

Q1.

- a) select s-id, s-name
from student
where department = 'CS' and cgpa > 3.0
- b) select club.c-id, club.c-name
from club
inner join membership on club.c-id = membership.c-id
inner join student on membership.s-id = student.s-id
where student.cgpa > 2.0;
- c) select c.c-id, c.c-name, count(m.s-id) as cnt
from club c
inner join membership m on c.c-id = m.c-id
group by c.c-id, c.c-name
having count(m.s-id) > 100;
- d) with temp1 as(
select c-id, count(*) as cnt
from membership
group by c-id
) ;
temp2 as(
select max(cnt) as cnt
from temp1
)
select c.c-id, c.c-name
from temp1 t
inner join temp2 t2 on t.cnt = t2.cnt
inner join club c on t.c-id = c.c-id;

Q2)

- a) select distinct students.TCK, students.sname
from students, courses, Grades
where students.TCK = Grades.TCK
and courses.cid = grades.cid
and courses.cdept = 'CS'
and courses.credit = 4
and grades.grade > 90;
- b) select distinct students.TCK, students.sname
from students
where students.sdept = 'CS'
and students.cgpa > 3.50
and students.TCK NOT IN
(select distinct grades.TCK
from grades, courses
where grades.id = courses.id
and courses.cdept = 'EE');
- c) select distinct students.TCK, student.sname
from students
where students.sdept = 'CS'
order by students.cgpa DESC
limit 1;
- d) select distinct courses.cid, courses.cname
from courses, grades, students
where courses.cid = grades.cid
and grades.TCK = students.TCK
and courses.cdept = 'CS'
group by courses.cid
having count(distinct students.sdept) >= 5;
- e) select students.TCK, students.sname
from students
where students.TCK in
(select grades.TCK
from grades
where grades.grade = 100
group by grades.TCK
having count(distinct grades.cid) >= 5);

f) select courses.cdept, courses.cname, AVG(Grades.grade) as avg-grade
 from courses, grades
 where courses.cid = grades.cid
 group by courses.cdept = courses.cname
 order by courses.cdept ASC;

g) select courses.cdept, MAX(avg-grade) AS highest-avg-grade,
 GROUP_CONCAT(courses.cid) AS cids
 FROM (
 select courses.cid, courses.cdept, AVG(Grades.grade) as
 avg-grade
 from courses, grades
 where courses.cid = grades.cid
 group by courses.cid, courses.cdept)
 as dept_courses_avg_grades
 inner join courses on dept_courses_avg_grades.cid = courses.cid
 group by courses.cdept
 order by courses.cdept ASC;

h) select students.TCK, students.sname
 from students
 where students.cgpa > (
 select AVG(cgpa)
 from students
 where sdept = students.sdept
)

i) select s1.TCK, s1.sname, s1.sdept, s1.cgpa
 from students s1
 where s1.cgpa (<
 select max(s2.cgpa)
 from students s2
 where s2.sdept = s1.sdept
)
 order by s1.sdept ASC;

j) select distinct s1.TCK, s2.TCK
 from students s1, students s2, grades g1, grades g2
 where s1.TCK < s2.TCK
 and s1.sdept < s2.sdept
 and s1.TCK = g1.TCK
 and s2.TCK = g2.TCK
 and g1.cid = g2.cid
 group by s1.TCK, s2.TCK
 having count(*) >= 10;