income.
6. Select all records from employee table which have an income greater than 5000.
7. Select records from dept table ordered by dept id and salary.
8. Select all records from employee sorted by name.
9. Display bonus for all employee such that bonus is 10% of salary.
10. Select all records from employee using designation as job alias and ordered by hiredate.