Intermediate SQL-2

Using the university schema that you have write the following queries. In some cases you might need to insert extra data to show the effect of a particular feature.

Recommendation: With clause is strongly recommended for simplifying the query.

1. Find the courses which have been offered for 2 years at least and have sections in spring, 2010. For each course as such, information displayed should involve:

- Identifier of course(i.e. the primary key for section)
- Title of the course
- Number of instructors who in charge of teaching the course in spring ,2010
- Total salary all over the instructors who in charge of teaching the course in spring ,2010
- Total credit hours performed per week(Note: 1 credit hour equals to 50 minutes).

2. **USE outer join to construct the following query**

Find all information for student registration and course offered. The students who have never registered for any courses and the courses has never been offered. For each record in the result, information displayed should involve:

- Identifier of student(i.e. the primary key for student)
- Name of student
- Identifier of section(i.e. the primary key for section)
- Title of course.

The result should be like the following

	name	sec_id	year	semester	title
17	杨康	NULL	NULL	NULL	NULL
18	段誉	1	2009	Fall	内功基础
19	段誉	2	2010	Spring	易筋经
20	胡斐	1	2009	Spring	刀法
21	杨_...	NULL	NULL	NULL	NULL
22	李莫愁	1	2009	Fall	内功基础
23	李莫愁	1	2010	Spring	九阳神功
24	陈近南	1	2009	Summer	少林长拳
25	陈近南	1	2010	Summer	散打
26	NULL	NULL	NULL	NULL	自由搏击

3. **USE scalar subquery to construct the following query**

For all students, grade information of each student is needed. Those students who have never registered for any section should also be considered. For each student, information displayed should involve:

- Identifier of student(i.e. the primary key for student)
- Name of student
- Department name of student
- Number of failure for the student to pass some section. (That is the number of grade ‘F’)
- Total number of failure of passing sections for the students in the same department as the current student.

4. Find students who have registered for *some but not all* courses(PART COURSE, for short) taught by instructors of department '拳脚学院'. Furthermore, the registration of these students for such courses (i.e. PART COURSE above) should have grade, even the grade is ‘F’. **Do this using the "not exists ... except ..." structure**. For each student as such, information displayed should involve:

- Identifier of student(i.e. the primary key for student)
- Name of the student
- Number of courses, taught by instructors of department '拳脚学院', registered by the student

5. Use EXISTS or NOT EXISTS clause in WHERE clause to construct following query.

Find those sections which have no instructor as the teacher. Moreover, these sections should have never been registered by any student. For each section as such, information displayed should involve:

- Identifier of section(i.e. the primary key for section)
- Name of the corresponding course.
- Credits of the course