CS1555 Recitation 5 - Class

Objective: To practice relational algebra, especially aggregations, joins, and division.

Consider the following relation schemas:

Student (<u>SID</u>, Name, Class, Major)
Student_Dir (<u>ID</u>, Address, Phone)
    FK: (ID) → Student (SID)
Courses_taken (<u>Course_No, Term, SID</u>, Grade)
    FK: (Course_No) → Course (Course_No); (SID) → Student (SID)
Course (<u>Course_No</u>, Course_Name, Level)
Instructor (<u>ID</u>, Fname, Lname)
Courses_offered (<u>Course_No, Term, InstructorID</u>)
    FK: (Course_No) → Course (Course_No); (InstructorID) → Instructor (ID)

---

1. Find the SID(s) of the student(s) who has/have the highest GPA

2. Find the SID(s) of the student(s) who has/have taken all courses at the UGrad level.

3. Find for each instructor, the course names of the courses he/she was teaching in Fall 19. List in addition to the course name, the first name and the last names of the instructor.

4. Find for each instructor the number of courses he/she has taught or is teaching. List the first name and the last name of each instructor along with his/her ID and number of courses.