

ISYS1055/1057 Tutorial/Lab Sheet

The Entity-Relationship Model 1

1. For each of the following description, complete tasks:
 - a. Draw an ER diagram showing entities, attributes, and relationships and their multiplicity. Where necessary state any assumptions.
 - b. Map the ER diagram into a relational database schema. Explicitly denote primary keys (underline) and foreign keys (asterisks *) for relations in the resultant schema.
 - 1) Customers identified by a name and with an address purchase items. Items are identified by a number and have a colour . The quantity bought of each item is recorded.
 - 2) An order with a unique number and date can be made for any quantity of parts, each with an item identifier and colour . Each order is made by one supplier with a name and address.
2. Given the following description, draw an ER diagram and map it into a relational database schema. Explicitly denote primary keys and foreign keys of relations in the resultant schema. *Produce a pdf file containing your answers.* The ER diagram must use symbols in the lecture notes, and can be drawn with the Word drawing tool or any other software.

Departments are identified by an ID and have budget. For each department there are several projects, which have a name and start date.
3. Given below is an ER diagram for a “Movies” database. (a) Explain the assumptions made about the Borrow and Direct relationships in the ER diagram. (b) In the DB Designer 4 system, implement the ER diagram and map it into SQL DDL statements. Instructions on using the DB Designer 4 system will be given separately. [**Note to OUA students : Do not do part B. It is not part of this course**]

