Experiment 3

a) Make a list of all project numbers for projects that involve an employee whose last name is ‘Scott’, either as a worker or as a manager of the department that Controls the project.

Select distinct p.pno from Prj p, Depts d, Emp e where e.dno=d.dno and d.dno = p.dno and (e.lname = 'scott' or d.mgrssn in (select ssn from Emp where lname='scott'));

b) Show the resulting salaries if every employee working on the ‘IoT’ project is Given a 10 percent raise.

Select e.ssn , e.fname,e.lname, 1.1*e.salary as raisedsal from emp e , prj p, work w where p.pname = 'IOT' and p.pno = w.pno and e.ssn = w.ssn;

c) Find the sum of the salaries of all employees of the ‘Accounts’ department, as well as the maximum salary, the minimum salary, and the average salary in this department

Select sum(salary) as sumsal, avg(salary) as avgsal, min(salary) as minsal, max(salary) as maxsal from Emp e, Depts d where e.dno = d.dno and d.dname='Accounts';

d) Retrieve the name of each employee who works on the entire projects controlled by department number 5.

select e.fname , e.lname from Emp e where not exists ((select pno from Prj where dno='5') minus (select pno from WORK where e.ssn=ssn));

e) For each department that has more than five employees, retrieve the department number and the number of its employees who are making more than Rs. 6,00,000.

select d.dno,d.dname,e.fname,e.lname ,count(*) as noofemp from Emp e, Depts d where e.dno=d.dno and e.salary>600000 and d.dno in(select e1.dno from Emp e1 group by e1.dno having count(*)>5) group by d.dno,d.dname,e.fname,e.lname;

Experiment 4

a) Find the names of aircraft such that all pilots certified to operate them earn more than $80,000.

select Aname from AirCraft A, Employees E, Certified C where A.Aid = C.Aid and E.Eid = C.Eid and E.Salary > 80000;

b) For each pilot who is certified for more than three aircraft, find the eid and the maximum cruisingrange of the aircraft for which she or he is certified.

select E.Eid, Max(CrusingRange) from Employees E, Certified C, AirCraft A where E.Eid=C.Eid and A.Aid = C.Aid group by E.Eid having count(*) > 3;

c) For all aircraft with cruisingrange over 1000 miles, find the name of the aircraft and the average salary of all pilots certified for this aircraft.

select A.Aname ,avg(Salary) from Employees E, Certified C , Aircraft A where C.Eid = E.Eid and A.Aid = C.Aid and A.CrusingRange>1000 group by A.Aname;

d) Print the enames of pilots who can operate planes with cruising range greater than 3000 miles but are not certified on any Boeing aircraft.

(select Ename from Employees E, Certified C where C.Aid in

(select A.Aid from Aircraft A, Certified C where A.Aid not in
(select Aid from Aircraft where Aname = 'boeing' or CrusingRange=3000)
group by A.Aid
) and E.Eid = C.Eid)
Minus
(select ename from Employees E, Certified C where C.Aid in (
select A.Aid from Aircraft A, Certified C where A.Aid in
(select Aid from Aircraft where Aname = 'boeing')
group by A.Aid) and E.Eid = C.Eid);

e) Print the name and salary of every nonpilot whose salary is more than the average salary for pilots.

select Eid, Ename, Salary from Employees where salary > (select avg(salary) from Employees) and Eid not in (select Eid from Certified);

experiment 5

a) Find the names of all Juniors (level = JR) who are enrolled in a class taught by Rakesh.

Select Distinct S.Snum, S.Sname from Student S,Class C, Enrolled E,Faculty F where S.Snum = E.Snum and E.Cname = C.Cname and C.Fid = F.Fid and F.Fname = 'Rakesh' and S.Lev = 'JR' order by Snum;

b) Find the age of the oldest student who is either a history major or enrolled in a course taught by Ravi.
Select MAX(S.age) as Age from Student S where (S.Major = 'History') OR S.Snum in (Select E.Snum from Class C , Enrolled E, Faculty F where E.cname = C.cname and C.Fid = F.Fid and F.Fname = 'Ravi');

c) Find the names of all students who are enrolled in two classes that meet at the same time.
Select Distinct S.Sname from Student S where S.Snum in (Select E1.Snum from Enrolled E1,Enrolled E2, Class C1, Class C2 where E1.snum = E2.snum and E1.cname <> E2.cname and E1.cname = C1.cname and E2.cname = C2.cname and C1.meets_at = C2.meets_at);

d) For each faculty member that has taught classes only in room R128, print the faculty member's name and the total number of classes she or he has taught.

Select Distinct F.Fname , count(*) as CourseCount from CLass C , Faculty F where C.FID not in (Select Fid from Class where Room IN (Select Room from Class where Room!= 'R128')) AND C.Fid = F.Fid group by F.Fname;

e) Create a view that contains the details of students along with the name of the courses enrolled.

To be solved by students.