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DATABASE MANAGEMENT SYSTEM

LAB-6

1. Find the id and title of all courses which do not require any prerequisites.

```
varsha_university=# select course.course_id,title
varsha_university-# from course
varsha_university-# where course.course_id not in(
varsha_university(# select prereq.course_id
varsha_university(# from prereq);
 course_id |          title
-----------+--------------------------
 BIO-101   | Intro. to Biology
 CS-101    | Intro. to Computer Science
 FIN-201   | Investment Banking
 HIS-351   | World History
 MU-199    | Music Video Production
 PHY-101   | Physical Principles
(6 rows)
```

2. Find the names of students who have not taken any biology dept courses

```
varsha_university=# select distinct name
from student,takes,course,department
where student.id=takes.id and
takes.course_id=course.course_id
and course.dept_name=department.dept_name
and department.dept_name!='Biology';
  name
--------
 Anusha
 Tanaka
 Swati
 Kanaka
 soumya
(5 rows)
```

3. Give a 10% hike to all instructors

```
varsha_university=# update instructor
set salary=salary+salary*0.10;
UPDATE 12
varsha_university=# select * from instructor;
  id   |   name    | dept_name  |  salary
-------+-----------+------------+----------
 10101 | Ramanujan | Comp. Sci. |  71500.00
 12121 | Wu        | Finance    |  99000.00
 15151 | Mozart    | Music      |  44000.00
 22222 | Einstein  | Physics    | 104500.00
 32343 | El Said   | History    |  66000.00
 33456 | Gold      | Physics    |  95700.00
 45565 | Katz      | Comp. Sci. |  82500.00
 58383 | Califieri | History    |  68200.00
 76543 | Singh     | Finance    |  88000.00
 76766 | Crick     | Biology    |  79200.00
 83821 | Brandi    | Comp. Sci. | 101200.00
 98345 | Kim       | Elec. Eng. |  88000.00
(12 rows)
```

4. Increase the tot_creds of all students who have taken the course titled "Image Processing" by the number of credits associated with that course.

```
varsha_university=# update student
set tot_cred=tot_cred+course.credits
from course
where student.id in(
select takes.id from takes
where takes.course_id in(
select course.course_id
from course
where title='Image Processing'));
UPDATE 2
varsha_university=# select * from student;
  id   |   name    | dept_name  | tot_cred
-------+-----------+------------+----------
 00306 | soumya    | Elec. Eng. |       24
 00339 | varsha    | Biology    |       22
 00056 | Poojitha  | Biology    |       20
 00412 | Swati     | Comp. Sci. |       24
 00345 | Shreya    | Comp. Sci. |      120
 00525 | Tanaka    | Comp. Sci. |       90
 00300 | Sinchana  | Physics    |       50
 00420 | Gayatri   | Music      |       20
 00258 | Kavya     | History    |       44
 00347 | Mishti    | Finance    |       84
 00410 | Kanaka    | Elec. Eng. |      154
 00314 | Anusha    | Comp. Sci. |       84
(12 rows)
```

5. For all instructors who are advisors of at least 2 students, increase theirsalary by 5000

BEFORE

```
varsha_university=# select name,salary from instructor;
   name      |   salary
-----------+-----------
 Ramanujan |   71500.00
 Wu        |   99000.00
 Mozart    |   44000.00
 Einstein  |  104500.00
 El Said   |   66000.00
 Gold      |   95700.00
 Katz      |   82500.00
 Califieri |   68200.00
 Singh     |   88000.00
 Crick     |   79200.00
 Brandi    |  101200.00
 Kim       |   88000.00
(12 rows)
```

AFTER

```
varsha_university=# update instructor
varsha_university-# set salary=salary+5000
varsha_university-# where instructor.id in(
varsha_university(# select instructor.id
varsha_university(# from instructor,advisor,student
varsha_university(# where instructor.id=advisor.i_Id and advisor.s_Id=student.id
varsha_university(# group by instructor.id having count(student.id)>=2);
UPDATE 2
varsha_university=# select name,salary from instructor;
   name      |   salary
-----------+-----------
 Wu        |   99000.00
 Mozart    |   44000.00
 El Said   |   66000.00
 Gold      |   95700.00
 Katz      |   82500.00
 Califieri |   68200.00
 Singh     |   88000.00
 Crick     |   79200.00
 Brandi    |  101200.00
 Kim       |   88000.00
 Ramanujan |   76500.00
 Einstein  |  109500.00
(12 rows)
```

6. Set the credits to 2 for all courses which have less than 5 students taking them (across all sections for the course, across all years/semesters)

BEFORE

```
varsha_university=# select course_id,title,credits from course;
 course_id |             title             | credits
-----------+-------------------------------+---------
 BIO-101   | Intro. to Biology             |       4
 BIO-301   | Genetics                      |       4
 BIO-399   | Computational Biology         |       3
 CS-101    | Intro. to Computer Science    |       4
 CS-190    | Game Design                   |       4
 CS-315    | Robotics                      |       3
 CS-319    | Image Processing              |       3
 CS-347    | Database System Concepts      |       3
 EE-181    | Intro. to Digital Systems     |       3
 FIN-201   | Investment Banking            |       3
 HIS-351   | World History                 |       3
 MU-199    | Music Video Production         |       3
 PHY-101   | Physical Principles           |       4
(13 rows)
```

AFTER

```
varsha_university=# update course
varsha_university-# set credits=2
varsha_university-# where course.course_id in(
varsha_university(# select takes.course_id
varsha_university(# from takes
varsha_university(# where takes.id in(
varsha_university(# select student.id from student
varsha_university(# group by student.id having count(student.id)<5));
UPDATE 6
varsha_university=# select course_id,title,credits from course;
 course_id |             title             | credits
-----------+-------------------------------+---------
 BIO-399   | Computational Biology         |       3
 CS-315    | Robotics                      |       3
 CS-347    | Database System Concepts      |       3
 FIN-201   | Investment Banking            |       3
 HIS-351   | World History                 |       3
 MU-199    | Music Video Production         |       3
 PHY-101   | Physical Principles           |       4
 BIO-101   | Intro. to Biology             |       2
 BIO-301   | Genetics                      |       2
 CS-101    | Intro. to Computer Science    |       2
 CS-190    | Game Design                   |       2
 CS-319    | Image Processing              |       2
 EE-181    | Intro. to Digital Systems     |       2
(13 rows)
```