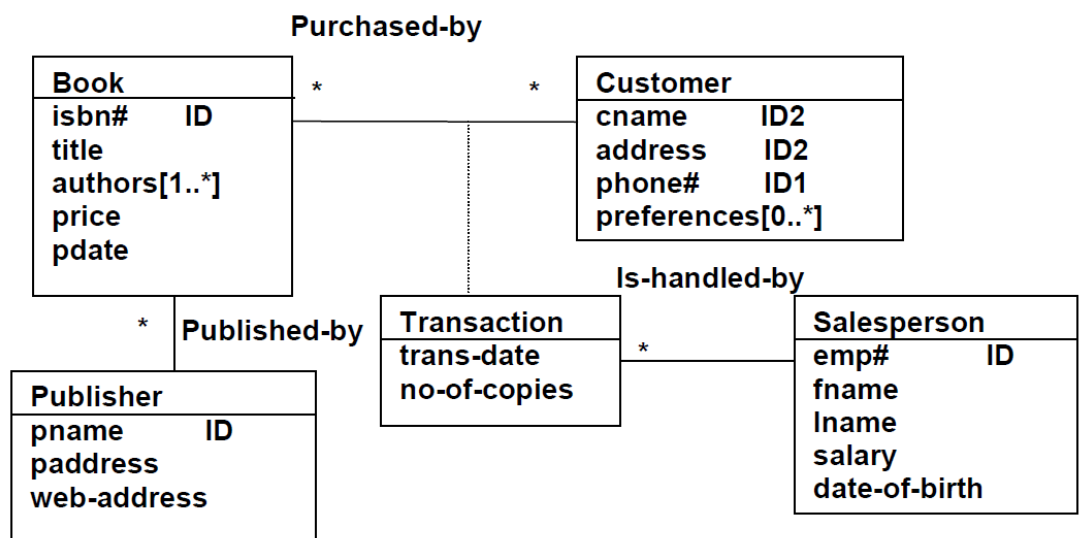# Lab #8

1. The following table is already in first normal form (1NF). There is only one entry per field. Please convert this table to the third normal form (3NF) using the techniques you learned.

A table with the students and their grades in different topics.

UnitID	StudentID	Date	TutorID	Topic	Room	Grade	Book	TutEmail
U1	St1	23.02.03	Tut1	GMT	629	4.7	Deumlich	tut1@fhbb.ch
U2	St1	18.11.02	Tut3	Gln	631	5.1	Zehnder	tut3@fhbb.ch
U1	St4	23.02.03	Tut1	GMT	629	4.3	Deumlich	tut1@fhbb.ch
U5	St2	05.05.03	Tut3	PhF	632	4.9	Dümmlers	tut3@fhbb.ch
U4	St2	04.07.03	Tut5	AVQ	621	5.0	SwissTopo	tut5@fhbb.ch

2. Consider a database that contains information maintained by an electronic bookshop.

Purchased-by

Book
isbn#   ID
title
authors[1..*]
price
pdate

Customer
cname   ID2
address   ID2
phone#   ID1
preferences[0..*]

Published-by

Publisher
pname   ID
paddress
web-address

Transaction
trans-date
no-of-copies

Is-handled-by

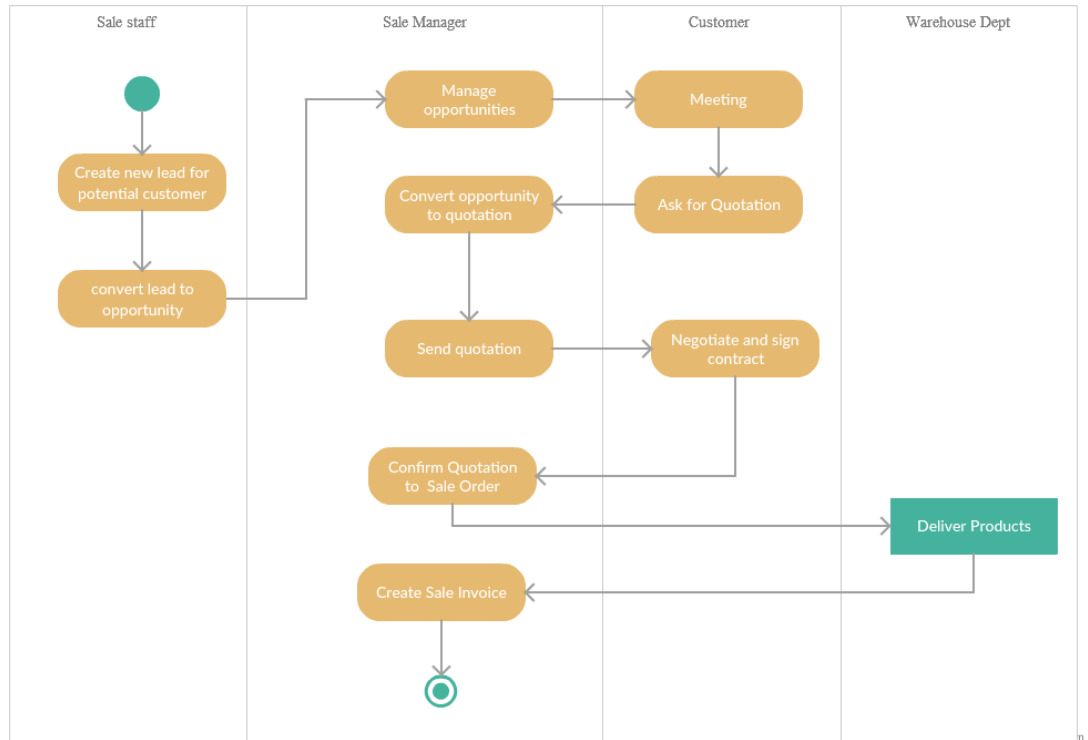**Salesperson**
emp#   ID
fname
lname
salary
date-of-birth

Your task is to extend the database with the following information.
(i) Two categories of customers should be distinguished: individual customers(people) and corporate customers (libraries, bookshops, companies, an the others).
(ii) Book reviews and ratings provided by the customers. A review is a text and rating is a number in a range 0 .. 6.

(iii) The books available in stock, total number of copies available in stock, the books out of print, and for each book the total number of copies sold per year starting from and including year 2000.

(iv) The companies handling the electronic payments support the transactions performed by the customers. A company name, credit card number, payment date and time should be stored in a database.

(v) The books have new editions. Many authors and price may change in a new edition.

3. What's wrong in the following activity diagram? Correct it & draw the state diagram respectively.

4. Draw the state diagram with respect to the following activity diagram