



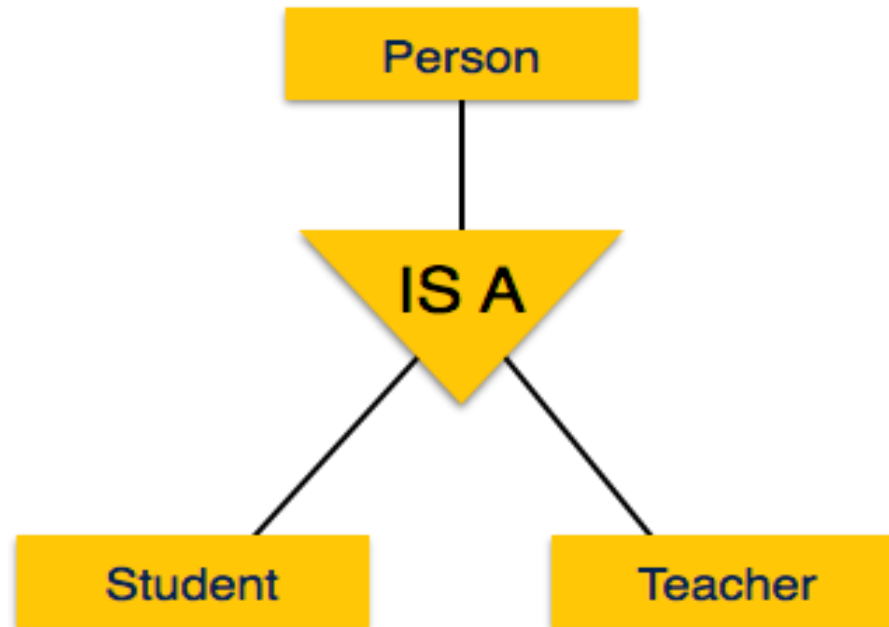


CSE3103 : Database FALL 2020

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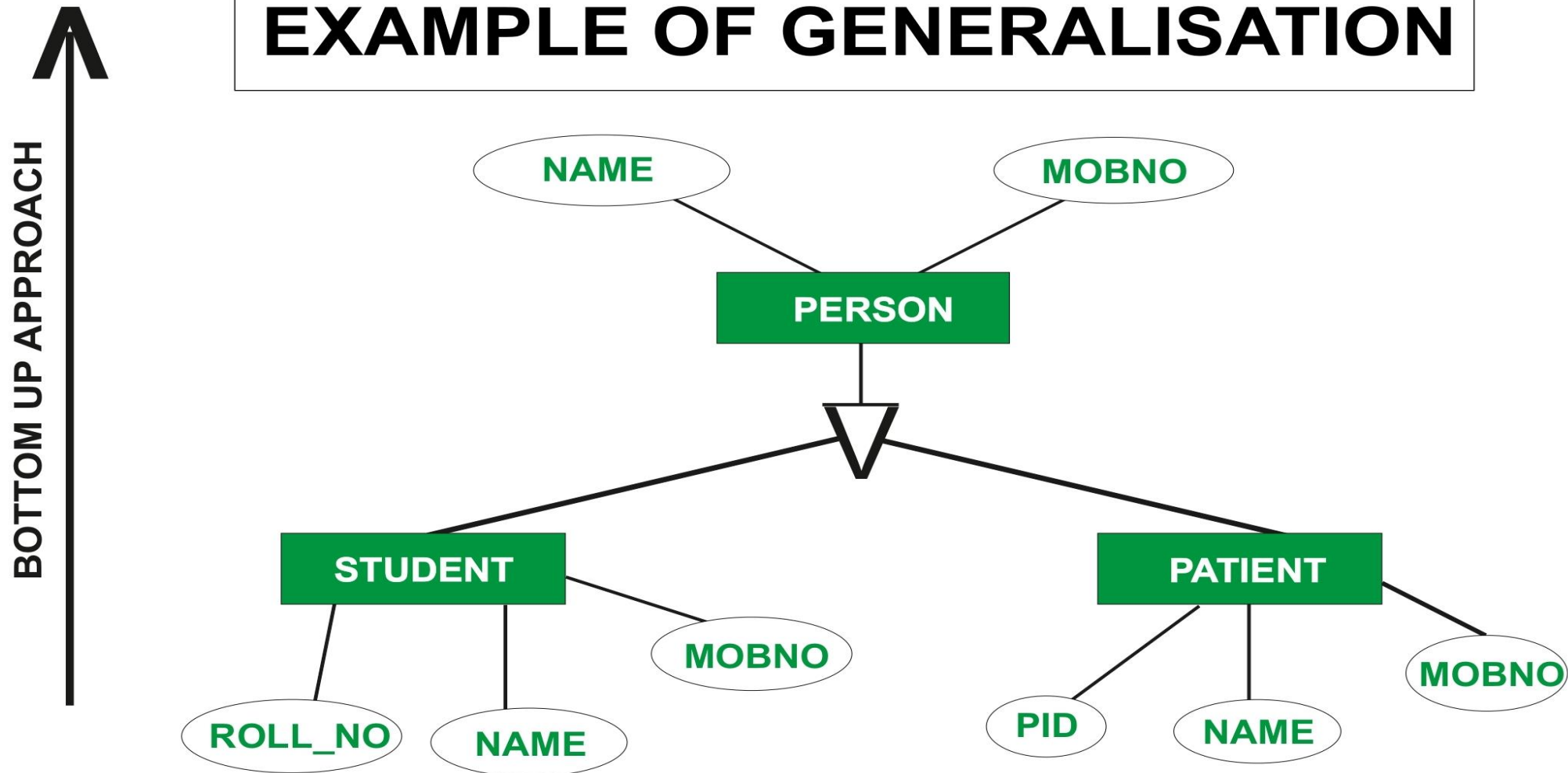
Enhanced ER Modeling

- In some cases, an entity type has a number of subgroups.
- Relationship and attributes of superclass are inherited to sub-class.
- Sub class can have additional attributes and relationship.
- Two types:
 - Specialization
 - Generalization



Enhanced ER Modeling

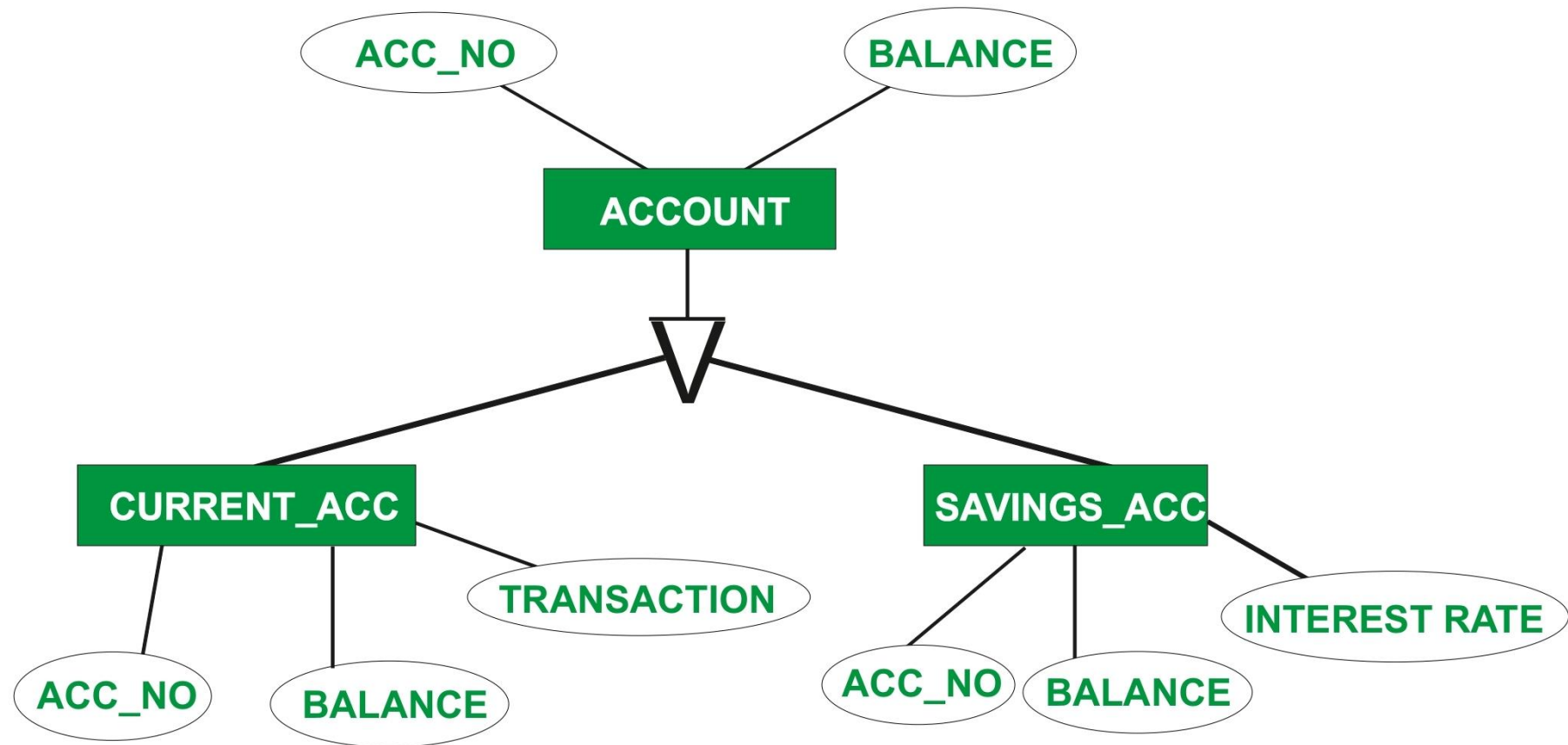
EXAMPLE OF GENERALISATION



Enhanced ER Modeling

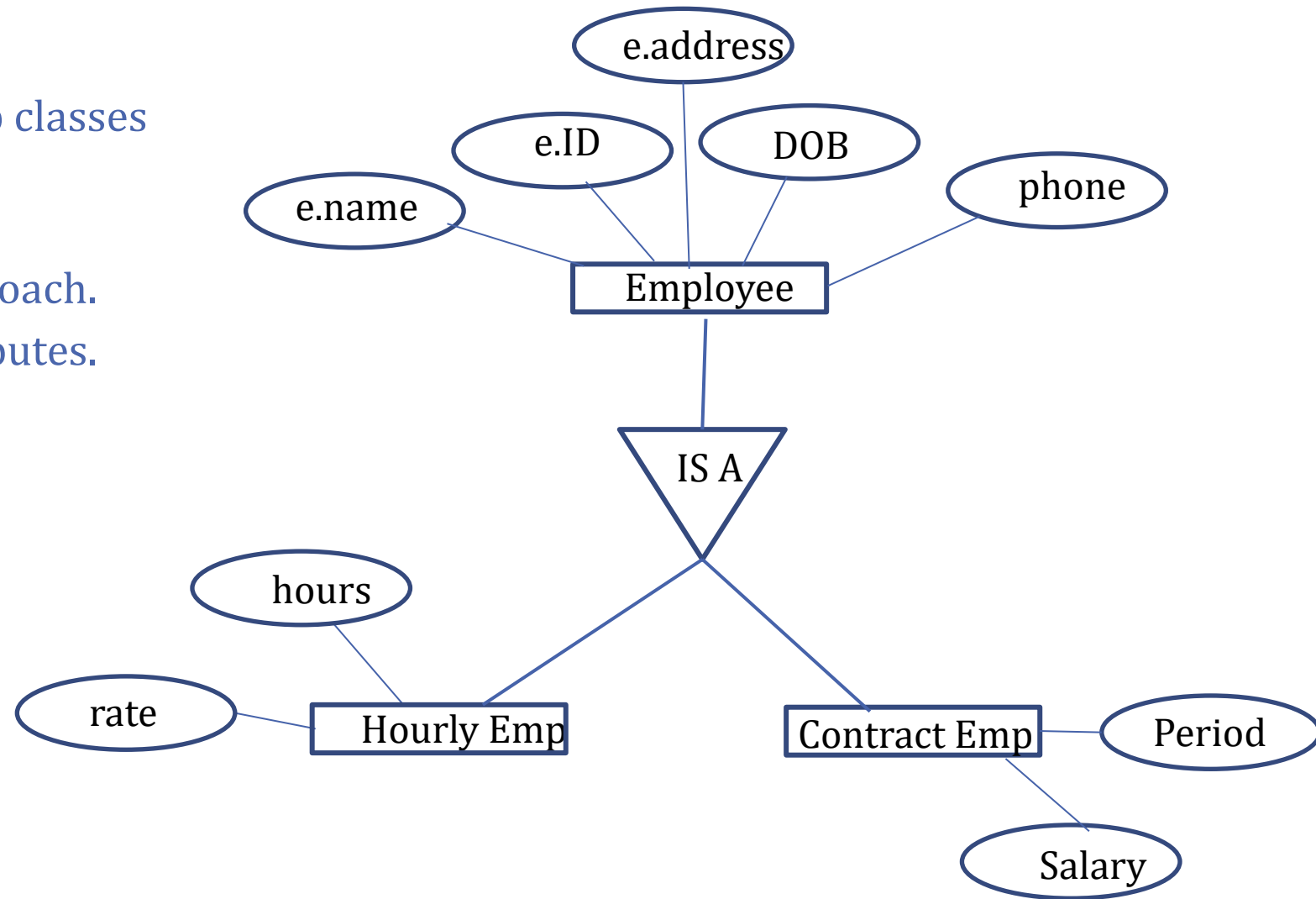
EXAMPLE OF SPECIALISATION

TOP DOWN APPROACH



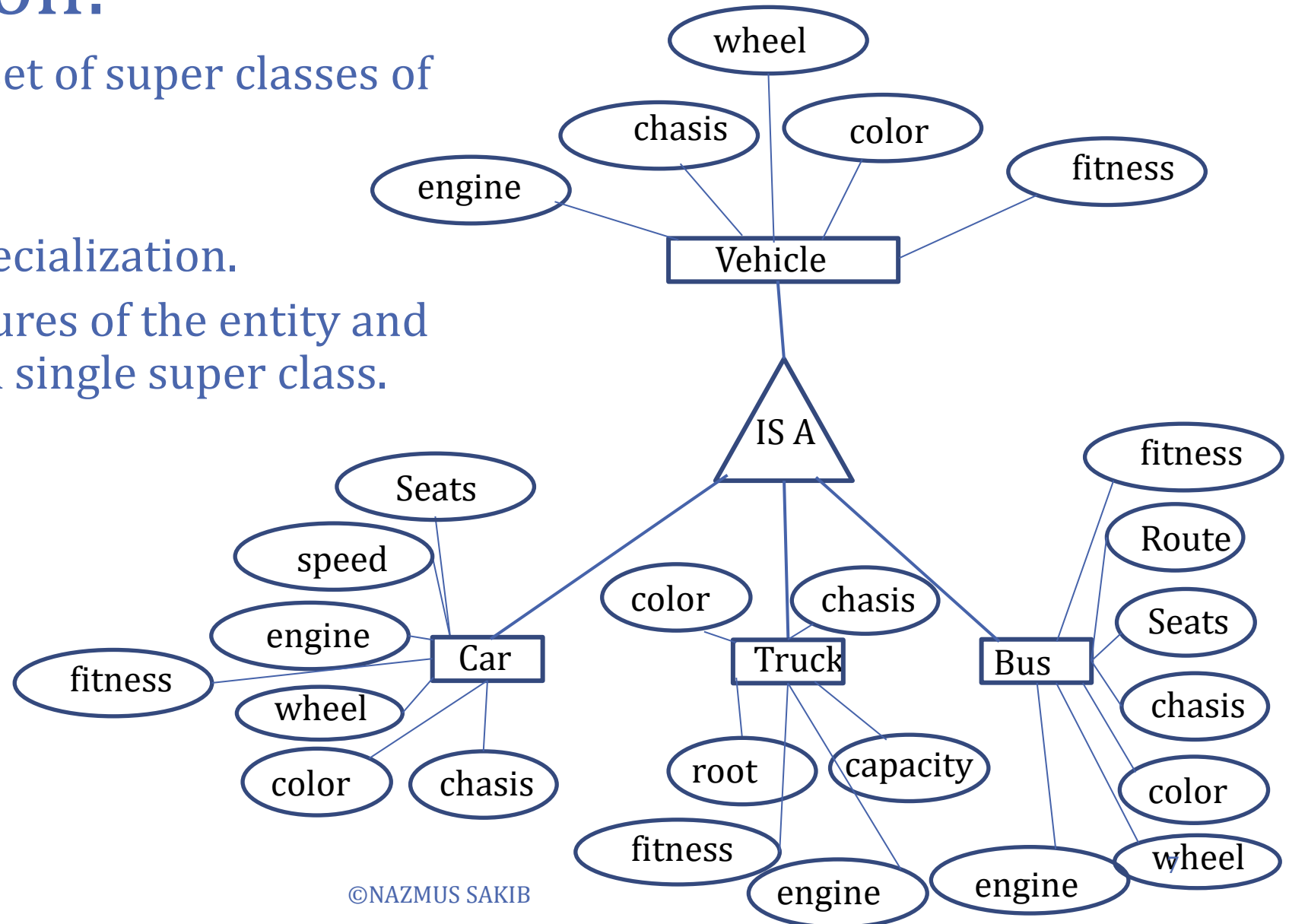
Specialization:

- Process of defining a set of sub classes of an entity type.
- Top Down Approach.
- Maintain the hierarchical approach.
- Subclass can have it own attributes.



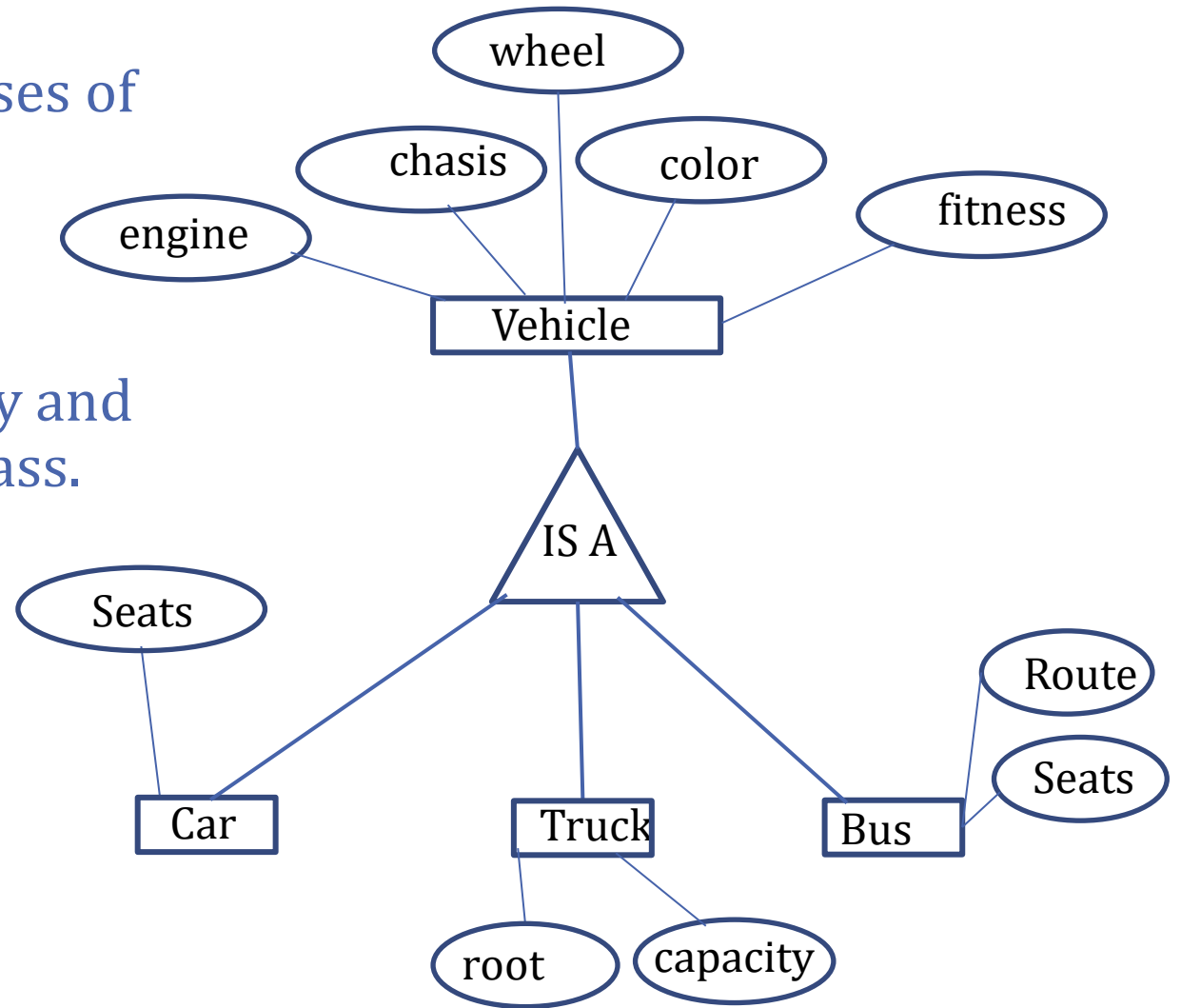
Generalization:

- Process of defining a set of super classes of many entities.
- Bottom Up Approach.
- Reverse process of specialization.
- Identify common features of the entity and generalize them into a single super class.



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- Bottom Up Approach.
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ERD Practice:

- Scenario:

Students take courses and each student belongs to a particular department. Students' grade in different courses are stored. Each department has multiple students and a department offers multiple courses. A course can be offered by a single department or multiple departments.

Draw the ERD

- Possible Entity:

- Student
- Courses
- Department

- Possible Relationship:

- Offer
- Takes
- Belongs to

- Attributes

- Department – D.ID, lab, seminar halls
- Student- S.ID, S.Name, DOB, Phone, BG
- Course- C.ID, C.Name, Credit
- Offer – Session
- takes – Grades
- Belongs to – semester, Qouta

