**Bahria University, Lahore Campus**

Department of Computer Sciences

Lab Journal 12

**(Fall 2023)**

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| Course: | **Database Management System Lab** |  |
| Course Code: | CSL 220 | Max Marks: 40 |
| Faculty’s Name: |  | Lab Engineer: |

Name: \_AFFAN AHMAD \_\_\_\_\_\_ Enroll No: 03-134221-003\_\_\_\_\_

**Joins**

**Task 1**

1. Write a query to retrieve ename, length of enames, loc , deptno and sal by join table EMP with table DEPT where deptno is 30 and sal is greater than 800. Sort the sal in descending order

SELECT e.ename, LENGTH(e.ename) AS ename\_length, d.loc, e.deptno, e.sal

FROM emp e

JOIN dept d ON e.deptno = d.deptno

WHERE e.deptno = 30 AND e.sal > 800

ORDER BY e.sal DESC;

1. Write a query to combine all rows of table EMP and table DEPT. Sort the columns in ascending order by employee names.

SELECT e.ename, e.job, e.mgr, e.hiredate, e.sal, e.comm, e.deptno,

d.dname, d.loc

FROM emp e

FULL JOIN dept d ON e.deptno = d.deptno

ORDER BY e.ename ASC;

1. Write a query for table EMP and DEPT to retrieve enames , sal, job, deptno, loc where length of job is greater than length of loc.

SELECT e.ename, e.sal, e.job, e.deptno, d.loc

FROM emp e

JOIN dept d ON e.deptno = d.deptno

WHERE LENGTH(e.job) > LENGTH(d.loc);

1. Write a query to join table EMP with itself where mgr exists for any employee.

SELECT e1.\*, e2.\*

FROM emp e1

JOIN emp e2 ON e1.empno = e2.mgr;

**Task 2**

1. Create a query that displays ename, deptno, and all enames of those employees who work in the same department as a given employee. Give each column an appropriate Label.

SELECT e1.ename AS Employee\_Name, e1.deptno AS Employee\_Department,

e2.ename AS Colleague\_Name

FROM emp e1

JOIN emp e2 ON e1.deptno = e2.deptno

WHERE e1.ename = 'Given\_Employee\_Name';

1. Create a query that displays enames, deptno, and hiredates of all employees hired after employee MARTIN.

SELECT e1.ename, e1.deptno, e1.hiredate

FROM emp e1

JOIN emp e2 ON e1.hiredate > e2.hiredate

WHERE e2.ename = 'MARTIN';

1. Create a query that displays enames, deptno, and hiredates for all employees who were hired before their managers, along with their manager’s names and hiredates. Give the columns with appropriate labels

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SELECT e1.ename AS Employee\_Name,

e1.deptno AS Employee\_Dept,

e1.hiredate AS Employee\_HireDate,

e2.ename AS Manager\_Name,

e2.hiredate AS Manager\_HireDate

FROM emp e1

JOIN emp e2 ON e1.mgr = e2.empno

WHERE e1.hiredate < e2.hiredate;

**Task 3**

1. Write a query to display the name, department number, and department name for all employees.

SELECT e.ename AS Employee\_Name, e.deptno AS Employee\_Dept,

d.dname AS Department\_Name

FROM emp e

JOIN dept d ON e.deptno = d.deptno;

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1. Create a unique listing of all jobs that are in department 80. Include the location of the department in the output

SELECT DISTINCT e.job AS Job\_Title, d.loc AS Department\_Location

FROM emp e

JOIN dept d ON e.deptno = d.deptno

WHERE e.deptno = 80;

1. Write a query to display the name, job, department number, and department name

SELECT e.ename AS Employee\_Name, e.job AS Employee\_Job,

e.deptno AS Employee\_DeptNo, d.dname AS Department\_Name

FROM emp e

JOIN dept d ON e.deptno = d.deptno;

1. Display the employee name and employee number along with their manager’s name and manager number. Label the columns Employee, Emp#, Manager, and Mgr#, respectively.

SELECT e1.ename AS Employee, e1.empno AS Emp#,

e2.ename AS Manager, e2.empno AS Mgr#

FROM emp e1

LEFT JOIN emp e2 ON e1.mgr = e2.empno;

1. Display all employees including King, who has no manager.

SELECT e1.ename AS Employee, e1.empno AS Emp#,

e2.ename AS Manager, e2.empno AS Mgr#

FROM emp e1

LEFT JOIN emp e2 ON e1.mgr = e2.empno

WHERE e1.ename = 'King' OR e1.mgr IS NULL;

**Task 4**

1. Create a query to display the name and hire date of any employee hired after employee Davies.

SELECT e1.ename, e1.hiredate

FROM emp e1

JOIN emp e2 ON e2.ename = 'Davies'

WHERE e1.hiredate > e2.hiredate;

1. Display the names and hire dates for all employees who were hired before their managers, along with their manager’s names and hire dates

SELECT e1.ename AS Employee\_Name, e1.hiredate AS Employee\_HireDate,

e2.ename AS Manager\_Name, e2.hiredate AS Manager\_HireDate

FROM emp e1

JOIN emp e2 ON e1.mgr = e2.empno

WHERE e1.hiredate < e2.hiredate;

1. Show the structure of the JOB\_GRADES table. Create a query that displays the name, job, department name, salary, and grade for all employees.

SELECT e.ename AS Name, e.job AS Job,

d.dname AS Department\_Name, e.sal AS Salary,

jg.grade AS Grade

FROM emp e

JOIN DEPT d ON e.deptno = d.deptno

JOIN JOB\_GRADES jg ON e.sal BETWEEN jg.lowest\_sal AND jg.highest\_sal;

**Lab Grading Sheet**

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| **Task** | **Max Marks** | **Obtained Marks** | **Comments(*if any*)** |
| 1. | 10 |  |  |
| 2. | 10 |  |  |
| 3. | 10 |  |  |
| 4. | 10 |  |  |
| **Total** | **40** |  | **Signature** |

**Note : Attempt all tasks and get them checked by your Lab Instructor**