Enhanced ER Model

EER Model is ER Model +:

- subclass/superclass (or subtype/supertype.)

- specialization and generalization

- category and union types

- attribute and relationship inheritance

Subtype: entity type w/ subgroups

Eg. EMPLOYEE subtyped to:

- SECRETARY
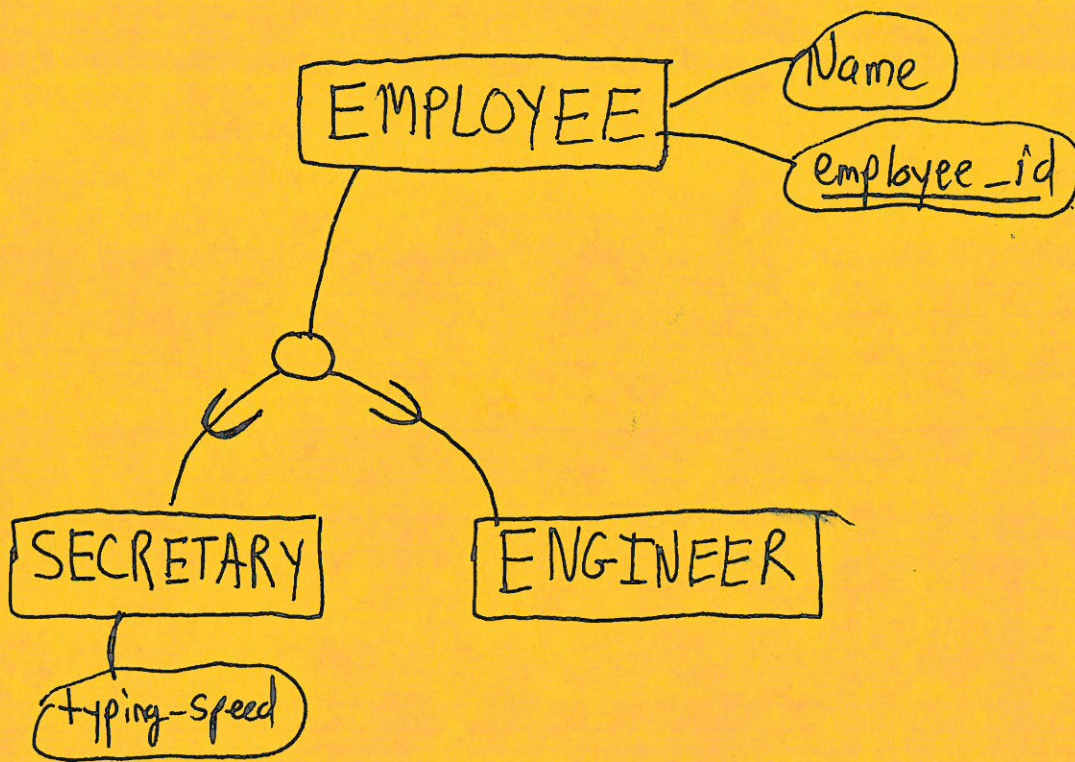
- ENGINEER

:

every member of subtype is member of type

specialization: defining sets of subclasses
       for an entity type
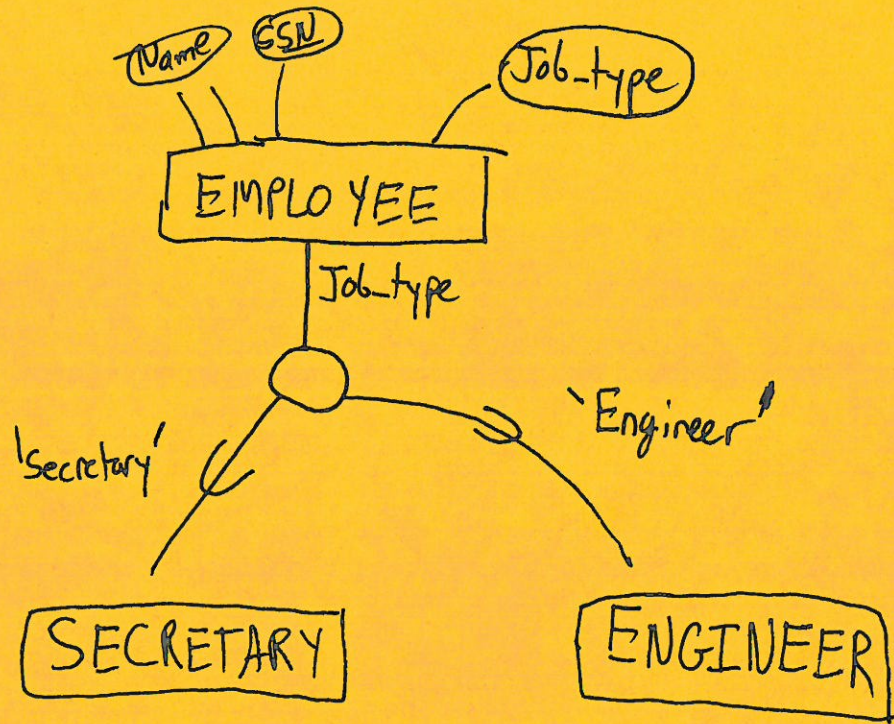superclass: entity type of specialization

E.g   EMPLOYEE is superclass
       {SECRETARY, ENGINEER} specialization

```
                    ┌──────────────┐        (Name)
                    │   EMPLOYEE   │───
                    └──────────────┘        (employee_id)
                           │
                           ○
                         ⌒ ⌒
                        /     \
           ┌──────────────┐   ┌──────────────┐
           │  SECRETARY  │   │  ENGINEER   │
           └──────────────┘   └──────────────┘
                  │
           (typing-speed)
```

attributes of subclasses
   are called "specific attributes"

Constraints and Characterizations of Hierarchies

predicate defined: condition defines subclass

Name   SSN   Job_type

EMPLOYEE

Job_type

'Secretary'   `Engineer'

SECRETARY   ENGINEER

attribute defined specialization:
   all subclass members have the same
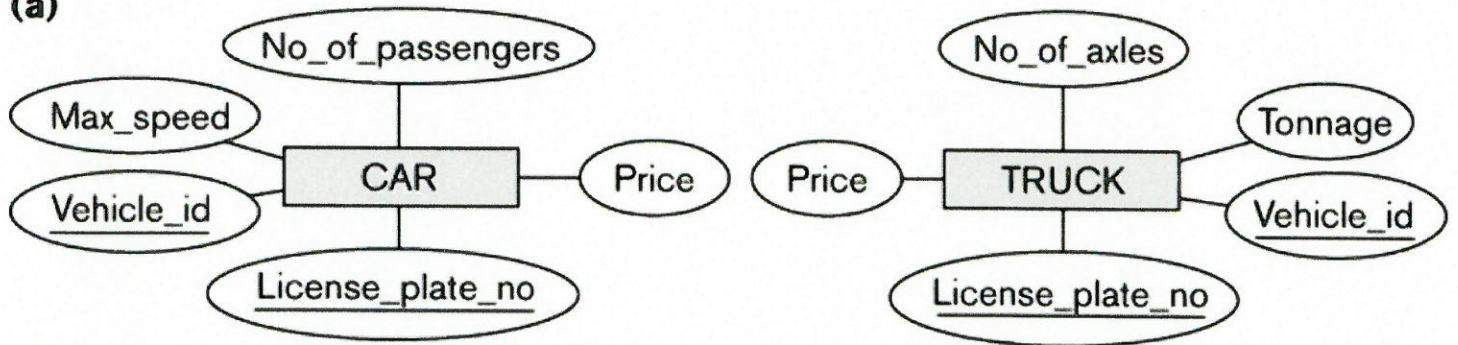   attribute value

user defined specialization: mebership defined
   by user entering data

4.2.2 Generalization!

generization: identify common features into a single entity

Generalization: identify common features into a single entity

(a)

(b)