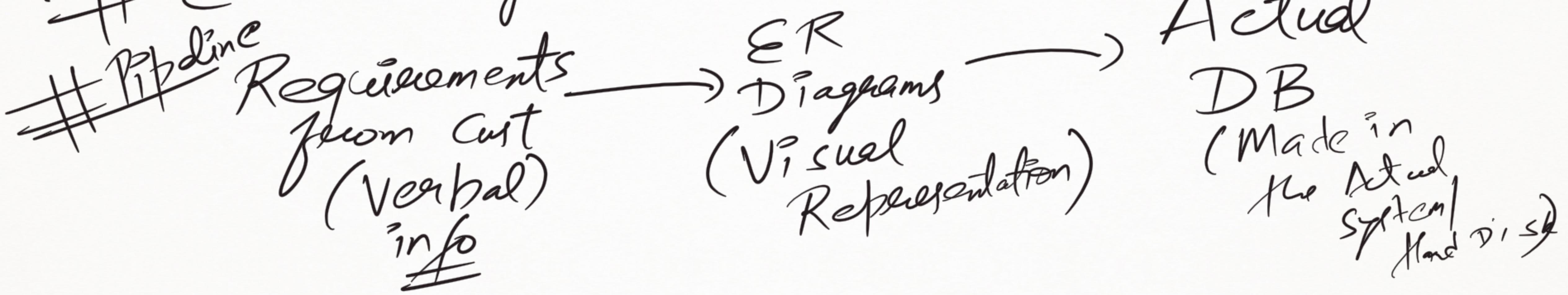


ER Diagrams

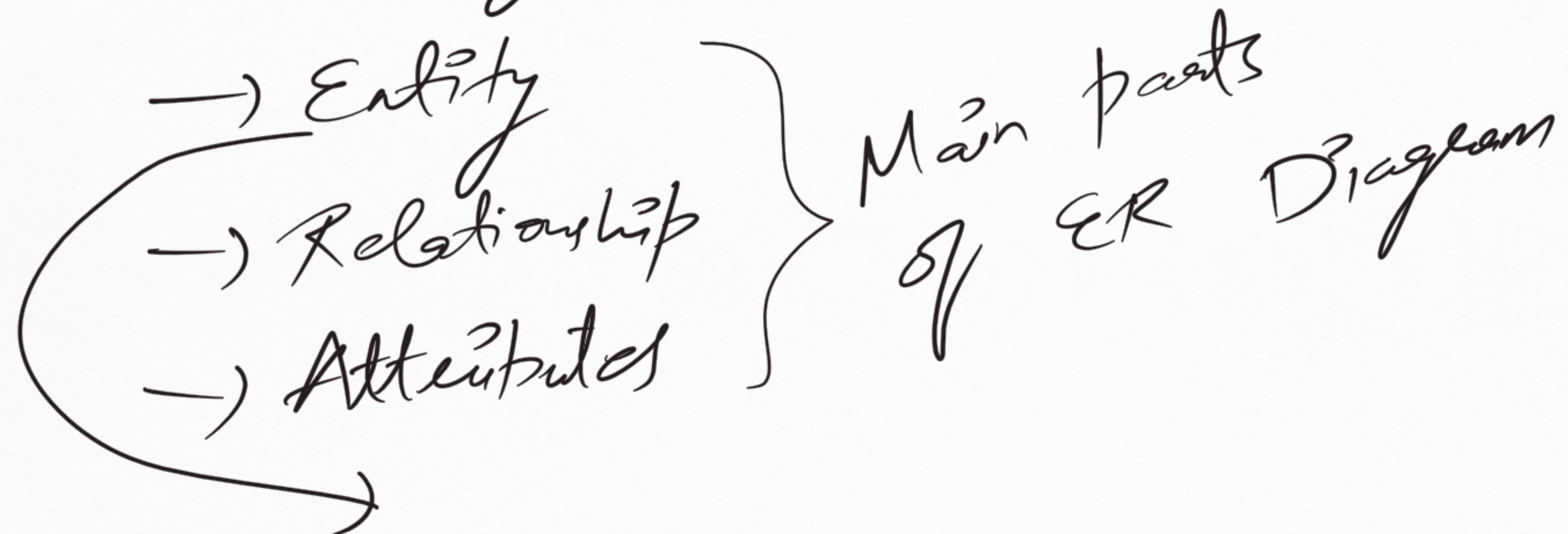


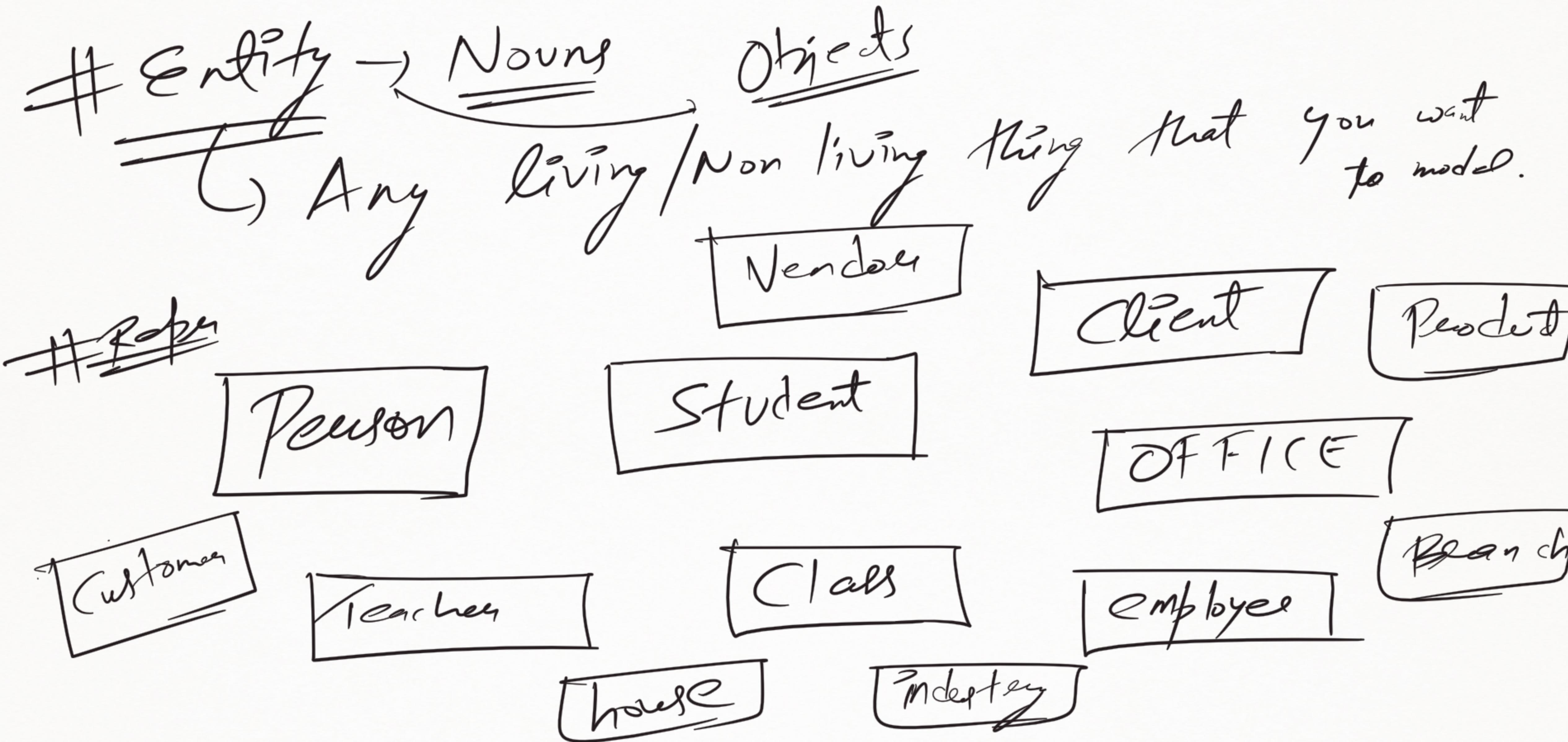
Why ER Diagrams?

High level View of the system from cust reqs

Discusses with the team.
(Prototype)

What is ER Diag.
Entity Relationship Diagram.

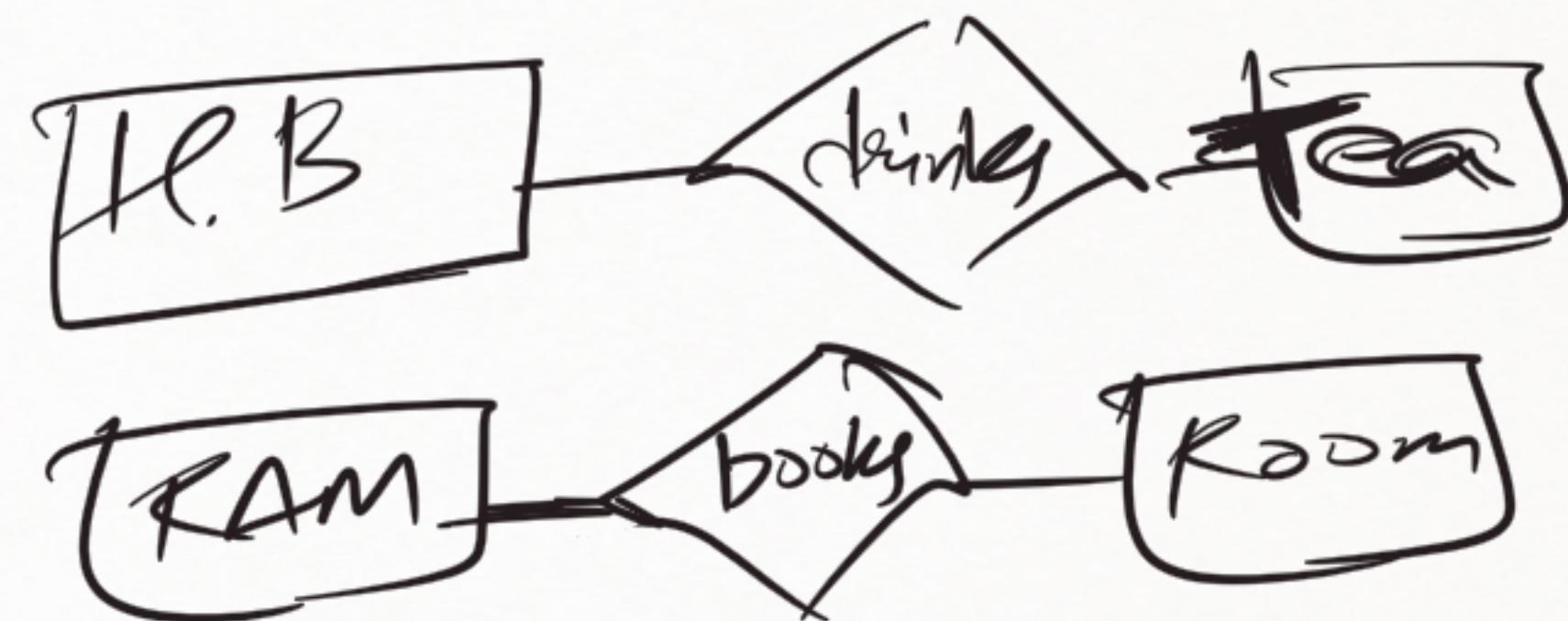
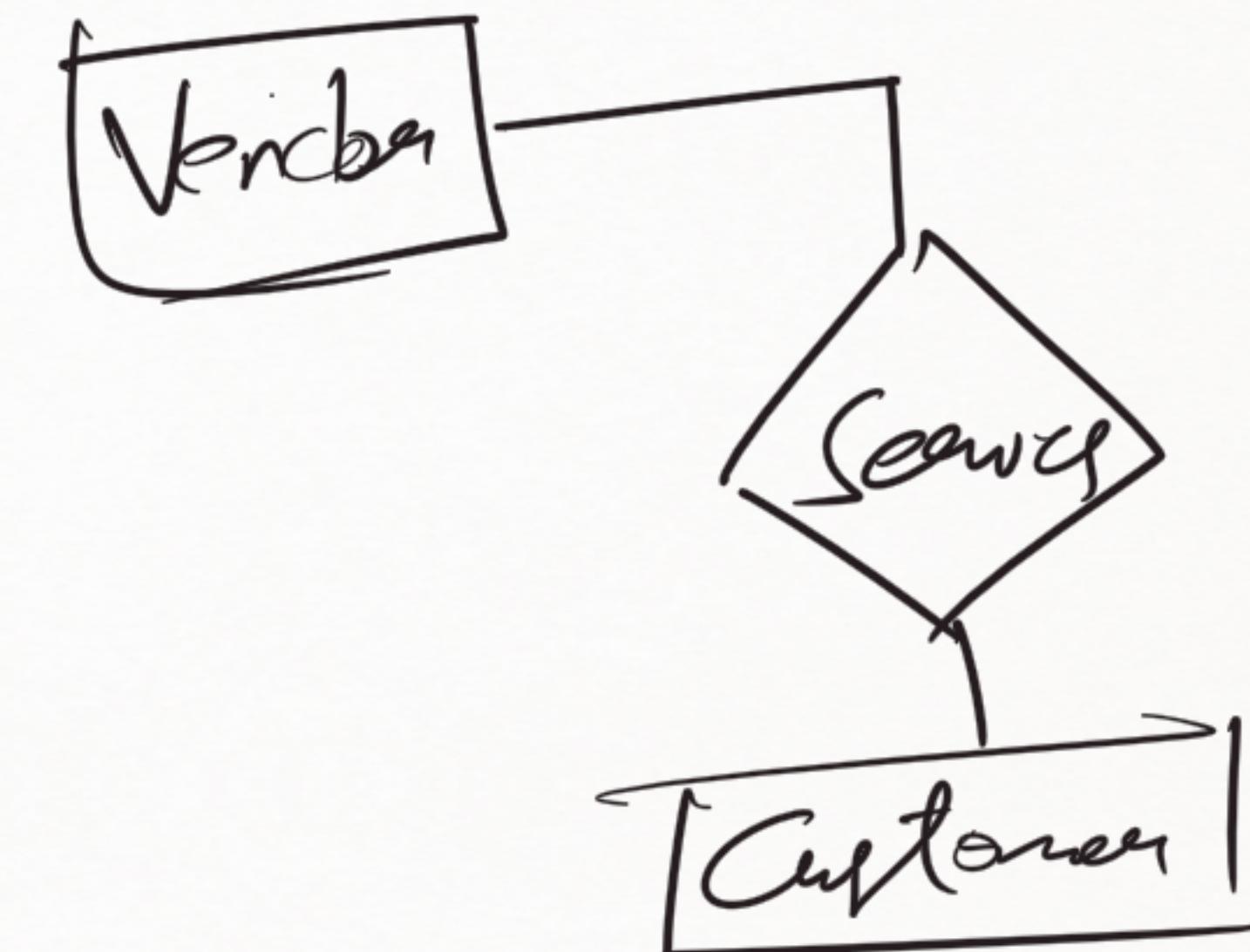
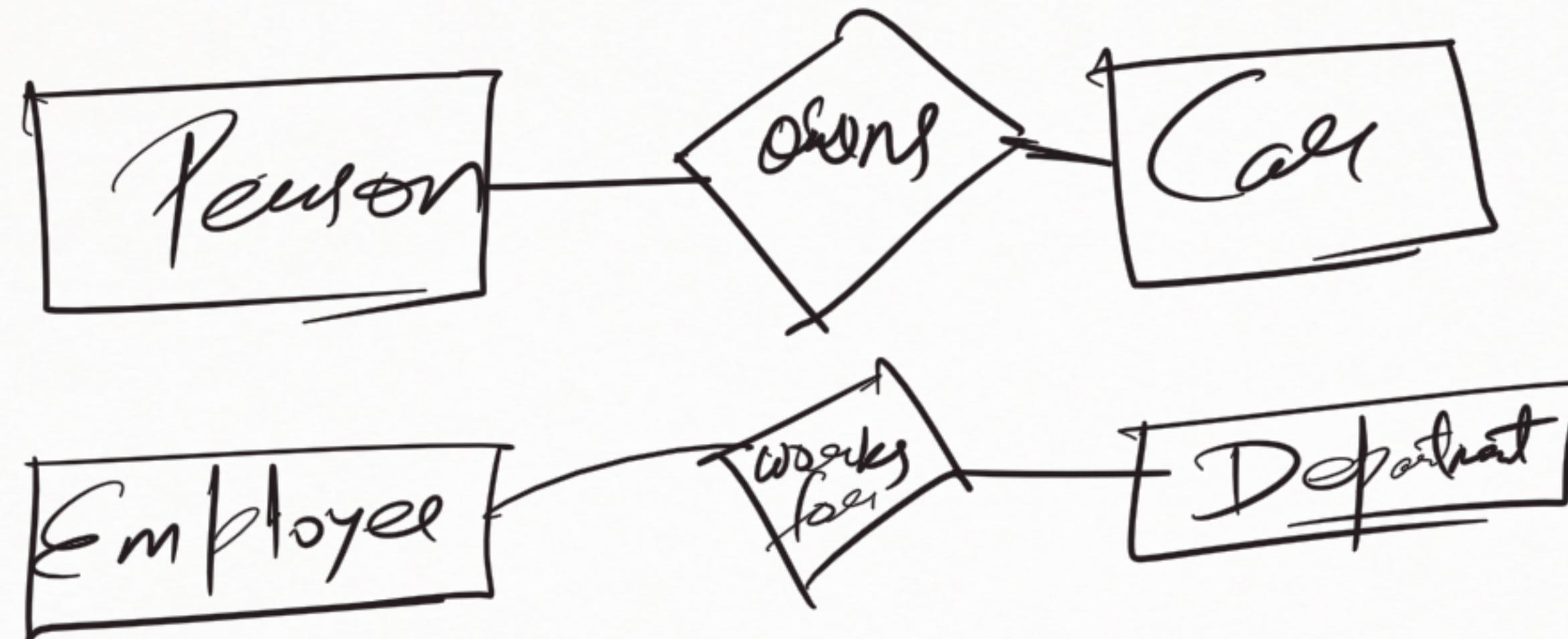




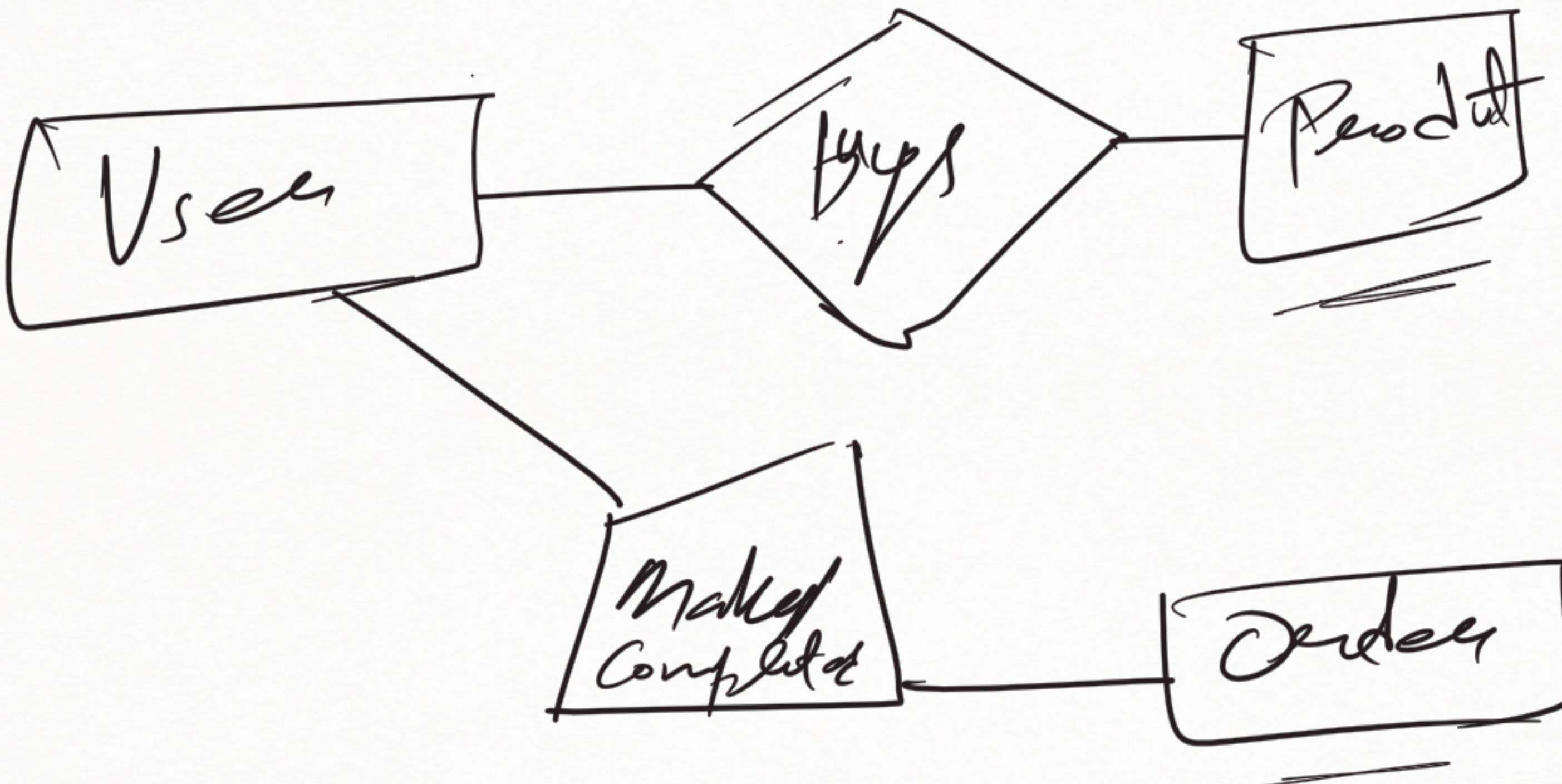
Relationships → Verbs
Association among entities

ex → A Person owns a Car

Roles



User has purchased → Customer
↓
E-commerce

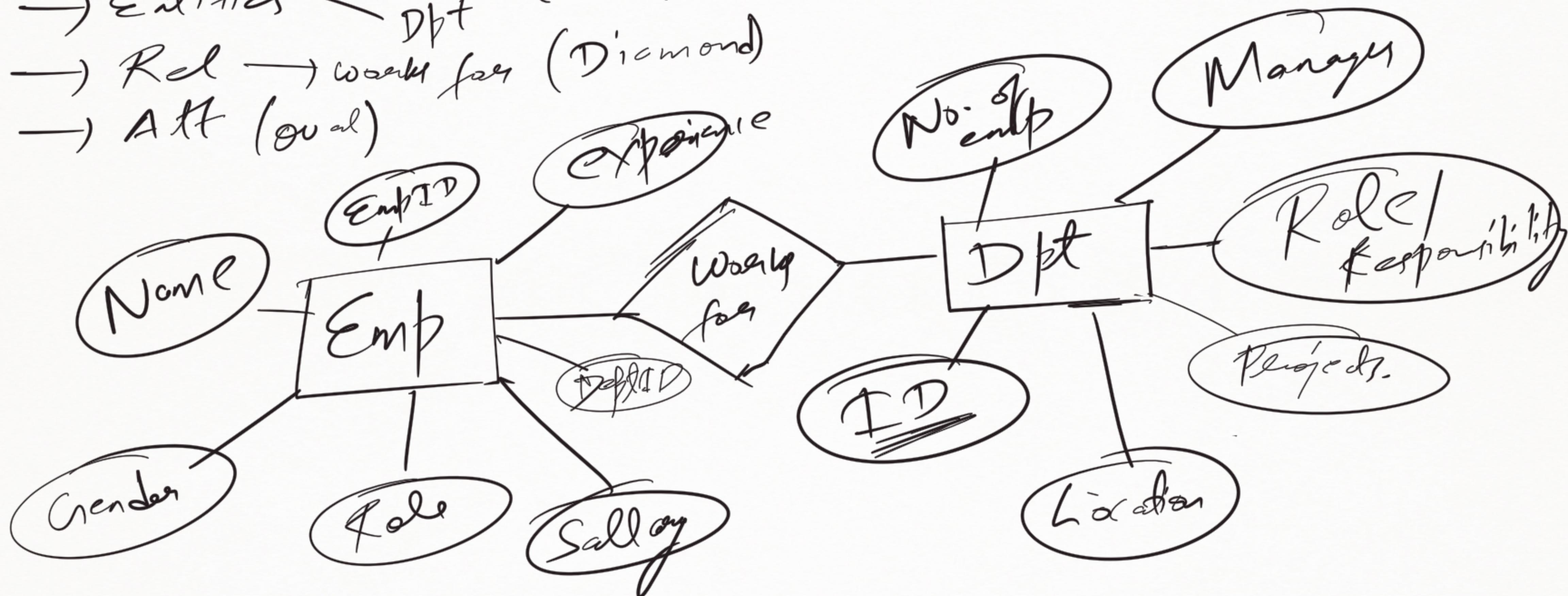


Attributes => Nouns which describe
Entities
(Characteristics / Properties of Entity.)



Employee works for a Department (ER Diagram)

- Entities
- Rel → works for (Diamond)
- Att (oval)



Entity Vs Entity Type

Schema

Heading

~~SQL~~ DESCRIBE table-name

Attributes

* Relation

~~VS Relation type~~

	KEY	NULL
a ₁	PRI	NO
a ₂	MVL	NO
a ₃		

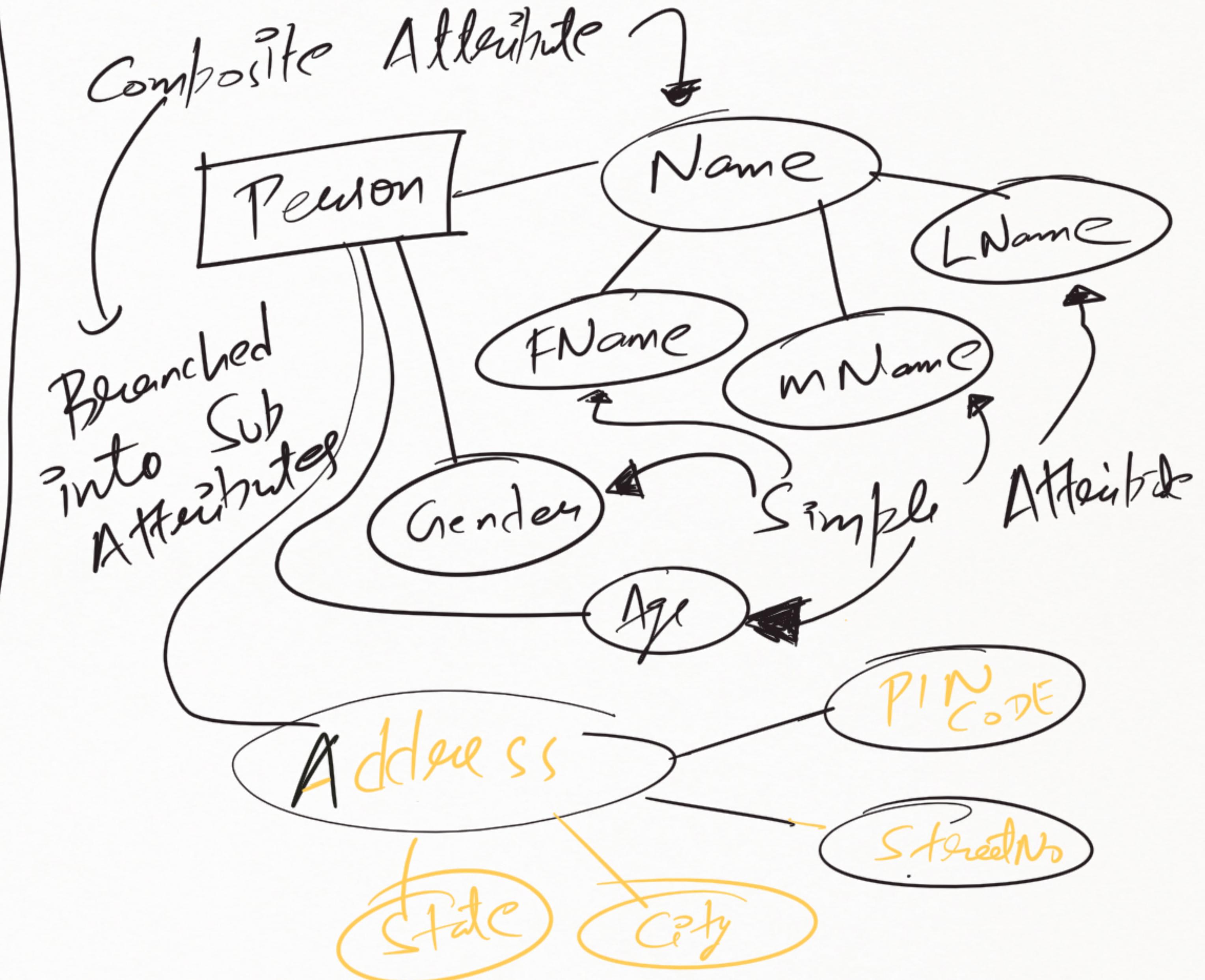
PERSON

(51, Akshay
Kumar,
Mumbai)

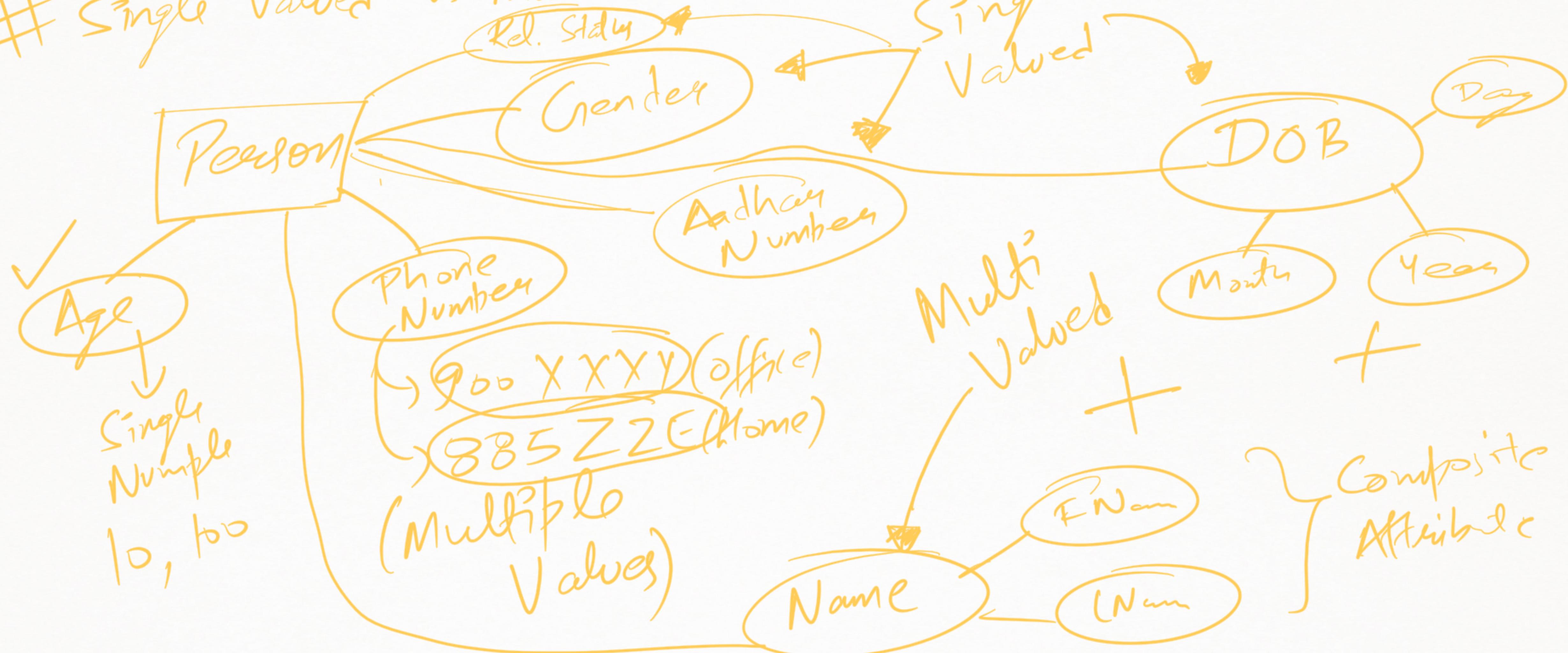
Entity

Row of Data
in the table

- # Attributes can be divided Based on:
- ① Composite Vs Simple Attributes
 - ② Single Valued Vs Multi Valued Attributes
 - ③ Stored Vs Derived Attr.
 - ④ Complex Attributes

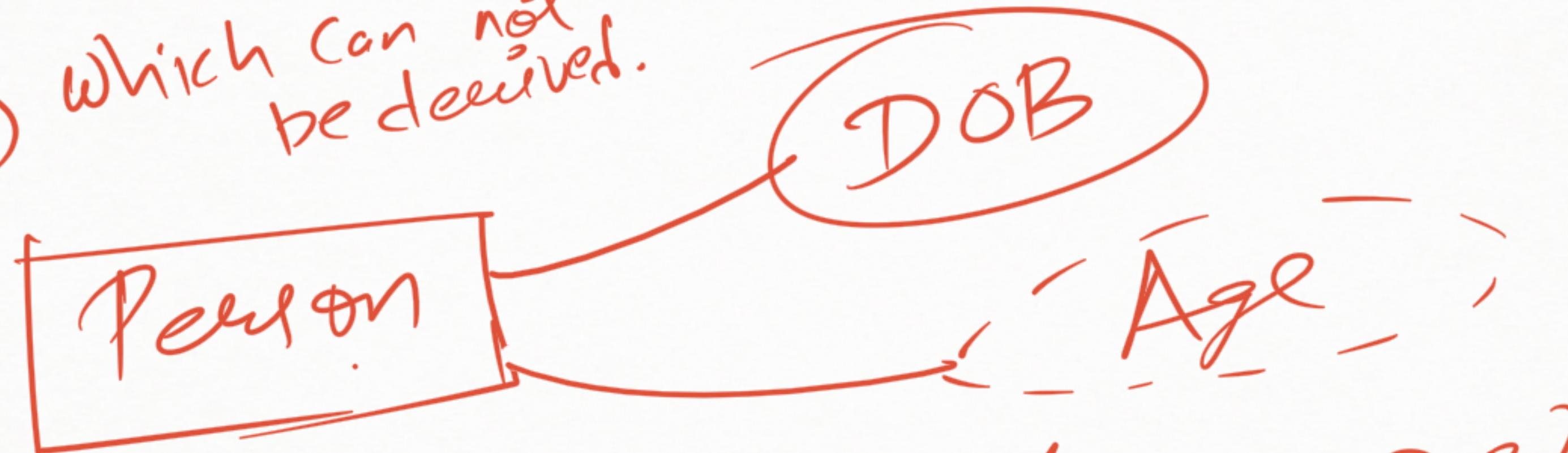


Single Valued Vs Multi Valued

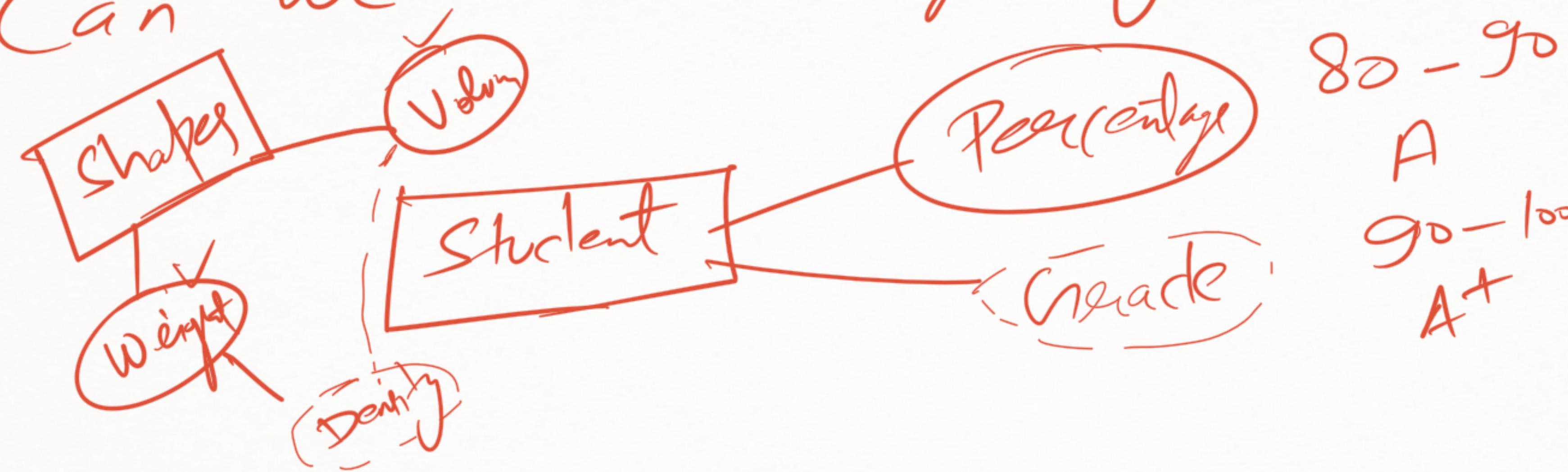


Stored Vs Derived

Stored \Rightarrow which can not be derived.



Can we derive Age from DOB?



~~# Complex Attributes~~

Composite

+

Multivalued

Simple +

③ Simple
VS Composite

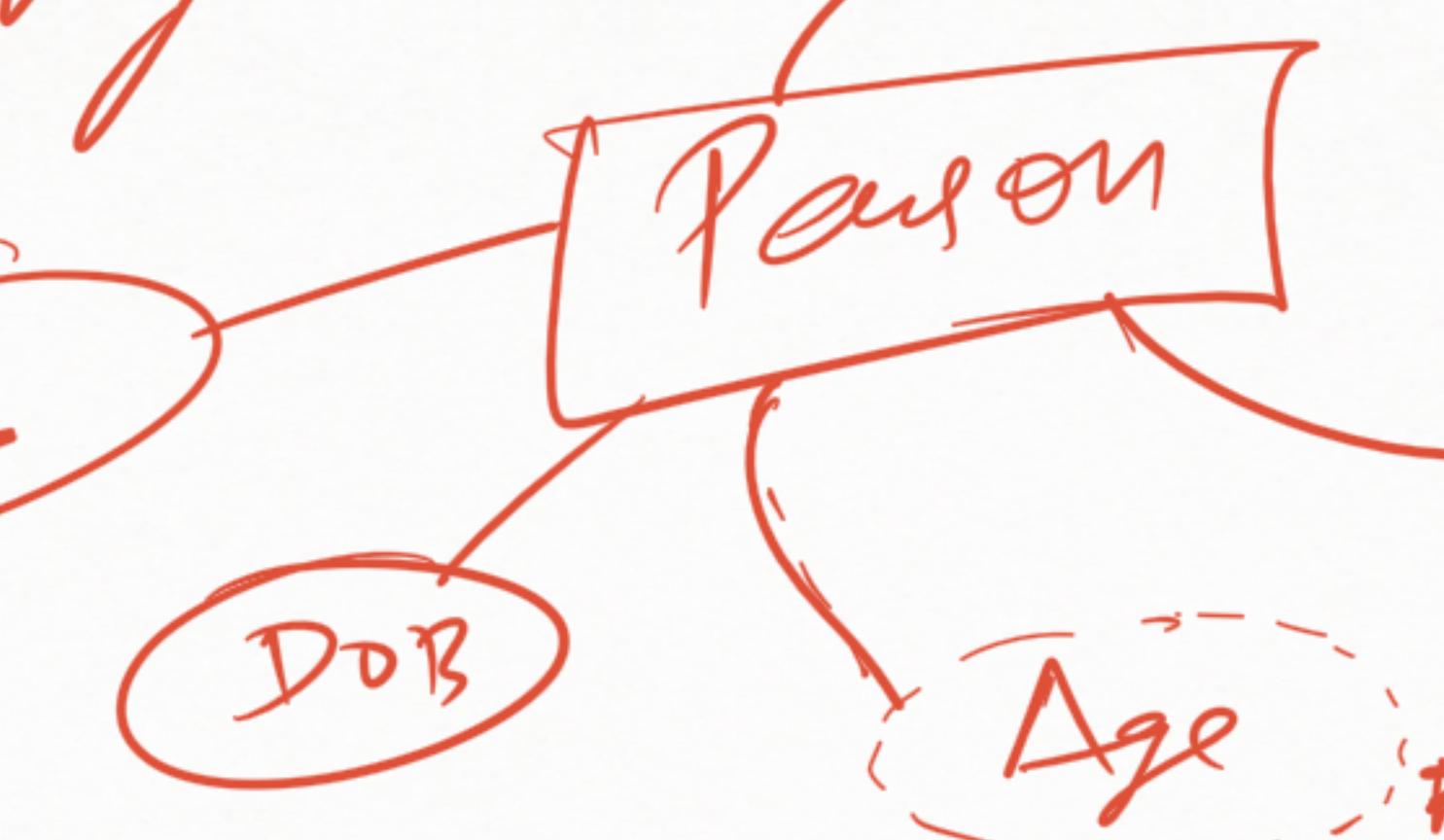
Multivalued



~~# Refer~~

① Primary Key

Underline



Simple +
SingleValued

Non Complex

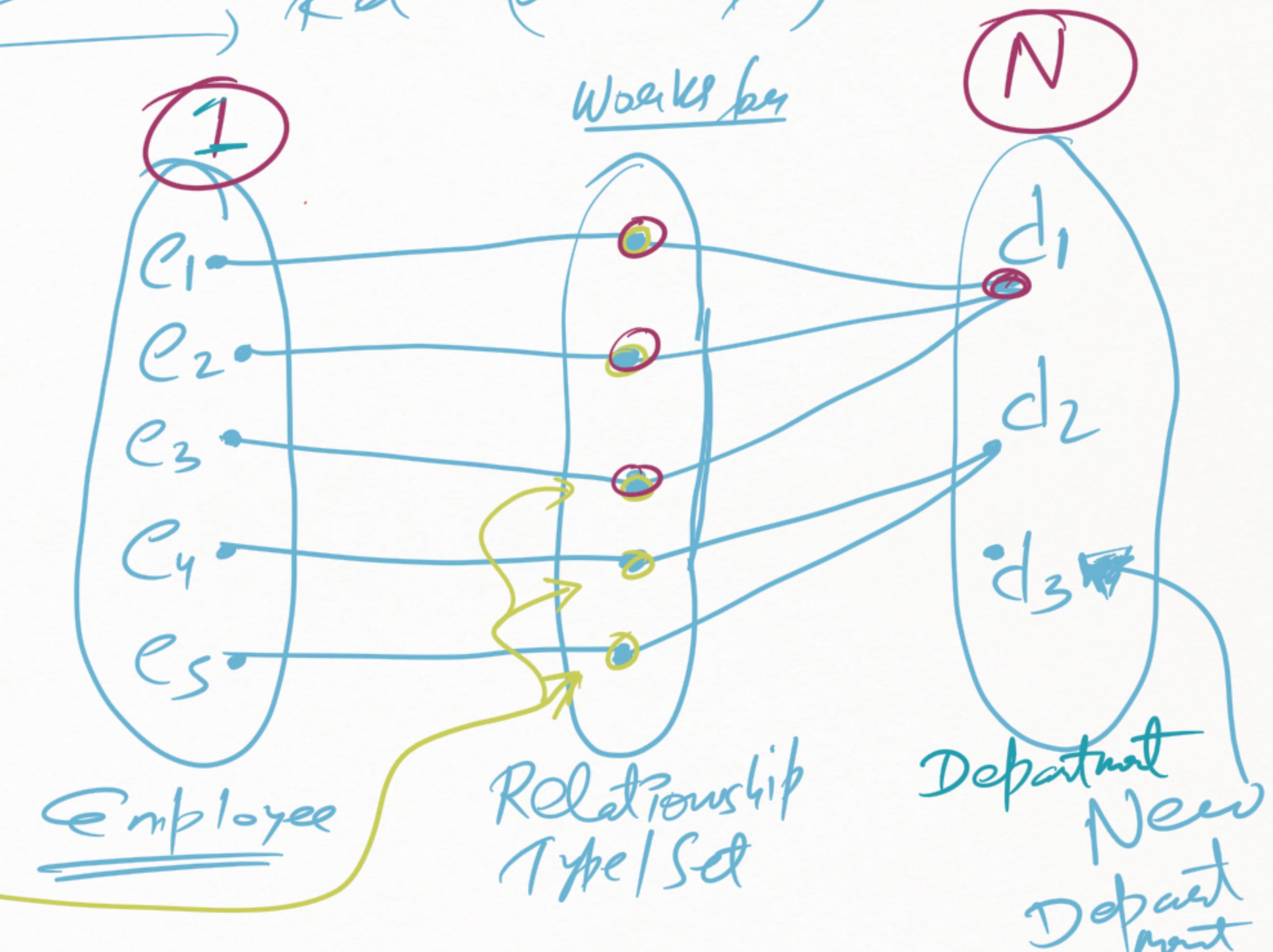
② Multivalued

④ Derived

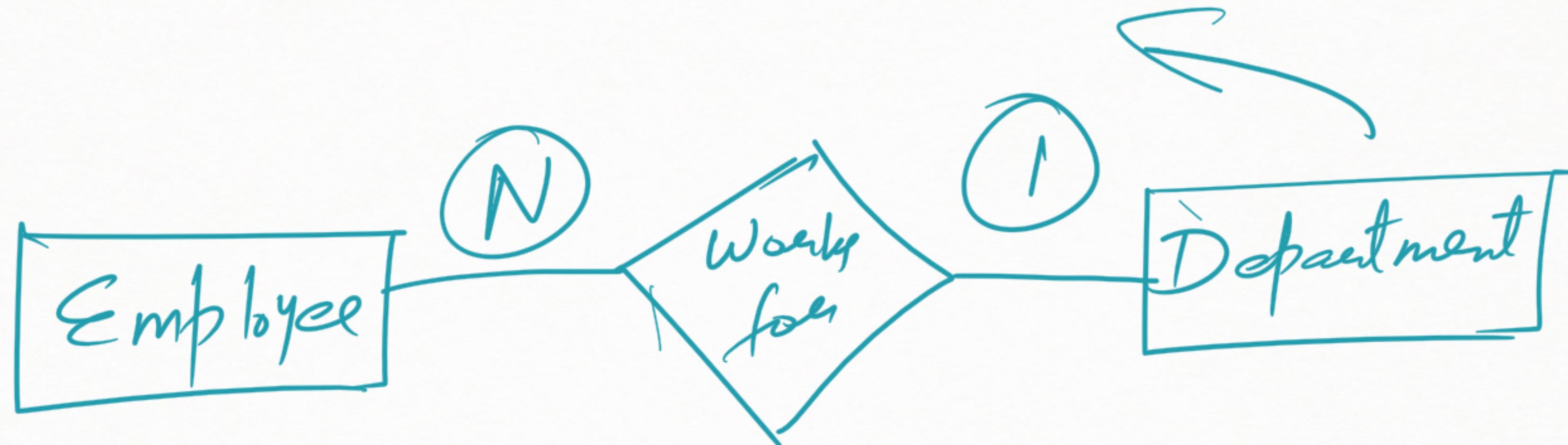
~~# Cardinality Relationships~~ → Entity (Emp, Dept)
 → Rel (works for)

- ✓ Every employee works for ≥ 1 Department.
- ✓ Dept. can have many employees.
- ✓ New Dept. may not have an employee.

Cardinality : Max No of Relationships in which an Entity can participate.
 Cardinality



#Röder



⇒ Many to One ($N:1$):

- Many employees can work for a single Department
- Single Department can have many employees

Types of Cardinality Relationships

- Many to one ($N:1$) ✓
- Many to Many ($M:N$) }
- One to One ($1:1$)