**JOINS Exercise for EMP DB**

1. List deptno, dname along with total salary in each department.
2. List details from emp, dept and salgrade table excluding clerks and employees with grade 1. Order on their names.

**SELECT E.EMPNO,E.DEPTNO,E.ENAME,E.JOB,D.DEPTNO,D.DNAME,S.GRADE FROM EMP E,DEPT D,SALGRADE S WHERE E.DEPTNO=D.DEPTNO AND NOT E.JOB='CLERK' AND S.GRADE=1 ORDER BY ENAME**

1. List employee with grade 3 or 4.

**SELECT E.EMPNO,E.ENAME,E.JOB,E.SAL,S.GRADE FROM EMP E INNER JOIN SALGRADE S ON E.SAL BETWEEN S.LOSAL AND S.HISAL WHERE S.GRADE IN (3,4)**

1. List employees located in dallas.

**SELECT E.DEPTNO,E.ENAME,D.DNAME,D.LOC FROM EMP E,DEPT D WHERE E.DEPTNO = D.DEPTNO AND D.LOC='DALLAS'**

1. List employee and department details for department 30 and 40.

**SELECT E.EMPNO,E.ENAME,D.DEPTNO,D.DNAME,D.LOC FROM EMP E,DEPT D WHERE E.DEPTNO = D.DEPTNO(+) AND D.DEPTNO IN (30,40)**

1. List all employees who earn less than their managers. List their managers details also.

**SELECT E.EMPNO,E.ENAME AS "EMPLOYEE NAME",E.SAL AS "EMPLOYEE SAL",M.ENAME AS "MANAGER NAME",M.SAL AS "MANAGER SAL" FROM EMP E JOIN EMP M ON E.MGR = M.EMPNO WHERE E.SAL<M.SAL**

1. Find all employees who joined the company before their manager.

**SELECT E.EMPNO,E.ENAME AS "EMPLOYEE NAME",E.HIREDATE AS "EMP JOIN DATE",M.ENAME AS "MANAGER NAME",M.HIREDATE AS "MGR JOIN DATE" FROM EMP E JOIN EMP M ON E.MGR = M.EMPNO WHERE E.HIREDATE<M.HIREDATE**

**JOINS Exercise for RTU DB**

1. Display RTU details along with sensor details for all RTU's

**SELECT R.RTU\_ID,R.LOCATION,R.IP\_ADDRESS,S.SENSOR\_ID,S.STATUS,S.SENSOR\_TYPE FROM RTU R JOIN SENSORS S ON R.RTU\_ID=S.RTU\_ID**

1. Display user details and sensor details controlled by each user.

**SELECT U.USER\_NAME,U.ROLE,C.USER\_ID,S.SENSOR\_ID,S.SENSOR\_TYPE,S.STATUS FROM CONTROLLER C, SENSORS S,USERS U WHERE C.SENSOR\_ID=S.SENSOR\_ID AND U.USER\_ID=C.USER\_ID**

1. Display user details and sensor details controlled by each user alongwith RTU details.

**SELECT U.USER\_NAME,U.ROLE,C.USER\_ID,S.SENSOR\_ID,S.SENSOR\_TYPE,S.STATUS,R.RTU\_ID,**

**R.LOCATION FROM CONTROLLER C, SENSORS S,USERS U,RTU R WHERE C.SENSOR\_ID=S.SENSOR\_ID AND U.USER\_ID=C.USER\_ID AND S.RTU\_ID=R.RTU\_ID**

1. List how many sensors are controlled by each user. Display user\_name and count. Sort on count.

**SELECT C.USER\_ID,U.USER\_NAME,COUNT(C.SENSOR\_ID) FROM CONTROLLER C, USERS U WHERE U.USER\_ID=C.USER\_ID GROUP BY C.USER\_ID,U.USER\_NAME ORDER BY COUNT(C.SENSOR\_ID)**

1. Display user details who are controlling sensor\_type TEMPERATURE

**SELECT C.SENSOR\_ID,U.USER\_ID,U.USER\_NAME,U.ROLE,S.SENSOR\_ID,S.SENSOR\_TYPE FROM CONTROLLER C JOIN SENSORS S ON C.SENSOR\_ID=S.SENSOR\_ID**

**JOIN USERS U ON C.USER\_ID=U.USER\_ID WHERE S.SENSOR\_TYPE='TEMPERATURE'**

1. Display user details that is controlling sensor S801 along with sensor details and location.

**SELECT C.SENSOR\_ID,U.USER\_ID,U.USER\_NAME,U.ROLE,S.SENSOR\_ID,S.SENSOR\_TYPE FROM CONTROLLER C JOIN SENSORS S ON C.SENSOR\_ID=S.SENSOR\_ID**

**JOIN USERS U ON C.USER\_ID=U.USER\_ID WHERE S.SENSOR\_ID='S801'**