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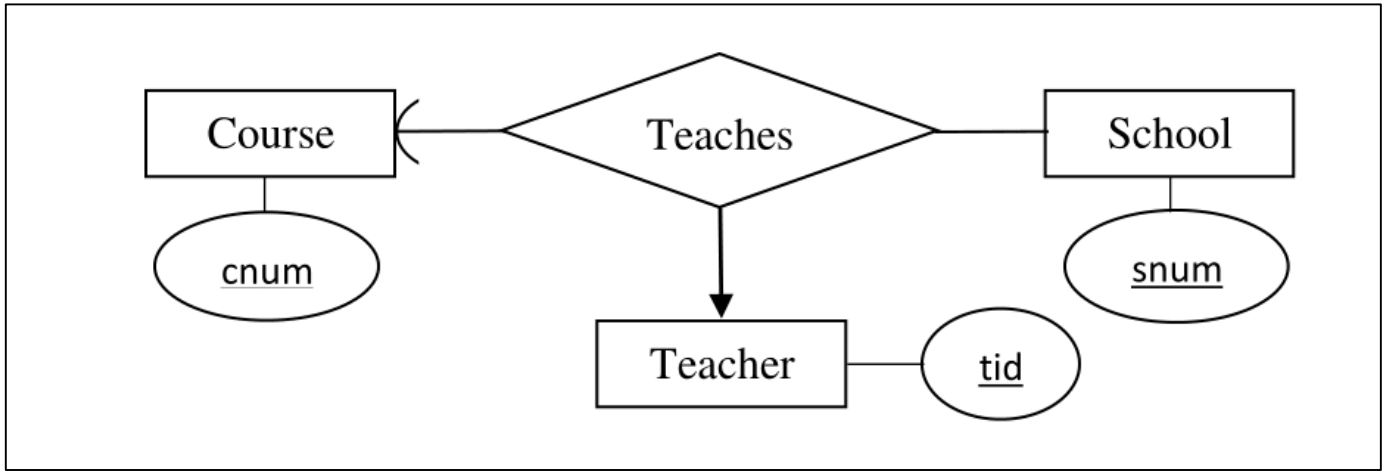
Database Management Systems (BCSC-1003)

Topic: EER Diagrams



Dr. Nikhil Govil

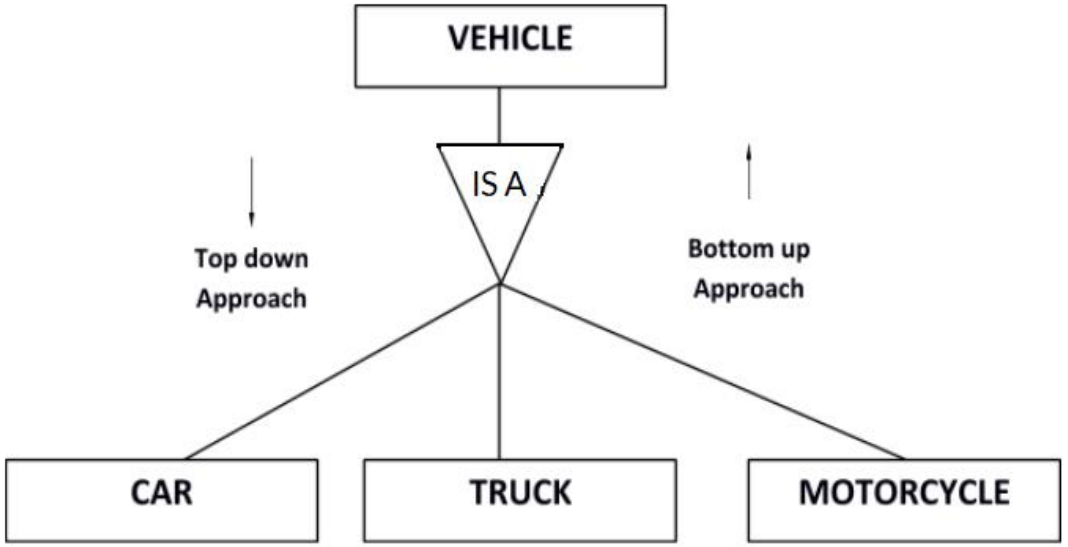
Assistant Professor, Dept. of CEA, GLA University, Mathura.

EER Diagram

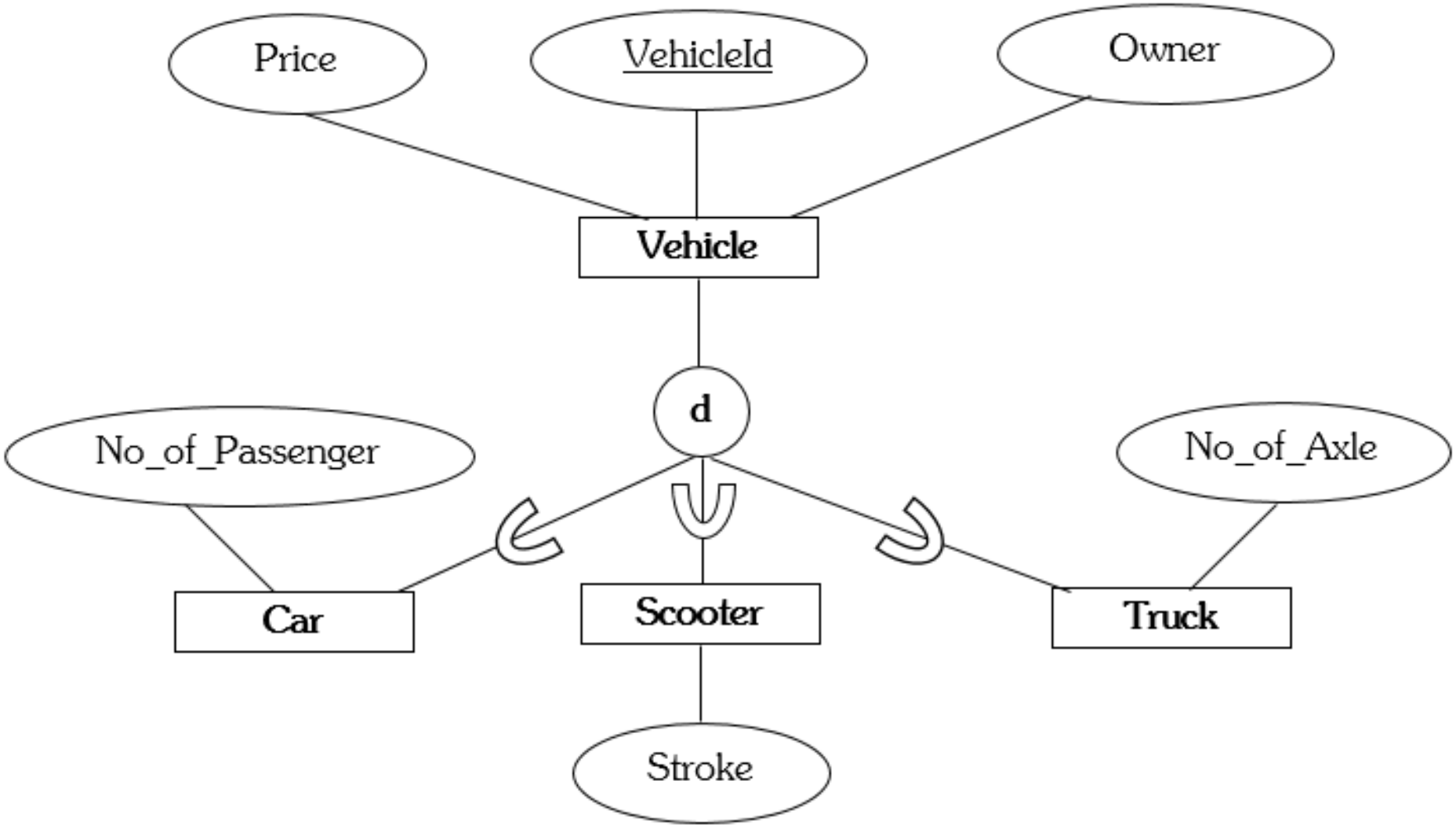
- EER diagram stands for Enhanced (or Extended) Entity Relationship Diagram.
- EER is a high-level data model that incorporates the extensions to the original ER model.
- Enhanced or Extended ER Diagrams are high level models that represent the requirements and complexities of complex database.
- In addition to ER model concepts EER includes Specialization, Generalization and Aggregation.

Generalization & Specialization

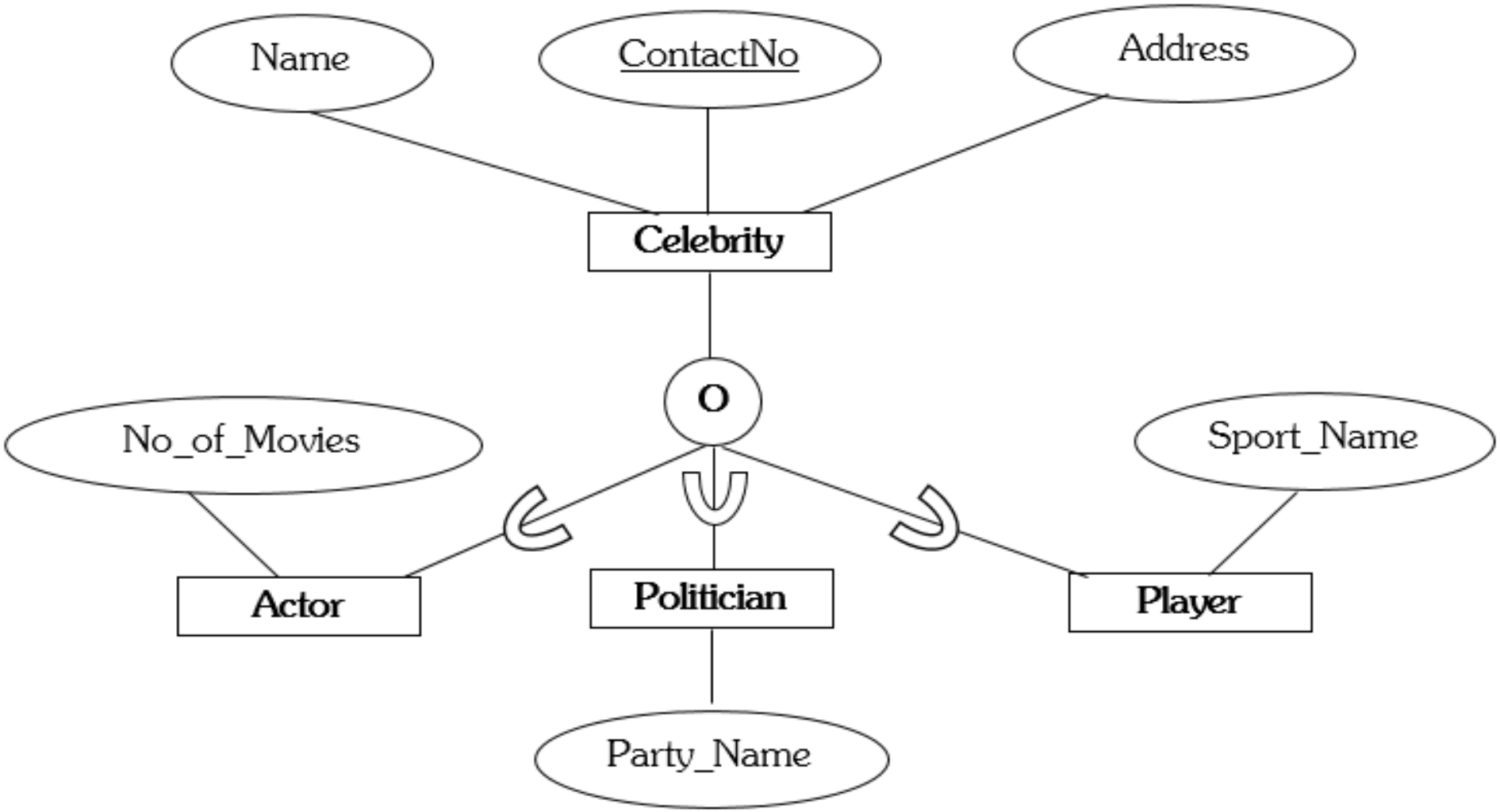
- **Generalization:** Generalization is a process of generalizing an entity which contains generalized attributes or properties of generalized entities. It is a Bottom up process i.e. consider we have 3 sub entities Car, Truck and Motorcycle. Now these three entities can be generalized into one super class named as Vehicle.
- **Specialization:** Specialization is a process of identifying subsets of an entity that share some different characteristic. It is a top down approach in which one entity is broken down into low level entity.



Generalization & Specialization



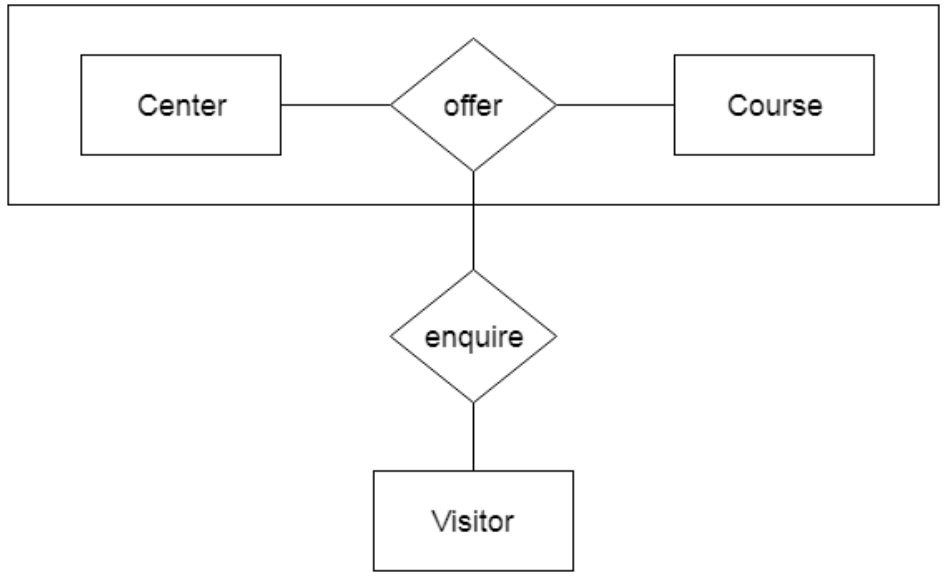
Generalization & Specialization



Aggregation

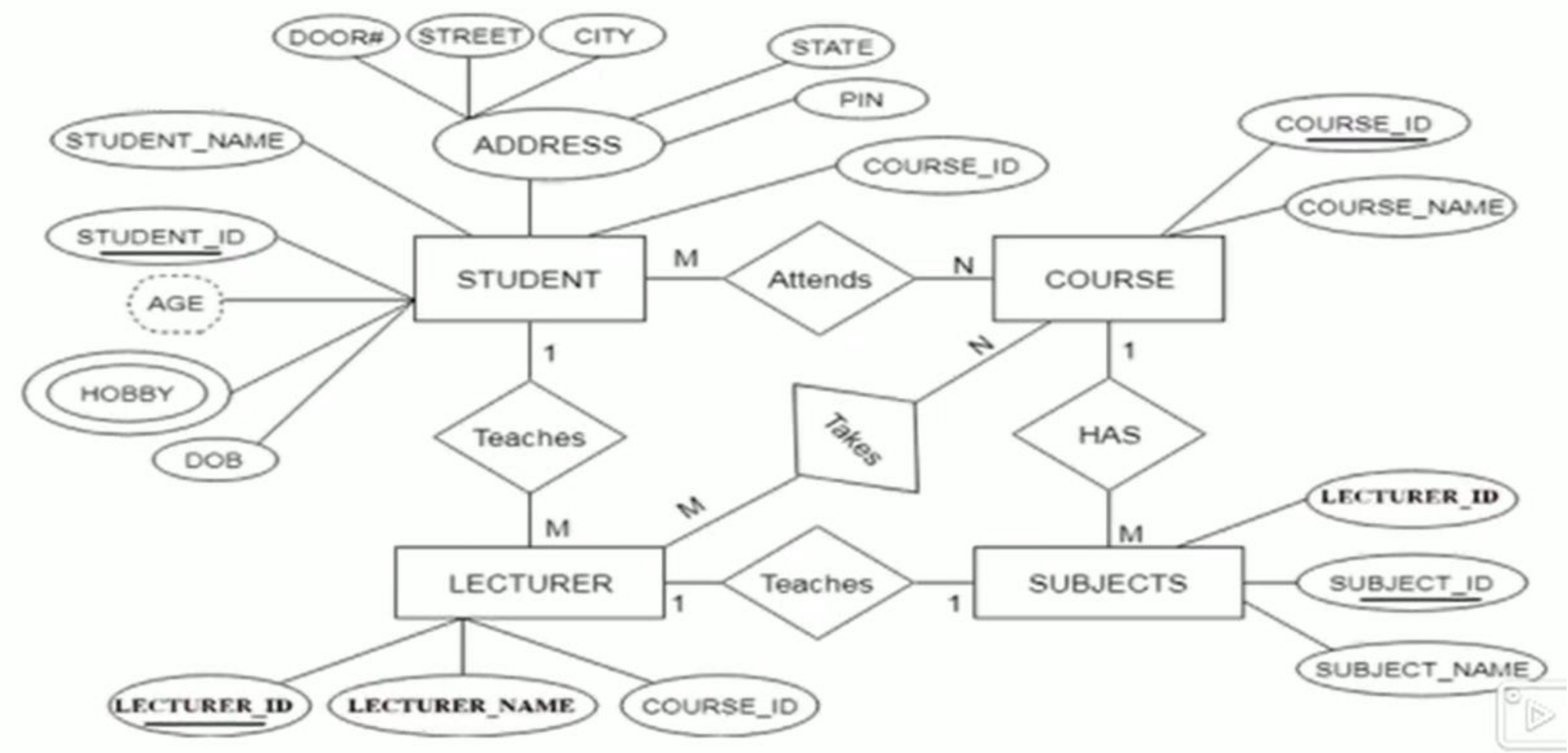
- In aggregation, the relation between two entities is treated as a single entity. In aggregation, relationship with its corresponding entities is aggregated into a higher level entity.

Example:



Center entity offers the Course entity act as a single entity in the relationship which is in a relationship with another entity visitor. In the real world, if a visitor visits a coaching center then he will never enquiry about the Course only or just about the Center instead he will ask the enquiry about both.

Converting E-R Diagrams into Table



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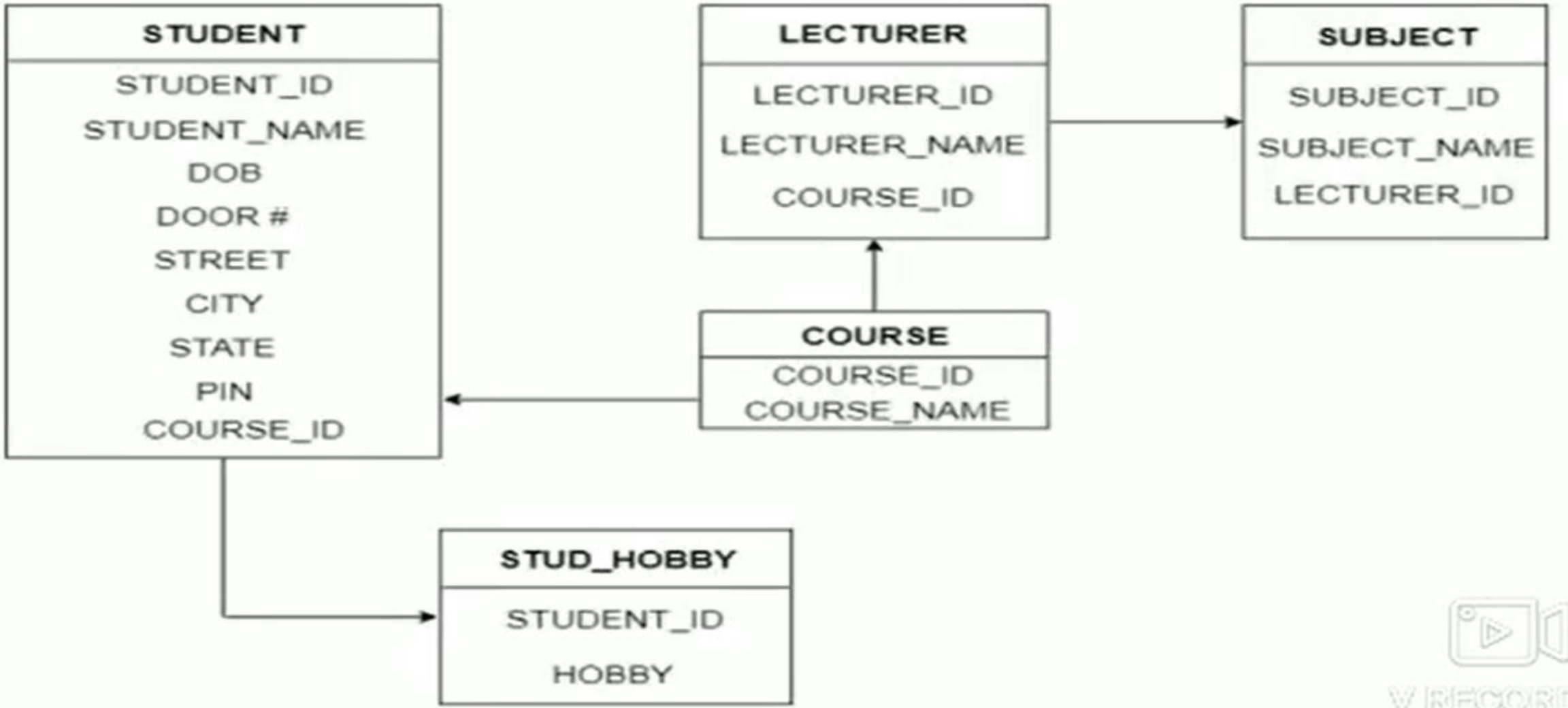
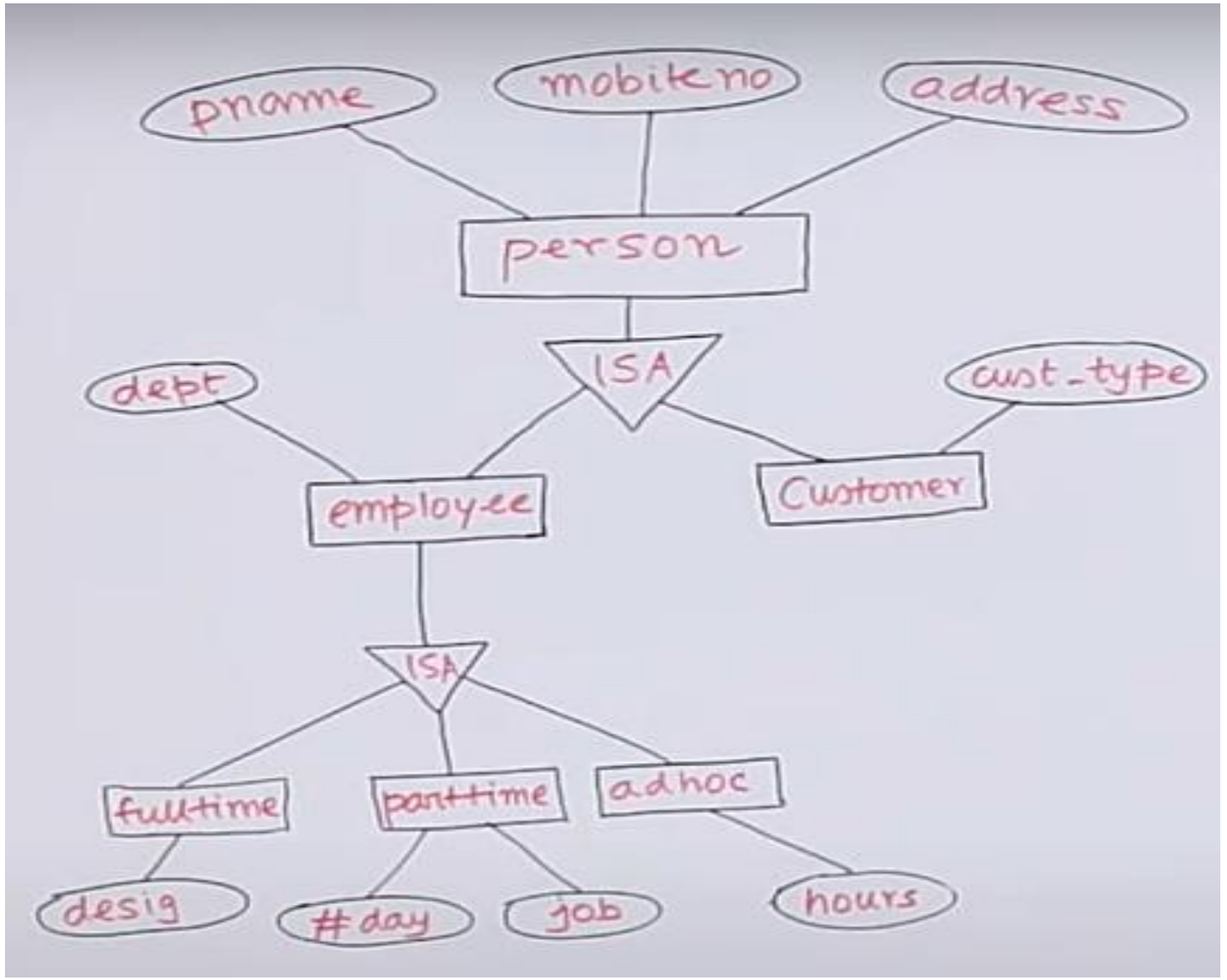


Converting EER Diagrams into Table



Converting EER Diagrams into Table

Tables will be:

1. CUSTOMER (pname, mobileno, address, cust_type)

2. FULLTIME (pname, mobileno, address, dept, desig)

3. PARTTIME (pname, mobileno, address, dept, #days, job)

4. ADHOC (pname, mobileno, address, dept, hours)

References

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- Elmasri and Navathe (2010), “Fundamentals of Database Systems”, 5th Edition, Addision Wesley.
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- M. Tamer Oezsu, Patrick Valduriez (2011). “Principles of Distributed Database Systems”, 2nd Edition, Prentice Hall.
- https://www.javatpoint.com/dbms-aggregation/last accessed on 12 December’ 2022.


Thank
you