--- Problem 1

Create table dep\_active

( DEPARTMENT\_ID NUMBER(4,0),

DEPARTMENT\_NAME VARCHAR2(30),

MANAGER\_ID NUMBER(6,0),

LOCATION\_ID NUMBER(4,0),

AVG\_SALARY NUMBER(10,0));

Insert into dep\_Active (DEPARTMENT\_ID,DEPARTMENT\_NAME,MANAGER\_ID,LOCATION\_ID,AVG\_SALARY)

select d.DEPARTMENT\_ID,d.DEPARTMENT\_NAME,d.MANAGER\_ID,d.LOCATION\_ID, round(avg(e.Salary)) as "AVG\_SALARY"

from Departments d

join Employees e on d.Department\_Id=e.Department\_Id

group by d.DEPARTMENT\_ID,d.DEPARTMENT\_NAME,d.MANAGER\_ID,d.LOCATION\_ID;

CREATE TABLE dep\_active AS ()

--Problem 2

alter table dep\_Active add constraint dep\_Id\_pk primary key (DEPARTMENT\_ID);

alter table dep\_Active modify LOCATION\_ID not null;

alter table dep\_Active add constraint m\_Id\_fk FOREIGN KEY (MANAGER\_ID) references EMPLOYEES (EMPLOYEE\_ID);

--Problem 3

select r.Region\_name as "Region Name", round(Min(e.Salary),3) as "Minimum salary", round(Max(e.Salary),3) as "Maximum salary"

from Regions r

left join countries c on r.region\_id = c.region\_id

left join locations l on c.country\_id =l.country\_id

left join departments d on l.location\_id=d.location\_id

left join employees e on d.Department\_Id= e.Department\_Id

group by r.Region\_name;

--Problem 4

select loc.location\_Id as "Location Name", sum(empl.salary) as "Total Salary"

from employees empl

right join departments depts on depts.department\_id = empl.department\_id

right join locations loc on loc.location\_id = depts.location\_id

right join countries cou on cou.country\_id = loc.country\_id

right join regions reg on reg.region\_id = cou.region\_id

where to\_char(empl.hire\_date,'YYYY') between '1990' and '1999'

group by loc.location\_Id;

--Problem 5

select j.job\_title as "Job Title", sum(coalesce(empl.Salary,0)) as "Total Salary"

from jobs j left join employees empl on empl.job\_id = j.job\_id and to\_char(empl.hire\_date,'YYYY')

between '1990' and '1999'

group by j.job\_title;

--Problem 6

select d.department\_id as "Department ID", d.manager\_id as "Manager ID", e.last\_name as "Manager's Last Name"

from departments d

left join employees e on e.department\_id = d.department\_id

where e.department\_id in (select employees.department\_id

from employees

group by employees.department\_id

having count(employees.employee\_id) > 1)

and e.employee\_id in (select departments.manager\_id from departments)

and d.Manager\_Id is not NULL

group by d.department\_id, d.manager\_id, e.last\_name;

--- Problem 7

select empl.employee\_id, empl.email, emplself.email

from employees empl

join employees emplself on empl.manager\_id = emplself.employee\_id

where empl.job\_id <> emplself.job\_id order by empself.employee\_id desc;

-- Problem 8

select empl.last\_name as "Employee's Last Name", empl.salary as "Salary",

(select job\_grades.GRADE\_LEVEL from job\_grades where empl.salary between job\_grades.LOWEST\_SAL and job\_grades.HIGHEST\_SAL) as grade\_level

from employees empl

union

select empl.Last\_name, empl.Salary,

(select jg.GRADE\_LEVEL from job\_grades jg where empl.salary between jg.LOWEST\_SAL and jg.HIGHEST\_SAL) as grade\_level from job\_history jh

left join employees empl on empl.Employee\_Id= jh.Employee\_Id;

--Problem 9

select round(median(empl.salary))as "MedianSal", round(avg(empl.salary)) as "AvgSal", dept.department\_name, job.job\_title

from employees empl

join jobs job on job.job\_id = empl.job\_id

join departments dept on dept.department\_id = empl.department\_id

where empl.hire\_date > (select min(empl2.hire\_date) from employees empl2 where empl2.job\_id = 'ST\_CLERK')

group by dept.department\_name, job.job\_title

order by dept.department\_name, job.job\_title;

--Problem 10

select dept.department\_id as "Department ID", dept.manager\_id as "Manager ID", loc.location\_id as "Location ID"

from departments dept

join locations loc on dept.location\_id = loc.location\_id

where lower(dept.department\_name) like '%a%'

and loc.location\_id between 1500 and 1800;

--Problem 11

select empl.last\_name, reg.region\_name

from employees empl

left join departments dept on empl.department\_id = dept.department\_id

left join locations loc on loc.location\_id = loc.location\_id

left join countries cou on loc.country\_id = cou.country\_id

left join regions reg on cou.region\_id = reg.region\_id;

--Problem 12

select jobgr.grade\_level, count(empl.employee\_id) as "NoOfDeptManagers"

from departments dept

join employees empl on empl.employee\_id = dept.manager\_id

right join job\_grades jobgr on empl.salary between jobgr.lowest\_sal and jobgr.highest\_sal

group by jobgr.grade\_level

order by jobgr.grade\_level;

--Problem 13

select reg.region\_name as "Region Name",count(empl.employee\_id) as "Number of Employees"

from employees empl

left join departments dept on empl.department\_id = dept.department\_id and empl.salary > 5000

left join locations loc on dept.location\_id = loc.location\_id

left join countries cou on loc.country\_id = cou.country\_id

right join regions reg on cou.region\_id = reg.region\_id

group by reg.region\_name

order by count(empl.employee\_id) desc;

--Problem 14

select empl.employee\_id as "ManagerId", empl.salary as "ManagerSalary"

from employees empl

where empl.employee\_id in (select empl2.manager\_id

from employees empl2

group by empl2.manager\_id

having count(empl2.employee\_id) >= 1)

and empl.hire\_date < (select min(empl3.hire\_date)

from employees empl3

where empl.employee\_id = empl3.manager\_id);

--Problem 15

select e1.last\_name as "Last Name of the Employee", e1.salary as "Corresponding Employee's Salary", e2.salary - e1.salary as "Diff between Maximum Salary"

from employees e1

left join employees e2 on e1.job\_id = e2.job\_id

where e2.salary = (select max(e3.salary) from employees e3 where e3.job\_id = e1.job\_id)

and e2.salary <> e1.salary

and e1.employee\_id <> e2.employee\_id

union

select e1.last\_name, e1.salary, e1.salary

from employees e1

join employees e2 on e1.job\_id = e2.job\_id

where e1.salary = (select max(e3.salary) from employees e3 where e3.job\_id = e1.job\_id)

and e2.employee\_id = e1.employee\_id

order by 1;