ITCS 241 Database Management Systems
SQL Class Assignment 4

Preparation before the SQL Class Assignment Exercise
We will use an untouched `tinycollege` database for this exercise. Hence before you do the exercise, please drop (delete) the current version of `tinycollege` database you used in the previous class, and create a brand new `tinycollege` database from the following SQL script [Link]. **Or** you can create a copy of the `tinycollege` database, i.e., `tinycollege2`, for these practices :).

Use the non-modified "`tinycollege`" database for the following questions. For each query below, write the DQL (`SELECT`) commands and save all commands in the the SQL file for submission: "**`sql4_sY_xx88xxx`**" where **`Y`** is your section and **`xx88xxx`** is your MU student ID

1. Display class code, course name, professor's first name, professor's last name and number of students in each class of the class section 3
   Expected 5 attributes, 5 rows as shown in the following output table

class_code	course_name	emp_fname	emp_lname	num_stu
10014	Accounting I	Robert	Smith	3
15022	Intro. to Biology	George	Smithson	2
20019	Intro. to Microcomputing	Carlos	Coronel	3
25002	Writing	Robert	Smith	4
32002	U.S. History Through the 1800s	James	Blalock	2

2. Display class code and course names that have no student enrolled, e.g. the number of students of those classes is 0. Sort the result by class code.
   Expected 2 attributes, 6 rows as shown in the following output table

class_code	course_name
10015	Accounting II
15030	Biology and the Environment
20031	Intro. to Systems Analysis
22010	Microeconomics
32011	U.S. History Through the 1900s
90015	Accounting I

3. List all names (first name and last name) and their ID of students and professors whose first names begin with "C".
   Expected 3 attributes, 3 rows as shown in the following output table

first name	last name	ID
Carlos	Innugado	328934
Carlos	Coronel	228

4. List all course codes that are enrolled by Section 1but not enrolled by Section 2. Sort the result alphabetically. **Hint**: There are 25 unique courses enrolled by Section 1 and there are 14 unique courses enrolled by Section 2.
   Expected 1 attributes, 11 rows as shown in the following output table

course_code
ACCT-311
ART-210
ART-340
BIOL-220
CIS-320
CIS-420
ECON-250
HIST-220
MATH-243
PSYCH-200
SOC-200

5. List all students' first names that are also the first names of professors. Sort the result alphabetically.
   Expected 1 attributes, 7 rows as shown in the following output table

stu_fname
Anne
Annelise
Carlos
George
Gerald
Robert
Ronald

6. Find the list of students (first name, last name, and student GPA) whose their GPAs are higher than the average GPA of "MATH" students. Sort the result by the highest to lowest GPA. **Hint**: The average GPA of “MATH” students is 3.32.
   Expected 3 attributes, 9 rows as shown in the following output table

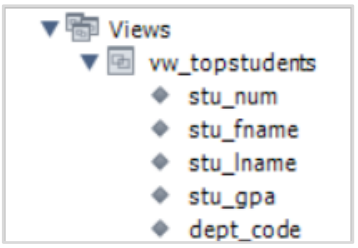
stu_fname	stu_lname	stu_gpa
Annelise	Paulus	3.92
Sidney	Wesson	3.91
Kenna	Hernando	3.88
Louise	Browning	3.72
Robert	Smith	3.51
Juliette	Brewer	3.48
Heinz	Schloss	3.45
Antoinette	Johnson	3.45
Rupert	Jones	3.33

7. Create a view, named "`vw_topstudents`" to store a list of top students (student number, first name, last name, student GPA, and department code) who have the highest GPA in each department

Expected 5 attributes, 11 rows as shown in the following query output

```
SELECT  * FROM vw_topstudents;
```

stu_num	stu_fname	stu_lname	stu_gpa	dept_code
322345	Sidney	Wesson	3.91	ACCT
345783	LaRue	Boisseaux	3.02	ART
328799	Robert	Smith	3.51	BIOL
345758	Antoinette	Johnson	3.45	CIS
342721	Robert	Rutan	3.01	ECON/FIN
345767	Rupert	Jones	3.33	ENG
345779	Kenna	Hernando	3.88	HIST
332345	Annelise	Paulus	3.92	MATH
319989	Heinz	Schloss	3.45	MKT/MGT
342745	Warren	Ularen	2.51	PSYCH
342722	Louise	Browning	3.72	SOC



After completing sql4_sY_xx88xxx.sql with all questions, submit the sql file in MyCourses.
