Assignment 2: SQL (Spring 2019)

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Name: _____ Student ID: _____ Grade: _____

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
Score																

Notes

- **Print the assignment on A4 paper and answer the questions.**
- **Assignment due date: March 20, 2019.**

Questions

Write the following queries in SQL, using the university schema described in the attached file "university.pdf". We require you actually run these queries on a database, using the sample data that we provide on the Web site of the book, https://www.db-book.com. Instructions for setting up a database, and loading sample data, are provided on the above Web site.

1. (3 points) Find the titles of courses in the Comp. Sci. department that have 3 credits.
2. (3 points) Find the IDs of all students who were taught by an instructor named Einstein; make sure there are no duplicates in the result.
3. (3 points) Find the highest salary of any instructor.
4. (3 points) Find the IDs of all instructors earning the highest salary (there may be more than one with the same salary).
5. (3 points) Find the enrollment of each section that was offered in Autumn 2009.
6. (3 points) Find the maximum enrollment, across all sections, in Autumn 2009.
7. (3 points) Find the IDs and names of all students who have not taken any course offering before Spring 2009.
8. (3 points) Display a list of all instructors, showing their ID, name, and the number of sections that they have taught. Make sure to show the number of sections as 0 for instructors who have not taught any section. Your query should use an outerjoin, and should not use scalar subqueries.
9. (3 points) Display the list of all course sections offered in Spring 2010, along with the names of the instructors teaching the section. If a section has more than one instructor, it should appear as many times in the result as it has instructors. If it does not have any instructor, it should still appear in the result with the instructor name set to "—".
10. (3 points) Display the list of all departments, with the total number of instructors in each department, without using scalar subqueries. Make sure to correctly handle departments with no instructors.

Write the following inserts, deletes or updates in SQL, using the university schema.

11. (2 points) Create a new course "CS-001", titled "Weekly Seminar", with 0 credits, and create a section of this course in Autumn 2009, with `sec_id` of 1.

12. (2 points) Enroll every student in the Comp. Sci. department in the above section.

13. (2 points) Delete enrollments in the above section where the student's name is Chavez.

14. (2 points) Delete the course CS-001. What will happen if you run this delete statement without first deleting offerings (sections) of this course.

15. (2 points) Increase the salary of each instructor in the Comp. Sci. department by 10%.

Answers