# DBS Labsheet:3

First, complete any pending exercises of the last session.

// to illustrate creating tables that have circular references(FKs)
**Create the following Tables:**

1. Dept: dnum int(pk), dname vc(20), hod int (FK to eno of EMP)
2. Emp: eno int (pk), ename vc(15), sal int, dno int(FK to dnum of DEPT)

**Insert following Data into Dept table:**
<10,'HR',104>
<20,'ACCT',101>
**Insert following Data into Emp table:**
<101, ‘Kiran, 90000,20>
<104,’Mohan’, 85000,10>
<109,’John’,60000,10>
<113,’James’,79000,10>

**Let students try this.**

**We take the following approach.**
First create tables EMP and DEPT only with PK and set FKs later.

```
SQL>Create table DEPT(dnum int primary key, dname varchar(10), dloc varchar(10), hod int );
SQL>Create table EMP (eid int primary key, ename varchar(10), sal int, dno int);

SQL> alter table EMP add constraint EMP_FK foreign key (dno) references DEPT(dnum);
SQL> alter table DEPT add constraint DEPT_FK foreign key (hod) references EMP(eid);
```

**Once students understand this, they will drop EMP and DEPT tables they have created.**

**Now students will Create  the following Tables:**

**Dept**: dnum int(pk), dname vc(20),dloc vc(10)

**Emp**: eno int (pk), ename vc(15), job vc(10), mgr int(fk), hiredate date, sal int, comm int,  deptno int(FK)

// mgr is FK indicating the manager managing the emp, and refer to eno of same table

**Insert following Data into Dept table:**

```
INSERT INTO dept VALUES (10,'ACCOUNTING','NEW YORK');
INSERT INTO dept VALUES (20,'RESEARCH','DALLAS');
INSERT INTO dept VALUES (30,'SALES','CHICAGO');
INSERT INTO dept VALUES (40,'OPERATIONS','BOSTON');
```

**Insert following Data into Emp table:**

```
INSERT INTO emp VALUES (7369,'SMITH','CLERK',7902,'17-DEC-80',800,NULL,20);
INSERT INTO emp VALUES (7499,'ALLEN','SALESMAN',7698,'20-FEB-
81',1600,300,30);
INSERT INTO emp VALUES (7521,'WARD','SALESMAN',7698,'22-FEB-
81',1250,500,30);
INSERT INTO emp VALUES (7566,'JONES','MANAGER',7839,'02-APR-
81',2975,NULL,20);
INSERT INTO emp VALUES (7654,'MARTIN','SALESMAN',7698,'28-SEP-
81',1250,1400,30);
INSERT INTO emp VALUES (7698,'BLAKE','MANAGER',7839,'01-MAY-
81',2850,NULL,30);
INSERT INTO emp VALUES (7782,'CLARK','MANAGER',7839,'09-JUN-
81',2450,NULL,10);
INSERT INTO emp VALUES (7788,'SCOTT','ANALYST',7566,'19-APR-
87',3000,NULL,20);
INSERT INTO emp VALUES (7839,'KING','PRESIDENT',NULL,'17-NOV-
81',5000,NULL,10);
INSERT INTO emp VALUES (7844,'TURNER','SALESMAN',7698,'08-SEP-
81',1500,0,30);
INSERT INTO emp VALUES (7876,'ADAMS','CLERK',7788,'23-MAY-
87',1100,NULL,20);
INSERT INTO emp VALUES (7900,'JAMES','CLERK',7698,'03-DEC-81',950,NULL,30);
INSERT INTO emp VALUES (7902,'FORD','ANALYST',7566,'03-DEC-81',3000,NULL,20);
INSERT INTO emp VALUES (7934,'MILLER','CLERK',7782,'23-JAN-82',1300,NULL,10);
```

**Now do the following on the above table.**

1. *Select all detils from emp;*
2. Selecting only *eno* and e*name*.
3. Selecting all emp details who are clerks
4. Show  eno, name and sal for emp  who are managers
5. Show  eno, name and sal for emp  who are managers and belong to department=30.
6. Displaying eno, ename, hiredate of emps  joined after 01-06-1981
7. Displaying eno, ename, sal, dno of emps   in ascending order based on dno.
8. Displaying eno, ename, sal, dno of emps   in descending order based on dno.
9. Displaying eno, ename, sal, dno of emps   in ascending order based on dno, desc based on salary.
10. Display the employee names of those clerks whose salary > 2000 ?
11. Display all details of employees whose salary between 1000 and 1500 ?D
12. Display all details of employees whose dept no is 10 or 30 ?
13. Display maximum, minimum, average salary of deptno 10 employees.
14. Display total number of employees working in deptno 20.
15. Display total salary paid to clerks.

At appropriate time, explain the use of ALL, DISTINCT and ORDER BY clauses.