# Lab Exercise 7

This seminar uses the university database that you have used in previous seminars

## TASKS

Working in groups of 2 or 3, complete the following tasks. You have 20 min to complete the tasks then the seminar tutor will work through the solutions with the group.

1. write SQL code that will retrieve the name of the student and the subject for all student who have failed a unit (you will need to include the period) Ensure that the tables are joined in the FROM clause not the WHERE clause

SELECT DISTINCT stuname, sname, period

FROM student NATURAL JOIN enrolled NATURAL JOIN subject NATURAL JOIN marks

WHERE mark < 40;

1. write the SQL code that will generate class lists for each member of staff that teaches, the list should include the name of the staff, the subject name and the student names. Use explicit joins in the FROM clause

SELECT name, sname, stuname

FROM staffmember INNER JOIN class ON (staffId = teacher) INNER JOIN enrolled USING (subjectId) INNER JOIN student USING (studentId) INNER JOIN subject USING (subjectId)

ORDER BY name

1. There are 15 members of staff in the system yet only 12 are retrieved in the results of query 2, why is this?

The subject of the other 3 members of staff were not enrolled by any of the students based on the

Enrolled relation

This is because the other 3 members of the staff is a non-teacher staff, that is they have other responsibilities and therefore they have no classes to conduct in the Class table

What type of join would address this problem?

OUTER JOIN