CS3120 Database Management Systems Laboratory
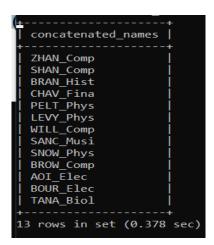
Assignment – 4

Due Date – 10/03/2021 11:59 pm

Instructions:

1. Take proper screenshots of terminal after execution of each command and paste it below the command given in assignment
2. Submit the .pdf file on Moodle
3. Submit it in the naming format **<rollnumber_assignment4.pdf>**. Follow the naming format as given, otherwise marks will be deducted.
4. Deadline for late submission(with penalty) : 11/03/2021 11:59 pm

Assignment:

Write the following queries in SQL, using the university schema.

1. Display the department name whose average salary in the year 2010 is greater than 50000.
2. (a) Insert a record in the table 'Student' with the following values
     - ID = 'last 4 digits of your institute roll number'
     - Name = 'Your first name'
     - Dept_name = 'Comp. Sci.'
     - Total_credits = 12

   (b) Show students between your credit and topper or least scorer's credit (whichever is farthest) arranged in descending order.

   (c) Delete the record.

3. Display the total salary of all the advisors whose name starts with the letter K.
4. Show output as below using string queries :

5. Show output on cross joined section and course table having (ta,at,ka) in building names,CS having course_id of section table and having department from 'Comp. sci.'

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+-----------+--------+----------+------+----------+-------------+-------------+-----------+----------------------------+------------+---------+
| course_id | sec_id | semester | year | building | room_number | time_slot_id | course_id | title                      | dept_name  | credits |
+-----------+--------+----------+------+----------+-------------+-------------+-----------+----------------------------+------------+---------+
| CS-101    | 1      | Fall     | 2009 | Packard  | 101         | H           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-101    | 1      | Fall     | 2009 | Packard  | 101         | H           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-101    | 1      | Fall     | 2009 | Packard  | 101         | H           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-101    | 1      | Fall     | 2009 | Packard  | 101         | H           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-101    | 1      | Fall     | 2009 | Packard  | 101         | H           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-101    | 1      | Spring   | 2010 | Packard  | 101         | F           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-101    | 1      | Spring   | 2010 | Packard  | 101         | F           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-101    | 1      | Spring   | 2010 | Packard  | 101         | F           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-101    | 1      | Spring   | 2010 | Packard  | 101         | F           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-101    | 1      | Spring   | 2010 | Packard  | 101         | F           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-190    | 1      | Spring   | 2009 | Taylor   | 3128        | E           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-190    | 1      | Spring   | 2009 | Taylor   | 3128        | E           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-190    | 1      | Spring   | 2009 | Taylor   | 3128        | E           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-190    | 1      | Spring   | 2009 | Taylor   | 3128        | E           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-190    | 1      | Spring   | 2009 | Taylor   | 3128        | E           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-190    | 2      | Spring   | 2009 | Taylor   | 3128        | A           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-190    | 2      | Spring   | 2009 | Taylor   | 3128        | A           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-190    | 2      | Spring   | 2009 | Taylor   | 3128        | A           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-190    | 2      | Spring   | 2009 | Taylor   | 3128        | A           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-190    | 2      | Spring   | 2009 | Taylor   | 3128        | A           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-315    | 1      | Spring   | 2010 | Watson   | 120         | D           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-315    | 1      | Spring   | 2010 | Watson   | 120         | D           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-315    | 1      | Spring   | 2010 | Watson   | 120         | D           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-315    | 1      | Spring   | 2010 | Watson   | 120         | D           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-315    | 1      | Spring   | 2010 | Watson   | 120         | D           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-319    | 1      | Spring   | 2010 | Watson   | 100         | B           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-319    | 1      | Spring   | 2010 | Watson   | 100         | B           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-319    | 1      | Spring   | 2010 | Watson   | 100         | B           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-319    | 1      | Spring   | 2010 | Watson   | 100         | B           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-319    | 1      | Spring   | 2010 | Watson   | 100         | B           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-319    | 2      | Spring   | 2010 | Taylor   | 3128        | C           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-319    | 2      | Spring   | 2010 | Taylor   | 3128        | C           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-319    | 2      | Spring   | 2010 | Taylor   | 3128        | C           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-319    | 2      | Spring   | 2010 | Taylor   | 3128        | C           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-319    | 2      | Spring   | 2010 | Taylor   | 3128        | C           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
| CS-347    | 1      | Fall     | 2009 | Taylor   | 3128        | A           | CS-101    | Intro. to Computer Science | Comp. Sci. |       4 |
| CS-347    | 1      | Fall     | 2009 | Taylor   | 3128        | A           | CS-190    | Game Design                | Comp. Sci. |       4 |
| CS-347    | 1      | Fall     | 2009 | Taylor   | 3128        | A           | CS-315    | Robotics                   | Comp. Sci. |       3 |
| CS-347    | 1      | Fall     | 2009 | Taylor   | 3128        | A           | CS-319    | Image Processing           | Comp. Sci. |       3 |
| CS-347    | 1      | Fall     | 2009 | Taylor   | 3128        | A           | CS-347    | Database System Concepts   | Comp. Sci. |       3 |
+-----------+--------+----------+------+----------+-------------+-------------+-----------+----------------------------+------------+---------+
40 rows in set (0.133 sec)
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6. Show name and salary of instructors in finance and biology in descending order of their salary.
7. Show all the instructors with salary = Null and instructors with salary = NOT NULL. (HINT: first set salary of 3-4 instructors as NULL).
8. Show name, three times repeated name from student table:

      Eg. *zhang. Zhangzhangzhang*

9. Show name, length of name and grades of students with grades equal 'A','B','A-' .
10. Show courses where course name has 'comp' in it.