**Name: RIYA LOTLIKAR**

**B#: B00765423**

**“I have done this assignment completely on my own. I have not copied it, nor have I given my solution to anyone else. I understand that if I am involved in plagiarism or cheating I will have to sign an official form that I have cheated and that this form will be stored in my official university record. I also understand that I will receive a grade of 0 for the involved 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.” No other changes to the file are permitted**

**Sign:**

**SQL> set linesize 300**

**SQL> set pagesize 300**

**SQL> set wrap off**

**SQL> start query1**

**SQL> select B#, (first\_name|| ' ' ||last\_name) as full\_name**

**2 from students**

**3 where deptname='CS' and gpa>3.5;**

**B# FULL\_NAME**

**---- -------------------------------**

**B003 Tracy Wang**

**B007 Becky Lee**

**B010 Sata Patel**

**B011 Art Chang**

**SQL> start query2**

**SQL> column bdate heading "birth date" format a10**

**SQL> select students.B#,students.first\_name,students.last\_name,students.bdate**

**2 from students,tas**

**3 where deptname='CS' and students.B#=tas.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> select classes.classid,(classes.dept\_code||' '||classes.course#)**

**2 as course\_id,(students.first\_name||' '||students.last\_name) as**

**3 name,students.email**

**4 from students, classes**

**5 where students.status='PhD' and students.B#=classes.ta\_B#;**

**CLASS COURSE\_ID NAME EMAIL**

**----- --------------------------------------------- ------------------------------- --------------------**

**c0006 CS 532 Art Chang chang@bu.edu**

**c0002 Math 314 Tara Ramesh ramesh@bu.edu**

**SQL> start query4**

**SQL> select s.B# ,s.first\_name ,s.last\_name,s.gpa**

**2 from students s**

**3 where s.B# IN**

**4 (select e.B# from enrollments e,classes c**

**5 where e.classid=c.classid and c.dept\_code='CS' and e.B# IN**

**6 (select e.B# from enrollments e,classes c**

**7 where e.classid=c.classid and c.dept\_code='Math'));**

**B# FIRST\_NAME LAST\_NAME GPA**

**---- --------------- --------------- ----------**

**B001 Anne Broder 3.17**

**SQL> start query5c**

**SQL> select students.B#,students.first\_name,students.last\_name**

**2 from students**

**3 where exists ( select enrollments.B# from enrollments**

**4 where enrollments.B#=students.B# minus**

**5 (select enrollments.B# from enrollments where**

**6 enrollments.lgrade= 'A' ));**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B002 Terry Buttler**

**B004 Barbara Callan**

**B005 Jack Smith**

**SQL> start query5u**

**SQL> select students.B#,students.first\_name,students.last\_name**

**2 from students**

**3 where students.B# not in (select enrollments.B# from enrollments**

**4 where enrollments.lgrade='A') and students.B# in**

**5 ( select e.B# from enrollments e,students s where**

**6 e.B#=s.B#);**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B004 Barbara Callan**

**B002 Terry Buttler**

**B005 Jack Smith**

**SQL> start query6**

**SQL> select students.B#,students.first\_name ,students.last\_name**

**2 from students**

**3 where exists ( select enrollments.B# from enrollments**

**4 where enrollments.B#=students.B# minus (select**

**5 enrollments.B# from enrollments where enrollments.lgrade!='A'));**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B006 Terry Zillman**

**B007 Becky Lee**

**SQL> start query7**

**SQL> select classes.classid,classes.dept\_code,classes.course#,(classes.limit**

**2 - classes.class\_size) as seats\_availabe**

**3 from classes**

**4 where classes.course#<'500' and classes.year='2017' and**

**5 classes.semester='Spring';**

**CLASS DEPT COURSE# SEATS\_AVAILABE**

**----- ---- ---------- --------------**

**c0005 CS 240 1**

**c0001 CS 432 1**

**c0007 Math 221 0**

**SQL> start query8**

**SQL> select enrollments.B#,sum(course\_credit.credits) as total\_credits**

**2 from students,classes,course\_credit,enrollments**

**3 where students.B#=enrollments.B# and**

**4 classes.course#=course\_credit.course# and**

**5 enrollments.classid=classes.classid**

**6 group by enrollments.B#;**

**B# TOTAL\_CREDITS**

**---- -------------**

**B003 12**

**B007 4**

**B002 4**

**B004 8**

**B005 3**

**B006 3**

**B001 23**

**7 rows selected.**

**SQL> start query9**

**SQL> select classes.dept\_code,classes.course#**

**2 from classes**

**3 group by classes.course#,classes.dept\_code**

**4 having sum(class\_size)=(select max(sum(class\_size))**

**5 from classes group by classes.course#);**

**DEPT COURSE#**

**---- ----------**

**CS 432**

**SQL> start query10**

**SQL> select students.B#,students.first\_name,students.last\_name, count(\*) as**

**2 count**

**3 from students,enrollments**

**4 where students.B#=enrollments.b#**

**5 group by students.B#,students.first\_name,students.last\_name having**

**6 count(\*)>=2;**

**B# FIRST\_NAME LAST\_NAME COUNT**

**---- --------------- --------------- ----------**

**B001 Anne Broder 6**

**B003 Tracy Wang 3**

**B004 Barbara Callan 2**

**SQL> start query11**

**SQL> select distinct classes.classid,classes.dept\_code,classes.course#**

**2 from students,classes,enrollments**

**3 where classes.classid=enrollments.classid and enrollments.B#=students.B#**

**4 and students.status='junior';**

**CLASS DEPT COURSE#**

**----- ---- ----------**

**c0003 Math 314**

**c0001 CS 432**

**c0002 Math 314**

**c0004 CS 432**

**c0006 CS 532**

**c0005 CS 240**

**6 rows selected.**

**SQL> start query12**

**SQL> select students.B#,students.first\_name,students.last\_name**

**2 from students where not exists**

**3 (select \* from classes**

**4 where classes.dept\_code='CS' and classes.year='2017' and**

**5 classes.semester='Spring'**

**6 and not exists (select \* from enrollments where**

**7 students.B#=enrollments.B# and classes.classid=enrollments.classid));**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B001 Anne Broder**

**SQL> start query13**

**SQL> select students.B#,students.first\_name,students.last\_name from students**

**2 where exists(select enrollments.B# from enrollments**

**3 where enrollments.B#=students.B# and exists**

**4 (select classes.dept\_code from classes**

**5 where classes.classid=enrollments.classid and**

**6 students.deptname!=classes.dept\_code));**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B001 Anne Broder**

**B004 Barbara Callan**

**B006 Terry Zillman**

**B007 Becky Lee**

**SQL> start query14**

**SQL> select students.B#,students.first\_name,students.last\_name from students**

**2 where students.B# not in**

**3 (select students.B# from classes,students,enrollments**

**4 where students.B#=enrollments.B# and classes.classid=enrollments.classid**

**5 and students.deptname!=classes.dept\_code) and students.B# in**

**6 (select students.B# FROM students,enrollments**

**7 WHERE students.B#=enrollments.B#);**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B002 Terry Buttler**

**B003 Tracy Wang**

**B005 Jack Smith**

**SQL> start query15**

**SQL> select classes.dept\_code,classes.course#,courses.title,(case when**

**2 enrollments.lgrade is null then 'grade missing' else enrollments.lgrade**

**3 end) as lgrade**

**4 from classes,courses,students,enrollments**

**5 where students.B#=enrollments.B# and enrollments.classid=classes.classid**

**6 and classes.course#=courses.course# and students.B#='B003';**

**DEPT COURSE# TITLE LGRADE**

**---- ---------- -------------------- -------------**

**CS 432 database systems I**

**CS 432 database systems A**

**CS 240 data structure grade missing**

**SQL> start query16**

**SQL> select distinct courses.dept\_code,courses.course#,courses.title**

**2 from courses,students,enrollments,classes**

**3 where students.B#=enrollments.B# and enrollments.classid=classes.classid and students.gpa='4.0' and classes.course#=courses.course# and**

**4 courses.title like '%systems%';**

**DEPT COURSE# TITLE**

**---- ---------- -------------------- CS 432 database systems**

**CS 532 database systems**

**SQL> start query17**

**SQL> column lgrade heading "lgrade" format a10**

**SQL> select B#,classid,**

**2 (case when lgrade='A' then '4.0'**

**3 when lgrade='A-' then '3.7'**

**4 when lgrade='B+' then '3.3'**

**5 when lgrade='B' then '3.0'**

**6 when lgrade='B-' then '2.7'**

**7 when lgrade='C+' then '2.3'**

**8 when lgrade='C' then '2.0'**

**9 when lgrade='C-' then '1.7'**

**10 when lgrade='D' then '1.0'**

**11 end ) as lgrade**

**12 from enrollments**

**13 where lgrade in ('A','A-','B+','B','B-','C+','C','C-','D')**

**14 order by lgrade DESC;**

**B# CLASS lgrade**

**---- ----- ----------**

**B006 c0006 4.0**

**B001 c0004 4.0**

**B007 c0007 4.0**

**B001 c0001 4.0**

**B003 c0004 4.0**

**B004 c0005 3.3**

**B001 c0005 3.0**

**B005 c0006 3.0**

**B001 c0003 3.0**

**B002 c0002 3.0**

**B001 c0006 2.7**

**B001 c0002 2.3**

**B004 c0004 2.0**

**13 rows selected.**

**SQL> start query18u**

**SQL> select students.B#,students.first\_name,students.last\_name**

**2 from students,enrollments,classes**

**3 where enrollments.B#=students.B# and enrollments.classid=classes.classid**

**4 and classes.course# IN**

**5 (select classes.course# from classes,enrollments,students**

**6 where enrollments.classid=classes.classid and enrollments.B#='B005');**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B001 Anne Broder**

**B005 Jack Smith**

**B006 Terry Zillman**

**SQL> start query18c**

**SQL> select students.B#,students.first\_name,students.last\_name**

**2 from students,enrollments,classes**

**3 where enrollments.B#=students.B# and enrollments.classid=classes.classid**

**4 and classes.course# IN**

**5 (select classes.course# from classes,enrollments**

**6 where enrollments.classid=classes.classid and enrollments.B#='B005');**

**B# FIRST\_NAME LAST\_NAME**

**---- --------------- ---------------**

**B006 Terry Zillman**

**B005 Jack Smith**

**B001 Anne Broder**

**SQL> start query19**

**SQL> select avg(sum(course\_credit.credits)) as total\_credits**

**2 from students,classes,enrollments,course\_credit**

**3 where students.B#=enrollments.B# and enrollments.classid=classes.classid**

**4 and classes.course#=course\_credit.course# and enrollments.lgrade not in**

**5 ('null')**

**6 group by students.B#;**

**TOTAL\_CREDITS**

**-------------**

**7.57142857**

**SQL> start query20**

**SQL> select avg(t.sum) as average\_total\_credits,t.dept\_code**

**2 from (**

**3 select enrollments.B#,sum(course\_credit.credits) as**

**4 sum,courses.dept\_code**

**5 from courses,enrollments,classes,course\_credit**

**6 where enrollments.classid=classes.classid and**

**7 courses.course#=course\_credit.course# and**

**8 classes.course#=courses.course#**

**9 and enrollments.lgrade not in ('null')**

**10 group by enrollments.B#,courses.dept\_code)t**

**11 group by t.dept\_code;**

**AVERAGE\_TOTAL\_CREDITS DEPT**

**--------------------- ----**

**7.4 CS**

**5.33333333 Math**

**SQL> spool off**