
SQL> start query1.sql

SQL> select (courses.dept_code || courses.course#) as course_id,courses.title from courses where exists (select * from classes where courses.dept_code = classes.dept_code and courses.course# = classes.course# and year = 2014 and semester = 'Spring');

COURSE_ID	TITLE
CS240	data structure
CS432	database systems
CS532	database systems
Math221	calculus I

SQL> start query2.sql

SQL> select students.firstname from students where students.sid in ((select enrollments.sid from enrollments,classes where enrollments.classid = classes.classid and classes.dept_code = 'Math' and enrollments.lgrade is not null and enrollments.lgrade <>'I') intersect (select enrollments.sid from enrollments,classes where enrollments.classid = classes.classid and classes.dept_code = 'CS' and enrollments.lgrade is not null and enrollments.lgrade<>'I'));

FIRSTNAME
Anne

SQL> start query3.sql

SQL> (select dept_code, course# from Courses) minus (select dept_code,course# from Classes where year = 2013);

DEPT	COURSE#
BIOL	425

CS 240

CS 532

CS 552

Math 221

SQL> start query4.sql

SQL> select sid,firstname,gpa from students where status<>'graduate' and sid in(select enrollments.sid from enrollments where lgrade = 'A');

SID FIRSTNAME GPA

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B001 Anne 3.17

B003 Tracy 4

B007 Becky 4

SQL> start query5.sql

SQL> select firstname from students where sid not in (select sid from enrollments where lgrade = 'A') and (select count(*) from enrollments where students.sid = enrollments.sid and lgrade is not null and lgrade <>'I')>0;

FIRSTNAME

Terry

Barbara

Jack

SQL> start query6.sql

SQL> select sid,firstname from students where exists (select * from enrollments where students.sid = enrollments.sid) and not exists (select * from enrollments where students.sid=enrollments.sid and lgrade<>'A');

SID FIRSTNAME

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B003 Tracy

B006 Terry

B007 Becky

SQL> start query7.sql

SQL> select dept_code,course# from courses where (dept_code,course#) in (select dept_code,course# from classes group by dept_code,course# having count(classid)>=all (select count(*) from classes group by dept_code,course#));

DEPT COURSE#

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CS 432

Math 314

SQL> start query8.sql

SQL> select classid,courses.dept_code,courses.course#, (limit-class_size)as seats_available from courses,classes where class_size<limit and classes.dept_code = courses.dept_code and classes.course# = courses.course# and year = 2014 and semester = 'Spring';

CLASS DEPT COURSE# SEATS_AVAILABLE

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c0005 CS 240 1

c0001 CS 432 1

c0006 CS 532 1

SQL> start query9.sql

SQL> select * from students where (select count(*) from Enrollments where students.sid = enrollments.sid and lgrade is not null and lgrade <>'I')>4;

SID FIRSTNAME LASTNAME STATUS GPA EMAIL

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B001 Anne Broder junior 3.17 broder@bu.edu

SQL> start query10.sql

SQL> select * from classes where dept_code = 'CS' and semester = 'Spring' and year = 2014 and (select count(*) from enrollments where enrollments.classid = classes.classid)<3;

CLASS DEPT COURSE# SECT# YEAR SEMEST LIMIT CLASS_SIZE

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c0001 CS 432 1 2014 Spring 35 34

SQL> start query11.sql

SQL> select sid,firstname from students where not exists ((select dept_code,course# from courses where dept_code = 'CS' and course#>=400 and course#<500) minus (select classes.dept_code,classes.course# from enrollments,classes where enrollments.sid = students.sid and classes.classid = enrollments.classid and lgrade<>'I' and course#>400 and course#<500 and dept_code='CS'));

SID FIRSTNAME

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B001 Anne

B003 Tracy

B004 Barbara

SQL> start query12.sql

SQL> select title from courses where (courses.dept_code,courses.course#) in ((select classes.dept_code,classes.course# from classes,enrollments,students where enrollments.sid = students.sid and classes.classid = enrollments.classid and lgrade is not null and lgrade<>'I' and students.sid = 'B001') minus (select classes.dept_code,classes.course# from classes,enrollments,students where enrollments.sid = students.sid and classes.classid = enrollments.classid and lgrade is not null and lgrade<>'I' and students.sid = 'B002'));

TITLE

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data structure

database systems

database systems

SQL> start query12_OR.sql (It's optional as I was confused to understand terms in question)

SQL> select title from courses where course# in (select course# from classes where classid in (select classid from enrollments where sid = 'B001')) minus select title from courses where course# in (select course# from classes where classid in (select classid from enrollments where sid = 'B002'));

TITLE

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data structure

database systems

SQL> start query13.sql

SQL> select firstname from students where exists ((select dept_code, course# from courses where exists (select * from enrollments,classes where enrollments.sid = students.sid and classes.classid = enrollments.classid and courses.course# = classes.course# and courses.dept_code = classes.dept_code and lgrade is not null and lgrade<>'I')) intersect (select dept_code, course# from courses where exists (select * from enrollments,classes where classes.classid = enrollments.classid and courses.course# =

classes.course# and courses.dept_code = classes.dept_code and lgrade is not null and lgrade<>'I' and enrollments.sid = 'B005')));

FIRSTNAME

Anne

Jack

Terry

SQL> start query14.sql

SQL> select dept_code,course#,semester,year from (select dept_code,course#,semester,year,count(*)as offered from classes group by (dept_code,course#,semester,year))where offered >=2;

DEPT COURSE# SEMEST YEAR

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Math 314 Fall 2013

SQL> start query15.sql

SQL> select sid,firstname from students where exists (select sid,firstname from enrollments where (enrollments.classid,enrollments.lgrade) in (select classid,min(lgrade) as MAX from enrollments group by classid) and students.sid = enrollments.sid);

SID FIRSTNAME

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B001 Anne

B002 Terry

B003 Tracy

B004 Barbara

B006 Terry

B007 Becky

6 rows selected.

SQL> start query16.sql

SQL> select dept_code,course#,title,nvl(lgrade,'to be assigned') from courses,enrollments where exists (select * from classes where enrollments.sid = 'B003' and courses.course#=classes.course# and classes.classid = enrollments.classid and courses.dept_code = classes.dept_code);

DEPT COURSE# TITLE NVL(LGRADE,'TO

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CS 432 database systems A

CS 240 data structure to be assigned

SQL> start query17.sql

SQL> select dept_code,course#,title from courses where not exists ((select sid from students where gpa>3.25)minus(select sid from enrollments,classes where enrollments.classid = classes.classid))and title like '%systems';

DEPT COURSE# TITLE

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CS 432 database systems

CS 532 database systems

CS 552 operating systems

SQL> start query17_OR.sql (It's optional as I was confused to understand terms in question)

SQL> select dept_code,course#,title from courses where not exists ((select sid from students where gpa>3.25)minus(select sid from enrollments,classes where enrollments.classid = classes.classid and classes.course# = courses.course# and classes.dept_code = courses.dept_code))and title like '%systems';

no rows selected

SQL> start query18.sql

SQL> select sid,firstname,nvl(credits,0) as tot_no_credits from students left join (select students.sid as ssid , sum(course_credit.credits) as credits from students,enrollments,classes,course_credit where students.sid = enrollments.sid and enrollments.classid = classes.classid and lgrade is not null and lgrade<>'I' and classes.course# = course_credit.course# group by students.sid) on sid = ssid;

SID	FIRSTNAME	TOT_NO_CREDITS
B001	Anne	23
B002	Terry	4
B003	Tracy	4
B004	Barbara	8
B005	Jack	3
B006	Terry	3
B007	Becky	4
B008	Tom	0

8 rows selected.

SQL> start query19.sql

SQL> select avg(tot_no_credits) from (select students.sid as ssid,sum(course_credit.credits)as tot_no_credits from students,enrollments,classes,course_credit where students.sid = enrollments.sid and enrollments.classid = classes.classid and enrollments.lgrade is not null and enrollments.lgrade<>'I' and classes.course# = course_credit.course# group by students.sid);

AVG(TOT_NO_CREDITS)

7

SQL> start query20.sql

SQL> select students.sid, (sum(grades.ngrade)/count(grades.ngrade))as cgpa from students,grades,enrollments where students.sid = enrollments.sid(+) and enrollments.lgrade = grades.lgrade(+) group by students.sid,students.lastname order by cgpa desc;

SID CGPA

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B008

B007 4

B006 4

B003 4

B001 3.16666667

B002 3

B005 3

B004 2.5

8 rows selected.