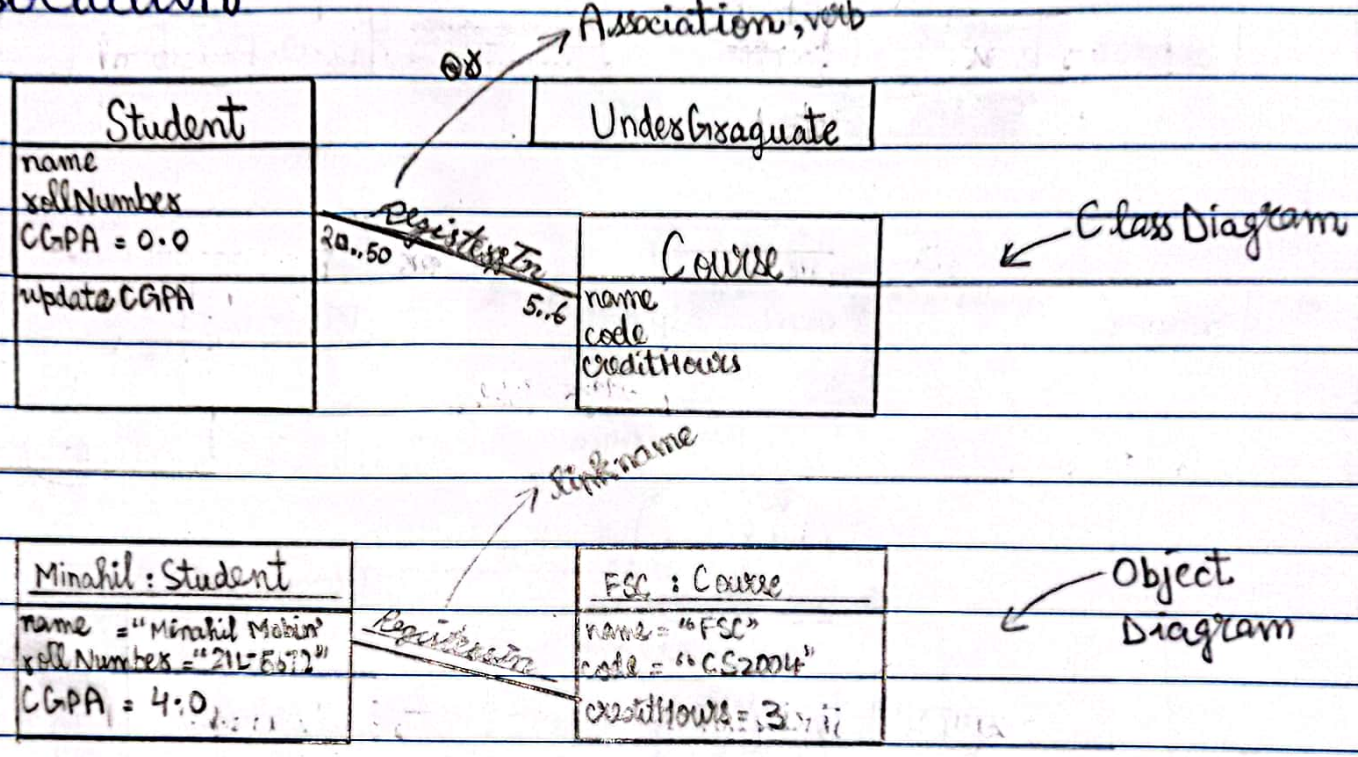
# Analysis Class Diagram

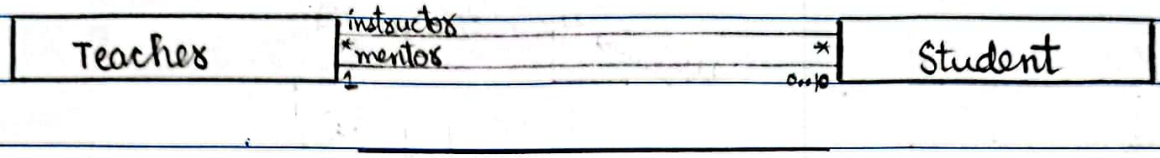
## Association

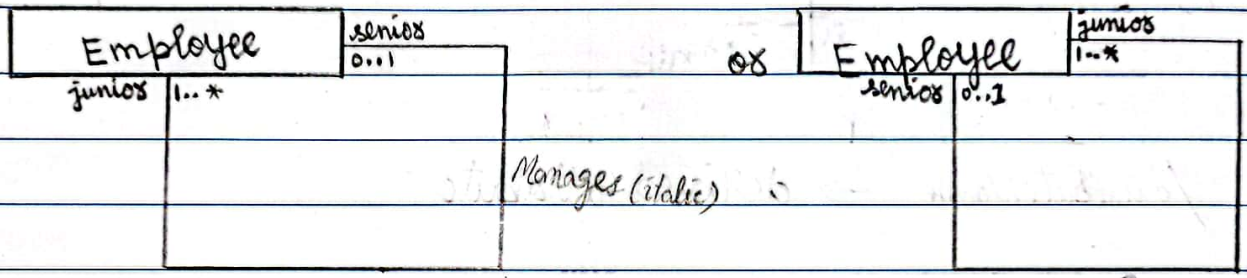



| | |
|---|---|
| * | zero or more |
| 1..* | one or more |
| 5 | exact 5 |
| 1..5 | from one to five |

⇒ Cardianality is the actual count e:g 5 exact 5.

⇒ Multiplicity is the constraints on Cardianality e:g 5..6 which means not less than 5 and greater than 6.

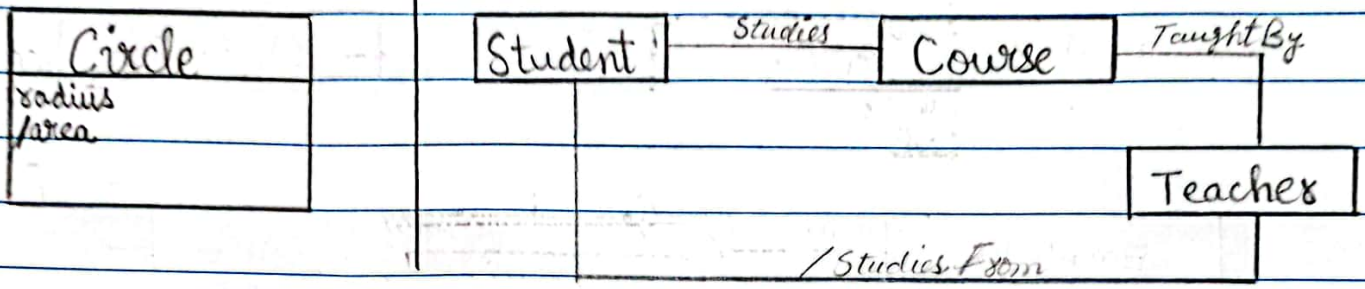


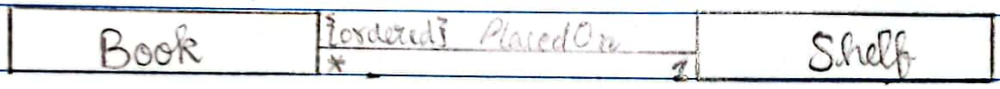


## Association:

1) Self
2) Binary
3) Many
4) Qualified




⇒ /attributeName → derived attribute




⇒ {ordered} Special Set, Order is important.

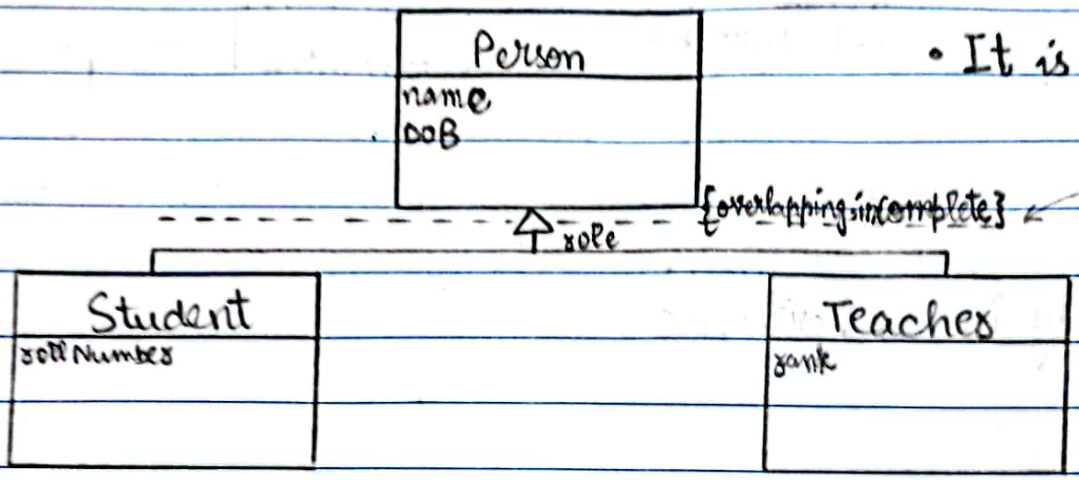
⇒ {sequence} Duplicates are allowed, Order is important.

⇒ {bag} Multiset, Order is up to us (not important), Duplicates allowed.

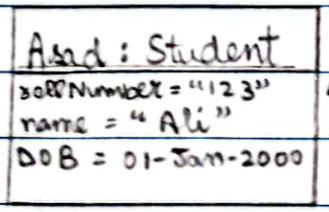
⇒ {set} Duplicates not allowed, Order not important.

| | Order Imp | Order Not Imp |
|---|---|---|
| Duplicates A | Sequence | Bag |
| Duplicates NA | Ordered | Set |

# Inheritance



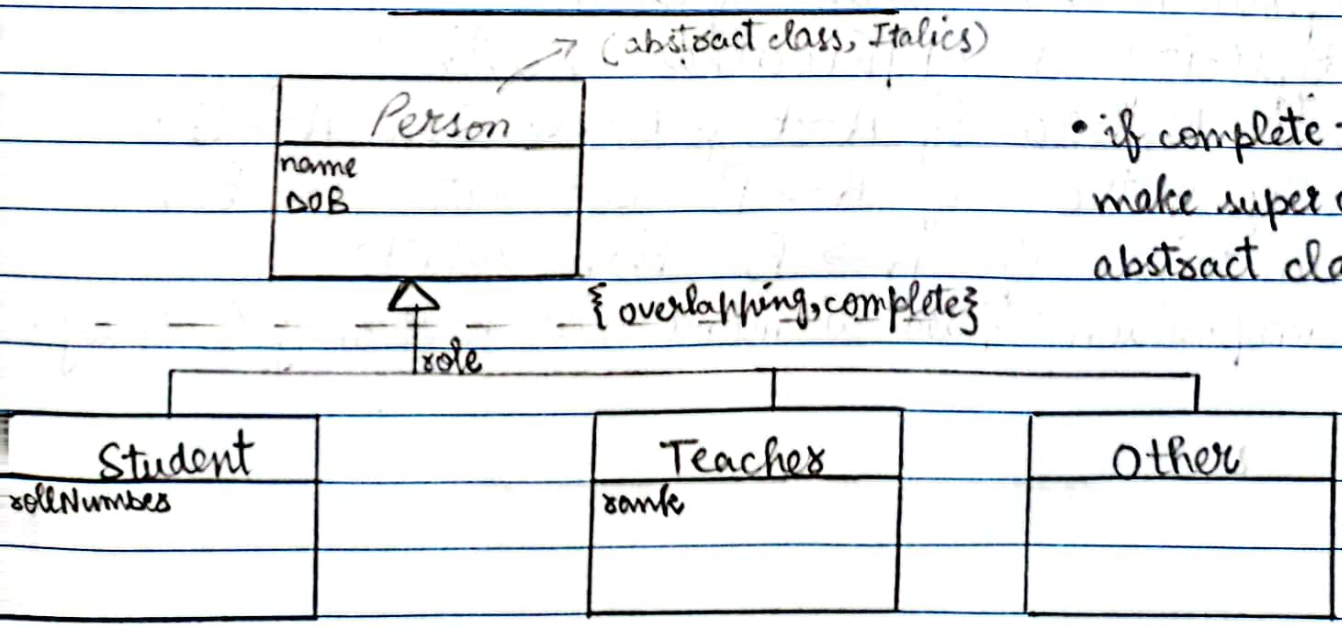

- It is a binary association
- Class Diagrams



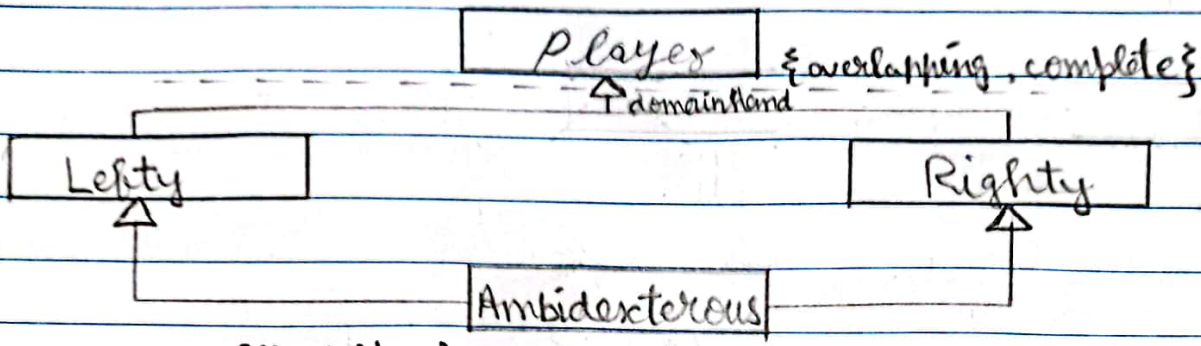

- Object Diagram

**constraints**

- {Overlapping}
- {Incomplete}
- {Complete}
- {Disjoint}




- if complete then make super class an abstract class.




- No multiplicity in inheritance

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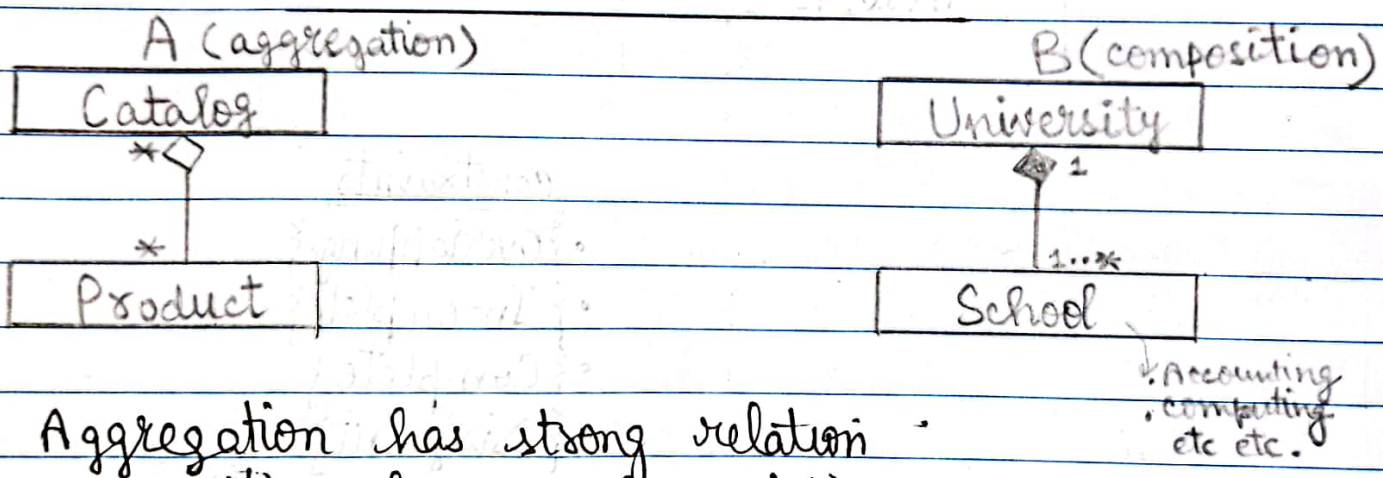


- Aggregation has strong relation.
- Composition has weak relation
- Multiplicity is applicable on both.
- Transitive Nature if A→B & B→C then A→C.
- Anti-Symmetric if A→B but not A←B.
- Symmetric if A→B then valid.
- In composition filled diamond will have only 1 entity.

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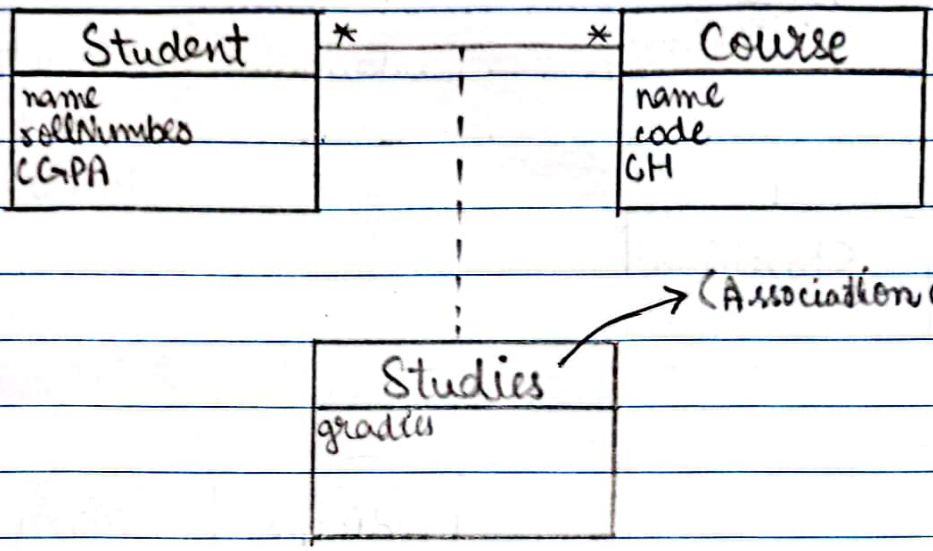
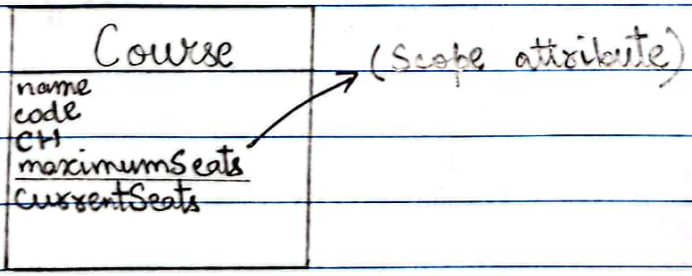
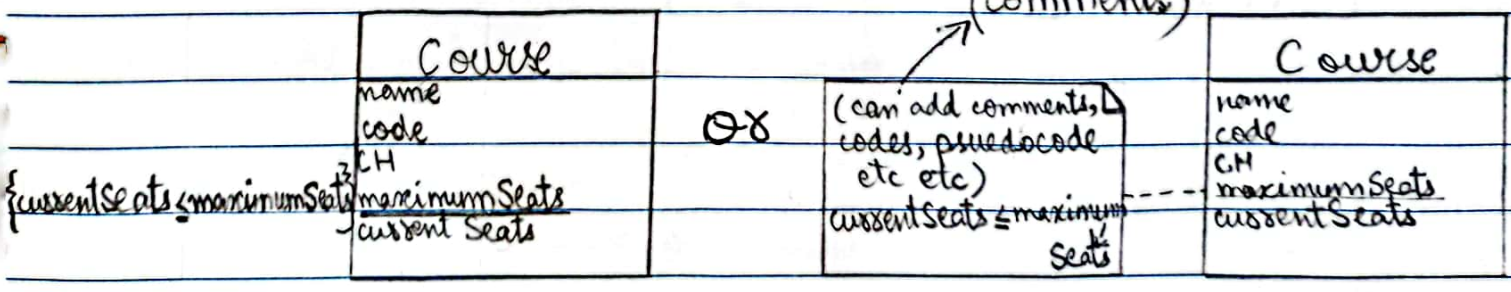
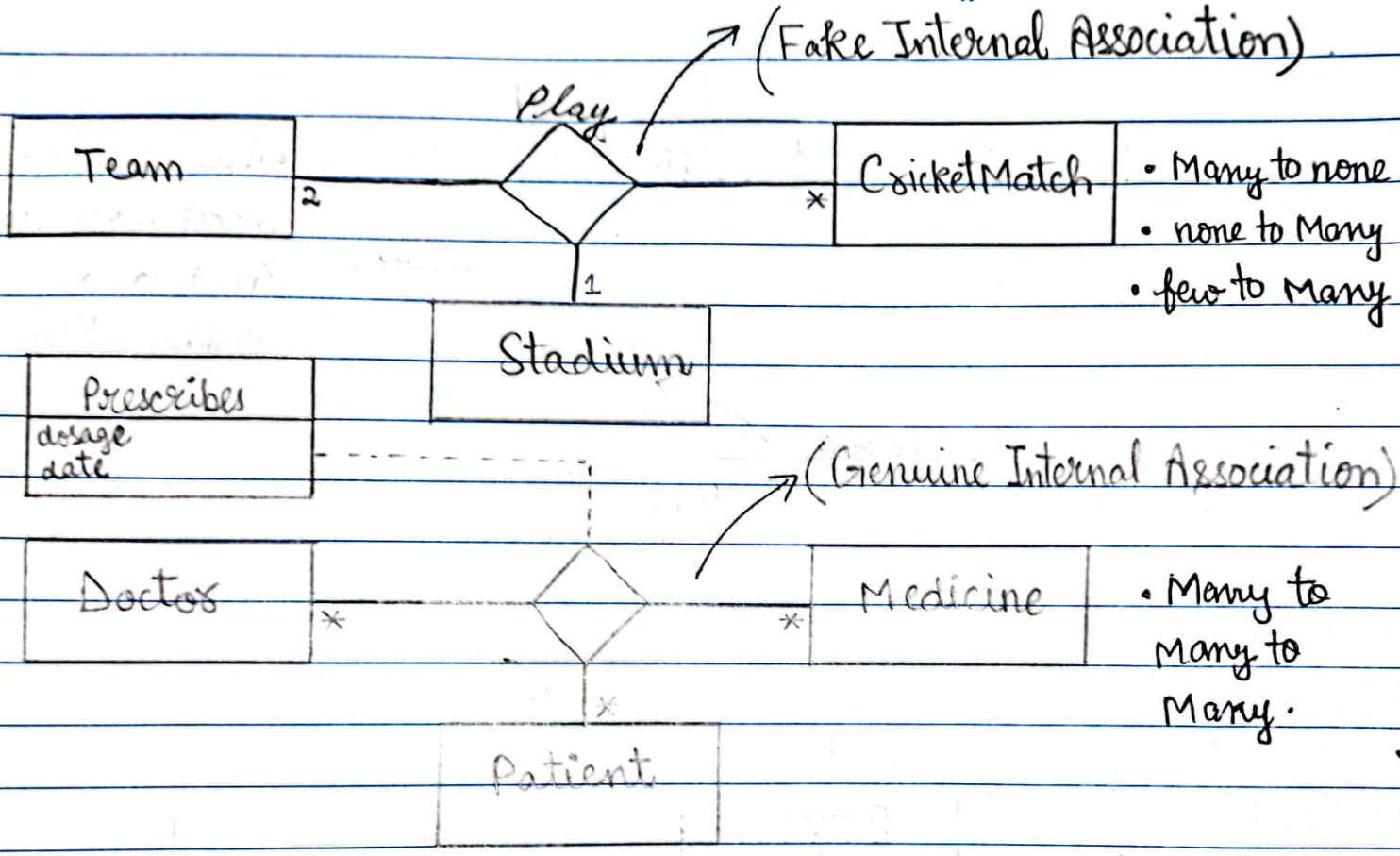


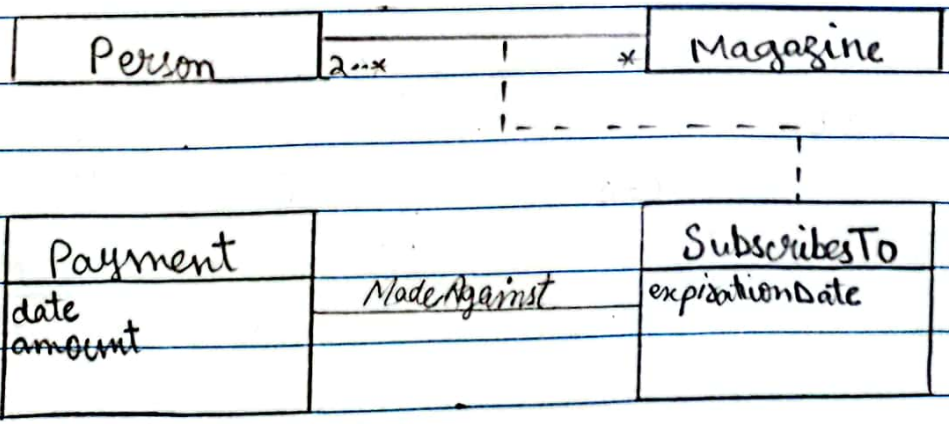

- Association classes makes more sense in * to * combinations case



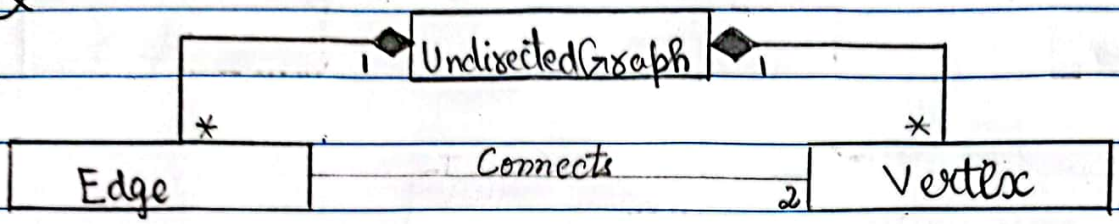




(Fake Internal Association)
Play
Team
2
*
CricketMatch
1
Stadium
• Many to none
• none to Many
• few to Many
Prescribes
dosage
date
(Genuine Internal Association)
Doctor
*
*
Medicine
*
Patient
• Many to Many to Many.

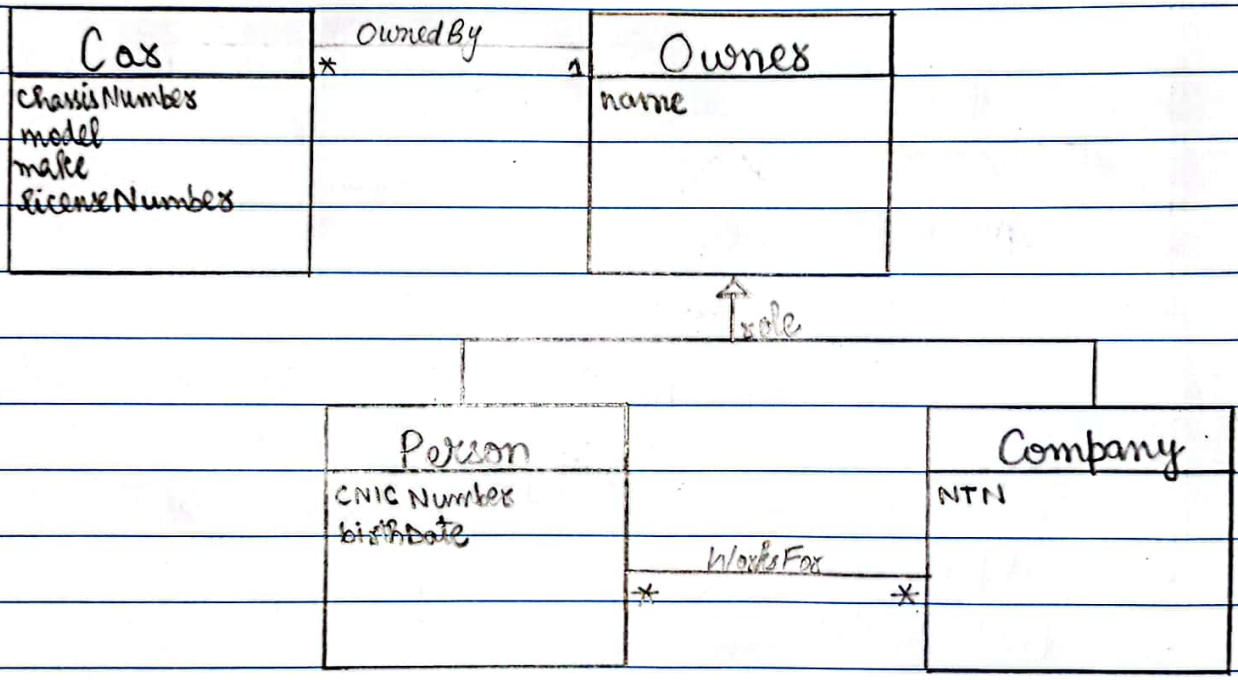
Q


Person
2..*
*
Magazine
Payment
date
amount
MadeAgainst
SubscribesTo
expirationDate

Q




Q




- Words like : consists, includes, comprise can be hint using aggregation / composition.