Data Modeling
Part II

CSCI 5250

Database Design

Outline

- Entity Matrix
- Attributes vs attribute values
- Enhanced ERD (EER)

EER

- Contains all features of ERD
- Adds
  - Sub and Superclasses
  - Specialization and Generalization
  - Union or Category type

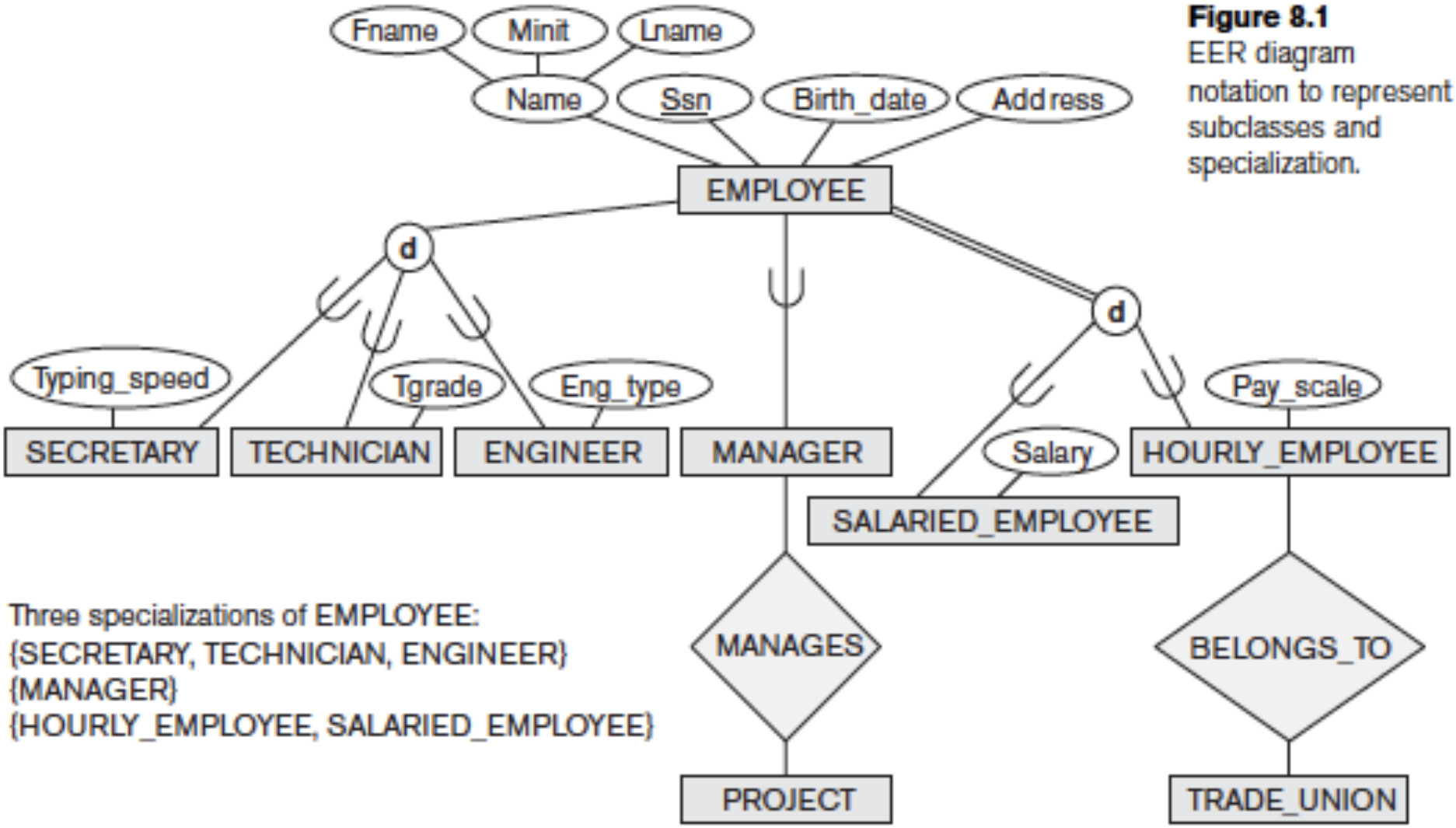
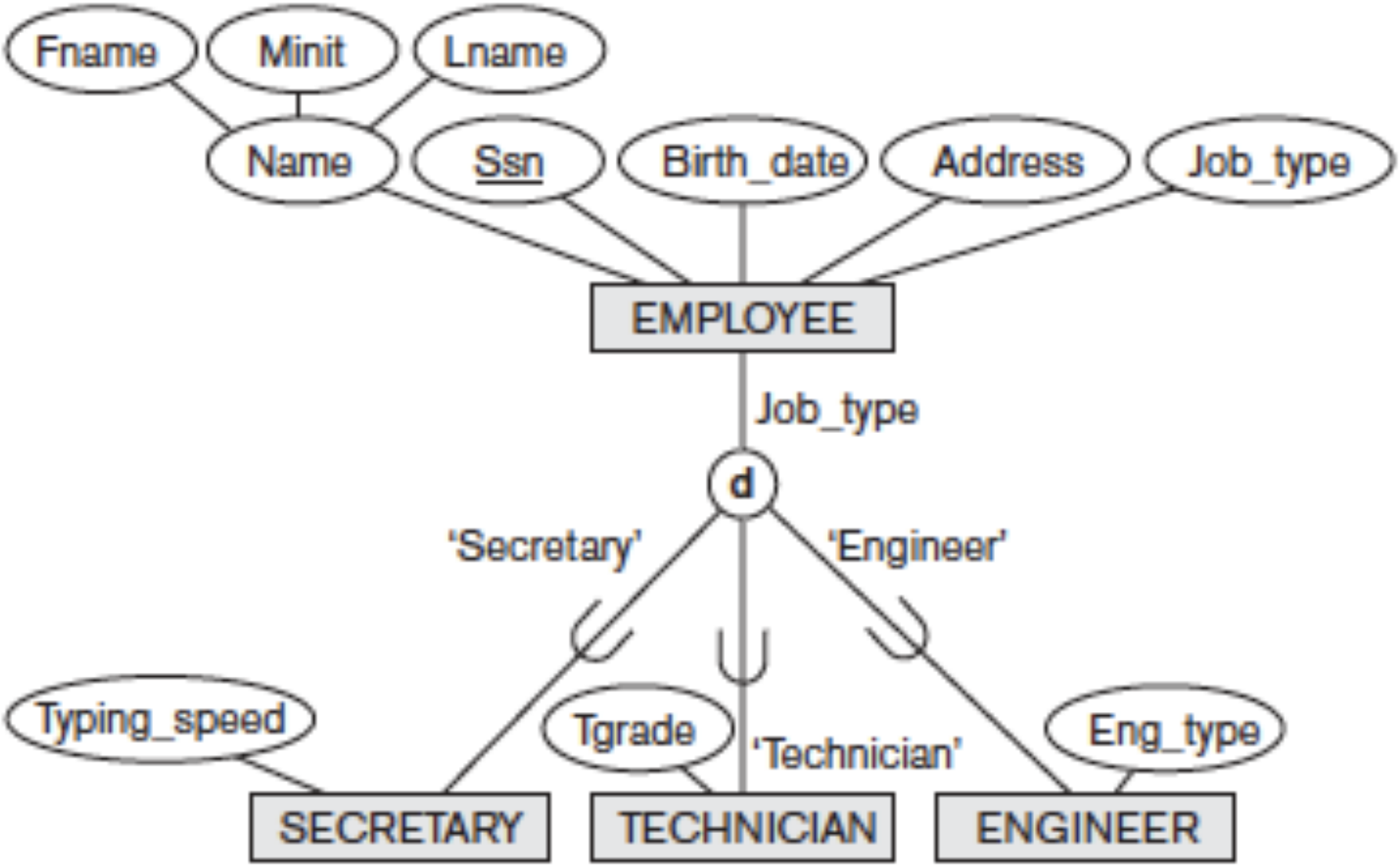
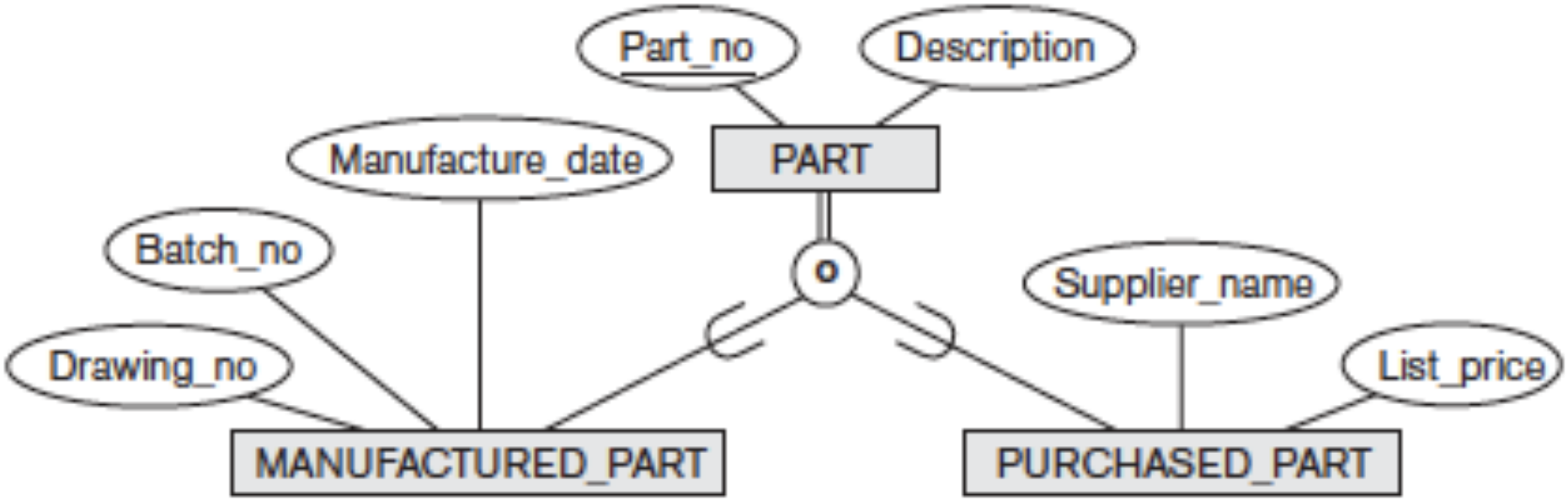
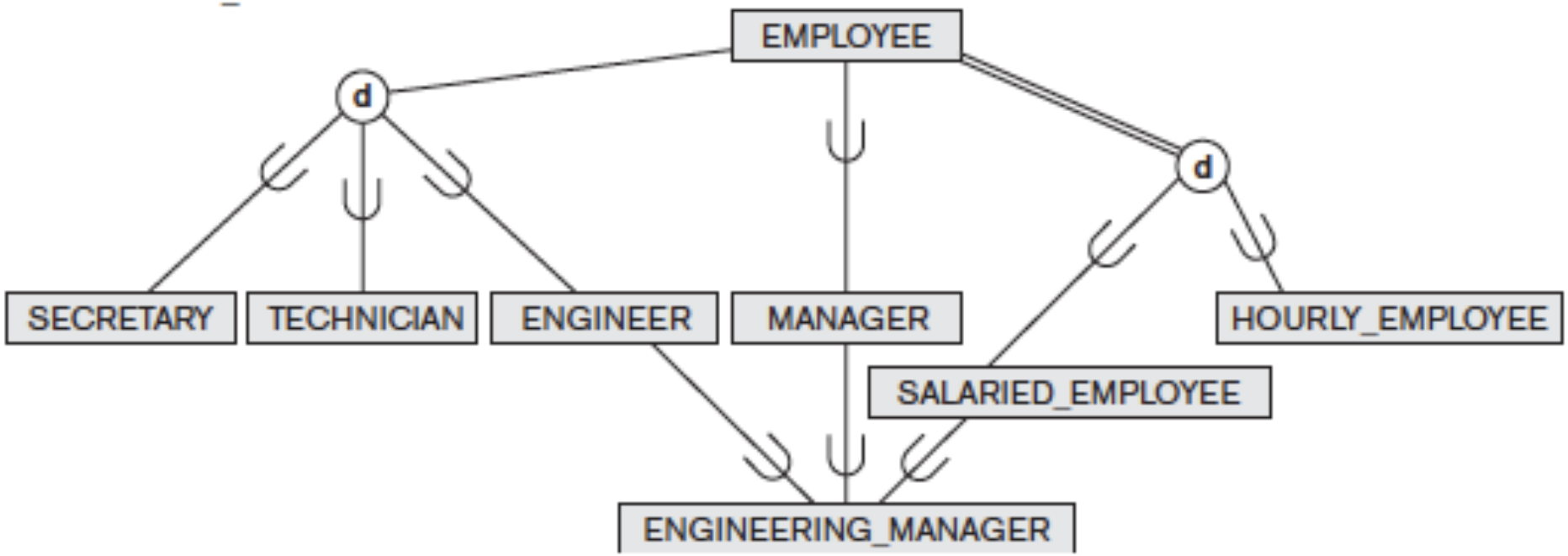
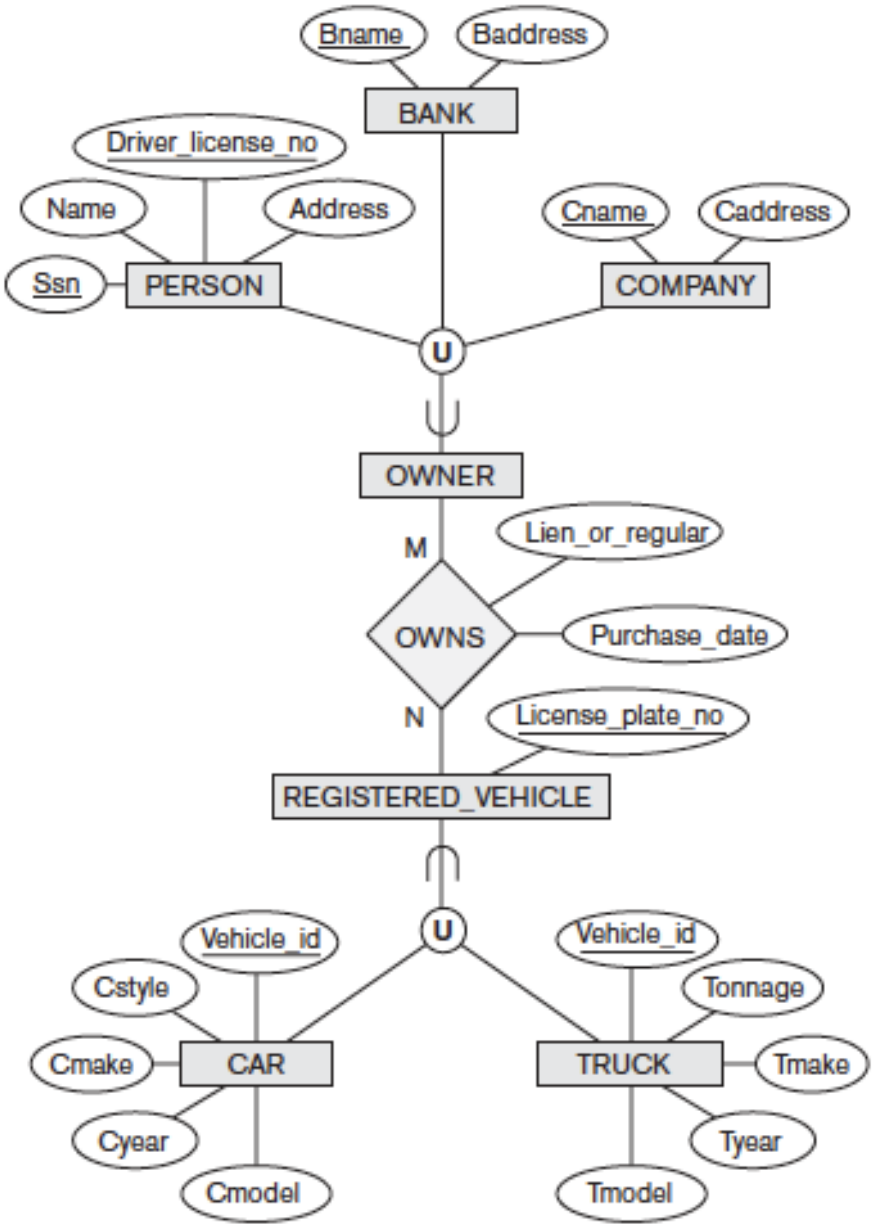


Figure 8.1
EER diagram notation to represent subclasses and specialization.


Fname
Minit
Lname
Name
Ssn
Birth_date
Address
Job_type
EMPLOYEE
Job_type
d
'Secretary'
'Engineer'
'Technician'
Typing_speed
Tgrade
Eng_type
SECRETARY
TECHNICIAN
ENGINEER


Part_no
Description
Manufacture_date
PART
Batch_no
o
Supplier_name
Drawing_no
List_price
MANUFACTURED_PART
PURCHASED_PART


EMPLOYEE
d
d
SECRETARY
TECHNICIAN
ENGINEER
MANAGER
HOURLY_EMPLOYEE
SALARIED_EMPLOYEE
ENGINEERING_MANAGER


Bname
Baddress
BANK
Driver_license_no
Name
Address
Ssn
PERSON
Cname
Caddress
COMPANY
U
OWNER
M
Lien_or_regular
OWNS
Purchase_date
N
License_plate_no
REGISTERED_VEHICLE
U
Vehicle_id
Cstyle
Cmake
CAR
Cyear
Cmodel
Vehicle_id
Tonnage
TRUCK
Tmake
Tyear
Tmodel

OO in ERD

- Create single superclass with all attributes from subclasses
  - Potential for numerous NULL valued attributes
- Create only subclasses with each containing the superclass attributes
  - Maintenance problems
- Create tables for both super and subclasses
  - PK of super is also FK to sub