

## Tutorial 2 Solution Notes

Remember that these solution notes are **not** \*perfect\* solutions.

Your tut/lab group may have developed solutions which are better, or more complete – or just different - from these solution notes.

### ER Diagrams

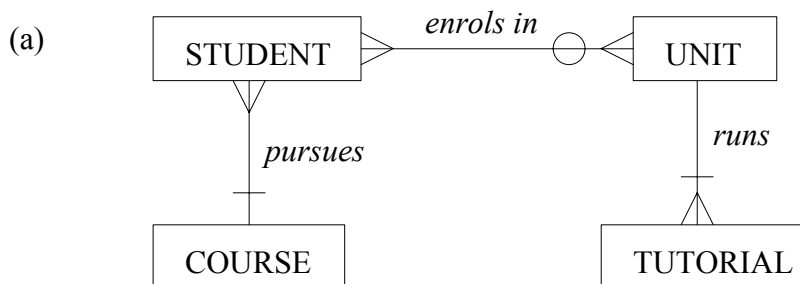
In these diagrams, sometimes the title for the diagram is written below the diagram, and sometimes the title for the diagram is written above the diagram.

It does not matter whether you write the title above or below the diagram.

It does matter that you give your diagram a title.

Do **not** add foreign keys to ER diagrams (even if you know that one or more attributes would become foreign keys if we were to convert the diagram to a Relational Schema).

In a Relational Databases course, you should avoid models which contain lists.



UNIVERSITY OF WOOLMOOLOO - TUTORIALS

Would it be a Good Idea to have a mandatory symbol on runs next to UNIT?

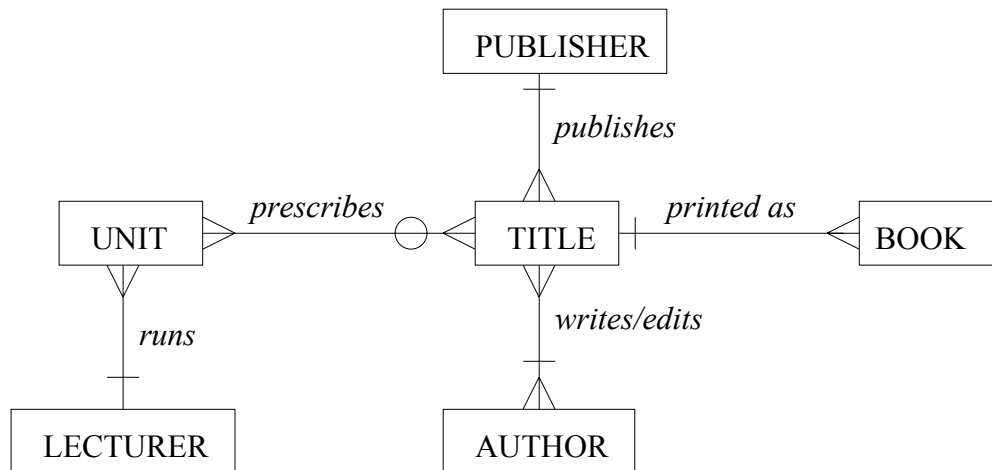
Yes. But it is not mandatory to have the symbol as the (reworded) scenario does not explicitly say that a tutorial must be associated with exactly one unit.

Is the optional symbol on *enrols in* near to UNIT really needed?

In a sense, all optional symbols are optional. :-)

However, this scenario explicitly states "A UW student may enrol in several units (possibly none) each semester." and placing the O on the diagram near to UNIT explicitly represents the "possibly none" fact from the scenario.

(b)



### UNIVERSITY OF CANBERRA - BOOKS PRESCRIBED

It is **not** necessary to have BOOK on the diagram.

We could have used just TITLE (or a similar entity such as TEXTBOOK), or we could have used BOOK to mean what is meant by TITLE on the diagram above.

BOOK is included on this diagram because it is important to understand the difference between a TITLE and a BOOK.

In object-oriented terms, TITLE is the class and BOOK is the object.

Isn't it intuitively obvious that title is an attribute of book?

If we had an attribute Title, meaning "the name of a book", for the above diagram, Title would be an attribute of TITLE.

If the model had

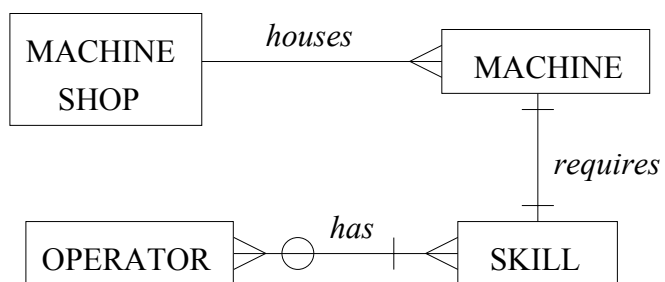
BOOK *printed as* COPY OF BOOK

rather than

TITLE *printed as* BOOK

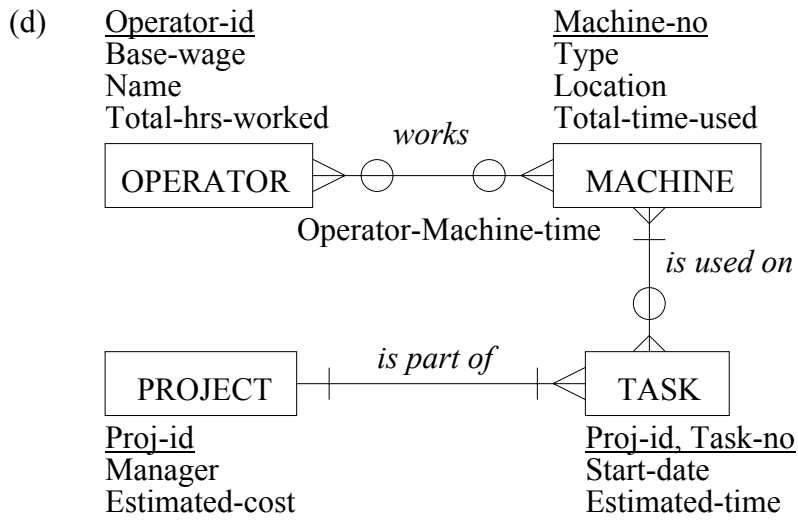
then Title would be an attribute of BOOK.

(c)



A FACTORY

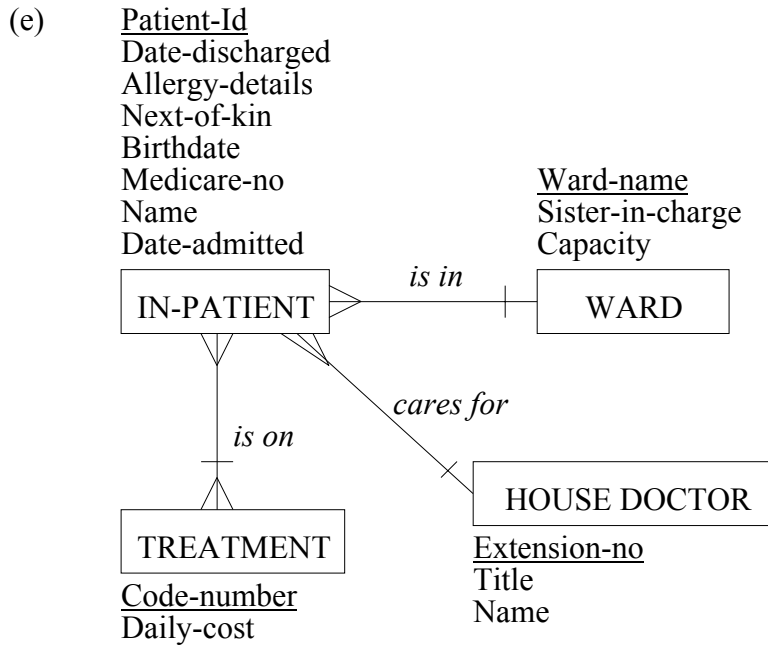
The model should **not** include an entity FACTORY.



MANAGEMENT SYSTEM FOR FACTORY

Could we have an entity MANAGER?

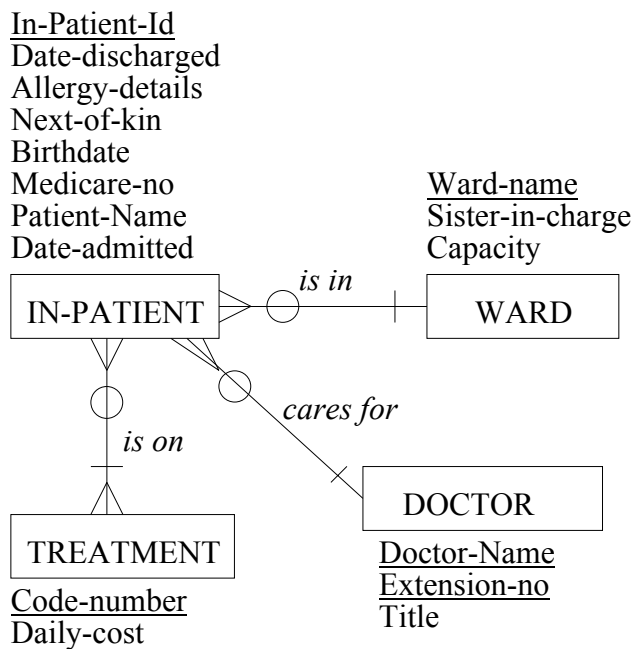
Yes, that would be a Good Idea.



O'LEARY'S HOSPITAL - INPATIENTS

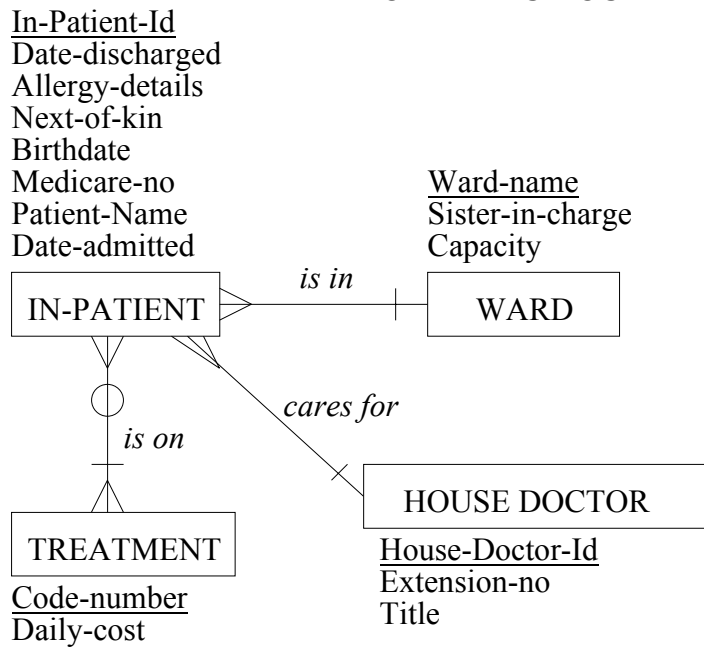
OR

IN-PATIENTS



OR

## O'LEARY'S HOSPITAL \_ IN-PATIENTS



Could we have an entity SISTER?

Yes, that would be a Good Idea.

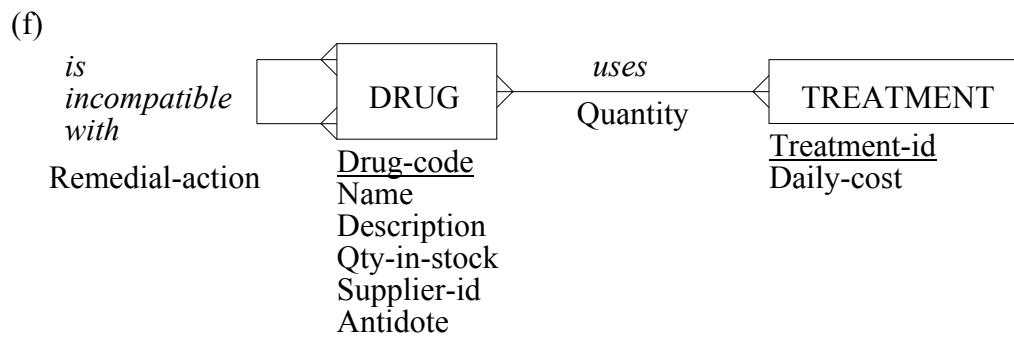
A Sister has an independent existence.

You could invent some attributes for SISTER

– perhaps similar to the attributes that you have for HOUSE DOCTOR.

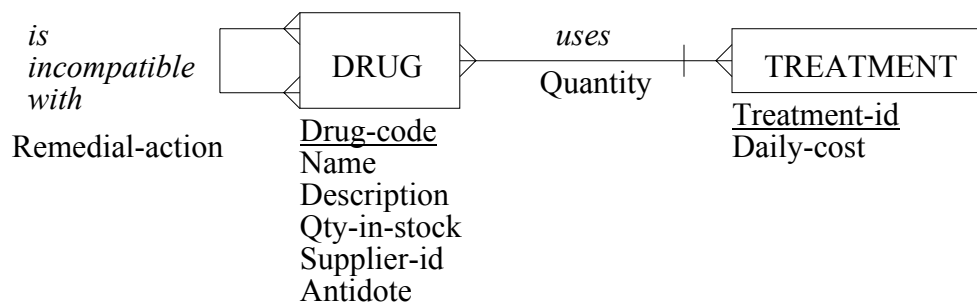
Could we have [Allergy] instead of Allergy-details?

Yes.



### VETERINARY HOSPITAL

OR



### VETERINARY HOSPITAL \_ DRUGS

You should **not** have an entity VET HOSPITAL (or similar).

Could we have another entity ANIMAL?

Carol thinks that the animals which are being treated are outside the scope of a Drugs Database (although they may be in scope for a Treatment Database).