

VARUN SAXENA (B00715343)

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cheating I will have to
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my official university
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assignment and my grade will
be reduced by one level (e.g., from A to A- or from B+ to B) for my first
offense, and that I will receive
a grade of "F" for the course for any additional offense of any kind."

SQL> start query1
SQL> select B#, (first_name||' '|| last_name) as Name from students where
gpa>3.5 and deptname='CS';

B#	NAME
B003	Tracy Wang
B007	Becky Lee
B010	Sata Patel
B011	Art Chang

SQL> start query2
SQL> COLUMN "birth date" format a10;
SQL> select s.B#, s.first_name, s.last_name, s.bdate as "birth date" from
students s where deptname='CS' and s.B# in
2 (select t.B# from tas t where t.B#=s.B#);

B#	FIRST_NAME	LAST_NAME	birth date
B005	Jack	Smith	18-OCT-91
B010	Sata	Patel	12-OCT-90
B011	Art	Chang	08-JUN-89

SQL> start query3
SQL> COLUMN "course_id" format a10;
SQL> select c.classid, c.dept_code||'-'|| c.course# as course_id, s.first_name||'
'|| s.last_name as Name, s.email
2 from
3 classes c, students s, tas t
4 where ta_level = 'PhD' and exists
5 (select c.ta_B# from classes where c.ta_B# = t.B# and t.B# = s.B# and s.B#
= c.ta_B#);

CLASS	COURSE_ID	NAME	EMAIL
c0006	CS532	Art Chang	chang@bu.edu
c0002	Math314	Tara Ramesh	ramesh@bu.edu

SQL>
SQL>
SQL> start query4
SQL>
SQL> select B#, first_name, last_name, gpa from students where B# in
2 (select B# from enrollments where classid in
3 (select classid from classes where dept_code = 'CS'))

```

4 and B# in
5 (select B# from enrollments where classid in
6 (select classid from classes where dept_code = 'Math'));

B# FIRST_NAME LAST_NAME GPA
-----
B001 Anne Broder 3.17

SQL>
SQL> start query5
SQL> select B#, first_name, last_name from students where B# in
2 (select B# from enrollments where B# not in
3 (select B# from enrollments where lgrade = 'A'));

B# FIRST_NAME LAST_NAME
-----
B002 Terry Buttler
B004 Barbara Callan
B005 Jack Smith

SQL>
SQL> start query52
SQL> select s.B#, s.first_name, s.last_name from students s where exists
2 (select e1.B# from enrollments e1 where e1.B#=s.B# and not exists
3 (select e2.B# from enrollments e2 where e2.B# = e1.B# and lgrade = 'A'));

B# FIRST_NAME LAST_NAME
-----
B002 Terry Buttler
B004 Barbara Callan
B005 Jack Smith

SQL>
SQL>
SQL> start query6
SQL> select s.B#, s.first_name, s.last_name from students s where exists
2 (select e1.B# from enrollments e1 where s.B#=e1.B# and e1.B# not in
3 (select e2.B# from enrollments e2 where e2.B# = e1.B# and lgrade in ('A-',
'B+', 'B', 'B-', 'C+', 'C', 'C-', 'D+', 'D', 'D-', 'I', 'null')));

B# FIRST_NAME LAST_NAME
-----
B007 Becky Lee
B006 Terry Zillman

SQL> start query7
SQL> select c.classid, c.dept_code, c.course#, c.limit - c.class_size as
seat_availability from classes c
2 where c.course#<500 and c.year = 2017 and c.semester = 'Spring';

CLASS DEPT COURSE# SEAT_AVAILABILITY
-----
c0005 CS 240 1
c0001 CS 432 1
c0007 Math 221 0

SQL> start query8
SQL>
SQL> select s.B#, sum(cc.credits) from students s, course_credit cc where exists
2 (select * from enrollments e where s.B# = e.B# and not exists
3 (select * from classes cl where e.classid = cl.classid and cl.course# =
cc.course#))
4 group by s.B#;
```

```
B#    SUM(CC.CREDITS)
```

B#	SUM(CC.CREDITS)
B003	26
B007	22
B002	22
B004	26
B005	23
B006	23
B001	26

7 rows selected.

```
SQL> start query9
SQL> select c.dept_code, c.course#
  2  from courses c
  3  inner join classes cls
  4  on cls.dept_code = c.dept_code and cls.course# = c.course#
  5  group by c.dept_code,c.course#
  6  having count(*) = (select count(*) from classes);
```

no rows selected

```
SQL> start query10
```

```
SQL>
SQL>
SQL> (SELECT S.B#, S.first_name, S.last_name, count(C.classid) as
NumberOFClasses
  2  FROM students S INNER JOIN enrollments E ON E.B# = S.B#
  3  INNER JOIN classes C on E.classid = C.classid
  4  GROUP BY S.B#, S.first_name, S.last_name
  5  HAVING COUNT(C.classid) > 1 );
```

B#	FIRST_NAME	LAST_NAME	NUMBEROFCLASSES
B001	Anne	Broder	6
B003	Tracy	Wang	3
B004	Barbara	Callan	2

```
SQL> start query11
```

```
SQL>
SQL> select c.classid, c.dept_code, c.course# from classes c where c.classid in
  2  (select e.classid from enrollments e where e.classid = c.classid and e.B#
in
  3  (select s.B# from Students s where s.B# = e.B# and status='junior'));
```

```
CLASS DEPT      COURSE#
```

CLASS	DEPT	COURSE#
c0001	CS	432
c0002	Math	314
c0003	Math	314
c0004	CS	432
c0005	CS	240
c0006	CS	532

6 rows selected.

```
SQL>
```

```
SQL>
```

```
SQL> start query12
```

```
SQL>
```

```
SQL> select s.B#, s.first_name, s.last_name from students s where not exists
  2  (select c.classid from classes c where c.dept_code = 'CS'and c.year = 2017
and c.semester = 'Spring'
```

```

4  (select e.classid, e.B# from enrollments e
5  where e.classid = c.classid and e.B# = s.B#));
B#    FIRST_NAME      LAST_NAME
-----
B001  Anne           Broder

SQL>
SQL> start query13
SQL>
SQL>
SQL> select distinct s.B#, s.first_name, s.last_name from students s,
enrollments e where exists
2  (
3  (select e.B#, e.classid from enrollments e
4  where e.B# = s.B# and exists
5  (select c.classid from classes c
6  where  c.dept_code <> s.deptname and e.classid = c.classid)));
B#    FIRST_NAME      LAST_NAME
-----
B001  Anne           Broder
B007  Becky          Lee
B004  Barbara         Callan
B006  Terry          Zillman

SQL>
SQL>
SQL>
SQL>
SQL>
SQL> start query14
SQL>
SQL>
SQL>
SQL> select distinct s.B#, s.first_name, s.last_name from students s where
exists
2  (select * from enrollments e1 where s.B# = e1.B# and not exists
3  (select * from enrollments e2 where s.B# = e2.B# and exists
4  (select c.classid from classes c where c.classid = e2.classid and
s.deptname <> c.dept_code)));
B#    FIRST_NAME      LAST_NAME
-----
B002  Terry          Buttler
B003  Tracy          Wang
B005  Jack           Smith

SQL>
SQL>
SQL> start query15
SQL> select c.dept_code, c.course#, c.title, nvl(e.lgrade, 'grade missing')
grade
2  from courses c
3  inner join
4  classes cls on c.dept_code = cls.dept_code and c.course# = cls.course#
5  inner join enrollments e
6  on
7  cls.classid = e.classid where
8  e.B# = 'B003';

DEPT      COURSE#  TITLE          GRADE
-----
CS        432 database systems   I

```

CS 240 data structure grade missing

```

SQL>
SQL> start query16
SQL> select c.dept_code, c.course#, c.title from courses c, classes cls
  2 where c.title like '%systems%' and c.dept_code = cls.dept_code
  3 and c.course# = cls.course# and not exists
  4 (select s.B# from students s where s.gpa <= 4.0 and s.B# not in
  5 (select e.B# from enrollments e where e.B# = s.B# and e.classid =
cls.classid);

```

no rows selected

```

SQL> start query17
SQL> select e.B#, e.classid, e.lgrade, decode(lgrade, 'A',4,'A-',
  1,'3.7','B+',3.3,'B',3,'B-',2.7,'C+',2.3,'C',2,'C-',1.7,'D',1,'I',0,null,0)
  2 "ngrade" from enrollments e where e.lgrade != 'I'
  3 order by "ngrade" DESC;

```

B#	CLASS	LG	ngrade
B001	c0001	A	4
B006	c0006	A	4
B001	c0004	A	4
B007	c0007	A	4
B003	c0004	A	4
B004	c0005	B+	3.3
B005	c0006	B	3
B001	c0005	B	3
B001	c0003	B	3
B002	c0002	B	3
B001	c0006	B-	2.7

B#	CLASS	LG	ngrade
B001	c0002	C+	2.3
B004	c0004	C	2

13 rows selected.

```

SQL> start query18
SQL> select s.B#, s.first_name, s.last_name from students s
  2 inner join
  3 enrollments e on s.B# = e.B#
  4 and
  5 e.classid in
  6 (select classid from enrollments where B# = 'B005'
  7 and s.B# = e.B#) /*correlated*/
  8 inner join
  9 classes c on e.classid = c.classid
 10 inner join courses co on co.dept_code = c.dept_code
 11 and co.course# = c.course#;

```

B#	FIRST_NAME	LAST_NAME
B001	Anne	Broder
B005	Jack	Smith
B006	Terry	Zillman

```

SQL> start query182
SQL> select s.B#, s.first_name, s.last_name from students s
  2 inner join
  3 enrollments e on s.B# = e.B# and e.classid in

```

```
5 inner join classes c on e.classid = c.classid and c.dept_code in
6 (select dept_code from courses) and c.course# in
7 (select course# from courses);
```

B#	FIRST_NAME	LAST_NAME
B001	Anne	Broder
B005	Jack	Smith
B006	Terry	Zillman

SQL>

SQL>

SQL> start query19

SQL>

SQL>

```
SQL> select avg(sumcredits) as Average_Count from
2 (
3 select e.B#, sum(credits) sumcredits
4 from enrollments e, courses c, course_credit cc, classes cls
5 where e.classid = cls.classid and c.dept_code = cls.dept_code
6 and c.course# = cls.course# and c.course# = cc.course#
7 and e.lgrade is not null group by e.B#
8 );
```

AVERAGE_COUNT
7.57142857

SQL>

SQL>

SQL> start query20

SQL>

```
SQL> select f.dept_code deptname, avg(f.sumcredits) average_total_credits from
2 (
3 select e.B#, sum(credits) sumcredits, c.dept_code
4 from enrollments e, courses c, course_credit cc, classes cls
5 where e.classid = cls.classid and c.dept_code = cls.dept_code
6 and c.course# = cls.course# and c.course# = cc.course#
7 and e.lgrade is not null group by e.B#, c.dept_code
8 )f
9 group by f.dept_code;
```

DEPT	AVERAGE_TOTAL_CREDITS
CS	7.4
Math	5.33333333

SQL>

SQL>

SQL> spool off