**Lab Exercise 3**

This week we are looking at how ER models are created.

**Task 1 (you have approximately 20 minutes to complete this task)**

Working in small groups of 2 or 3 you should do the following tasks:

Create an ER model for each of the following descriptions:

1. Each company operates four departments, and each department belongs to one company.
2. Each department in part a) employs one or more employees, and each employee works for one department.
3. Each of the employees in part b) may or may not have one or more dependents, and each dependent belongs to one employee.
4. Each employee in part c) may or may not have an employment history.
5. Represent all the ER models described in a), b), c) and d) as a single ER model.

**Task 2 (you have approximately 20 minutes to complete this task)**

Working in small groups of 2 or 3 you should do the following tasks:

Create an ER model for each of the following description:

*“A student registers for up to 8 modules and each module has many students on it. Record the student ID, their full name and address and also each module ID and title. We also want to hold the grade attained by each student for each module”*

* Remember to show in your model:
  + All primary keys
  + Entities
  + Relationships
  + Attributes