Mapping

Entity
- Strong : become a table
- Weak : become a table

 ← choose a attribute like ID to be Pk

Pk for weak → Primary key = Partial key + Primary key of related strong Entity
  └→ "Composite key"

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attributes
- Simple : Direct columns
- Composite : broken into sub_columns
- Multi_Value : make a new table
  * insert Pk from original table to the new table
  * Pk in New table is Fk
  * Pk for new table is Composite key
- Complex : Composite + Multi_value
  * Create new table
  * insert Pk from original table to be a Fk in the new table
  * Pk in the new table is Composite key
- Derived : not stored directly " Calculated when needed"
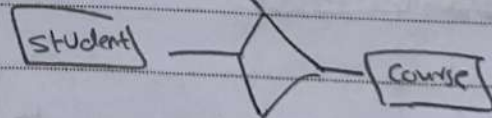
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relationships:

Self (Unary)

* Pk → Fk

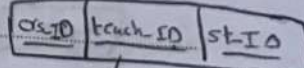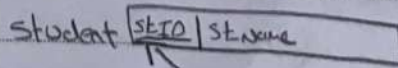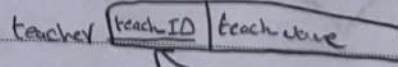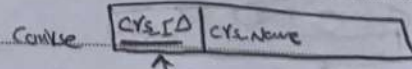| emp_ID	emp_name	emp_address	SUP_ID
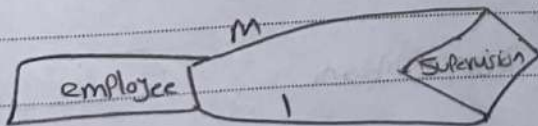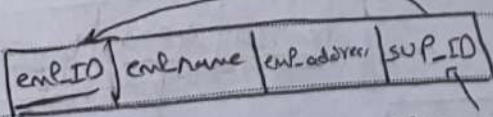
ID For the supervisor

ternary

- Create new table
- insert the Pk For the three tables to the new table

Course
crs_ID	crs_name

teacher
teach_ID	teach_name

Student
st_ID	st_name

crs_ID	teach_ID	st_ID

look to Cardinality & Participation

Binary ⟨ 1:1
1:M
M:M

1:1   look to Participation ⟨ mandatory
Partial

* merge 2 Entities in one table
* New Plc : Plk₁ or Plk₂

create 2 tables (emp, dep)

take Plc from Partial to mandatory as Fk

emp [ID | Name]   dep [depID | depName | empID | hiring date]

Pk ? Plk₁ or Pk₂

create new table, Plk ? Plk₁ and Plk₂

emp [ID | Name]
dep [ID | Name]

emp [emp ID | dep ID | hiring date]
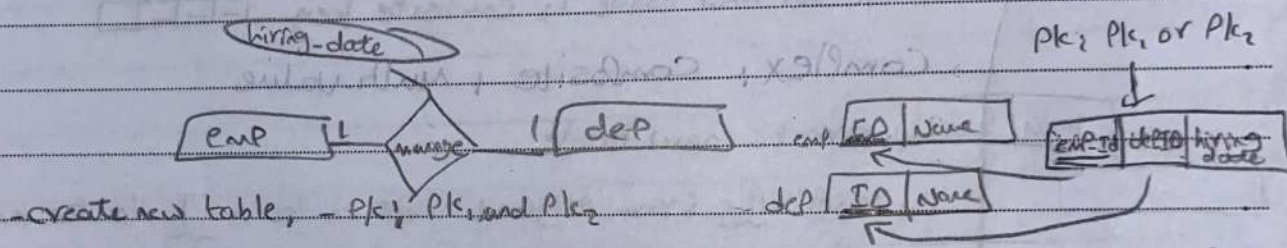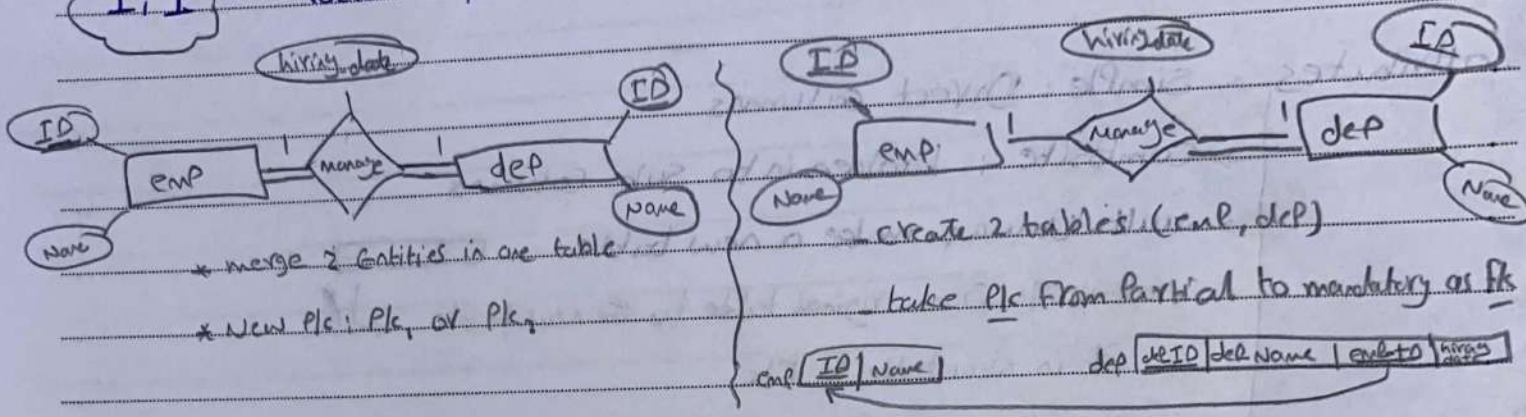
1:M   look for M Participation

create 2 tables (emp, dep)
- Plk₁ ──→ Flk

emp [ID | Name | dep ID | hiring date]

dep [dep ID | dep Name]

create new table

emp [ID | Name]

dep [ID | Name]

Plk ? Pk for m

emp ID | dep ID | hiring date
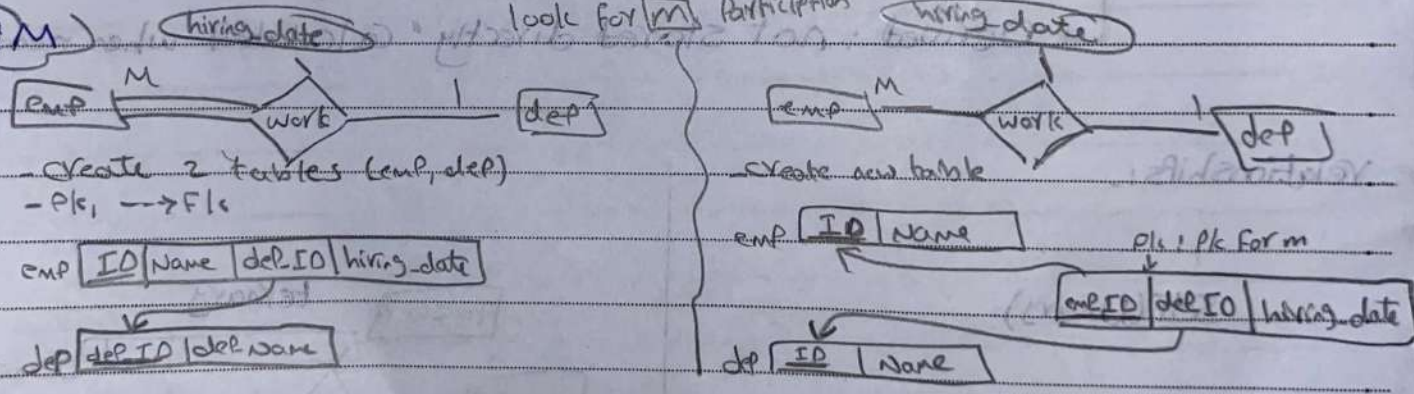
M:M   do not look at Participation

emp [ID | Name]

dep [ID | Name]

emp.ID | dep.ID | hiring date

create new table

Plk₁ Plk₂ ──→ flk

New Plk : Plk₁ + Plk₂