DBMS

Data Models

Designing of DataBase

Student Database

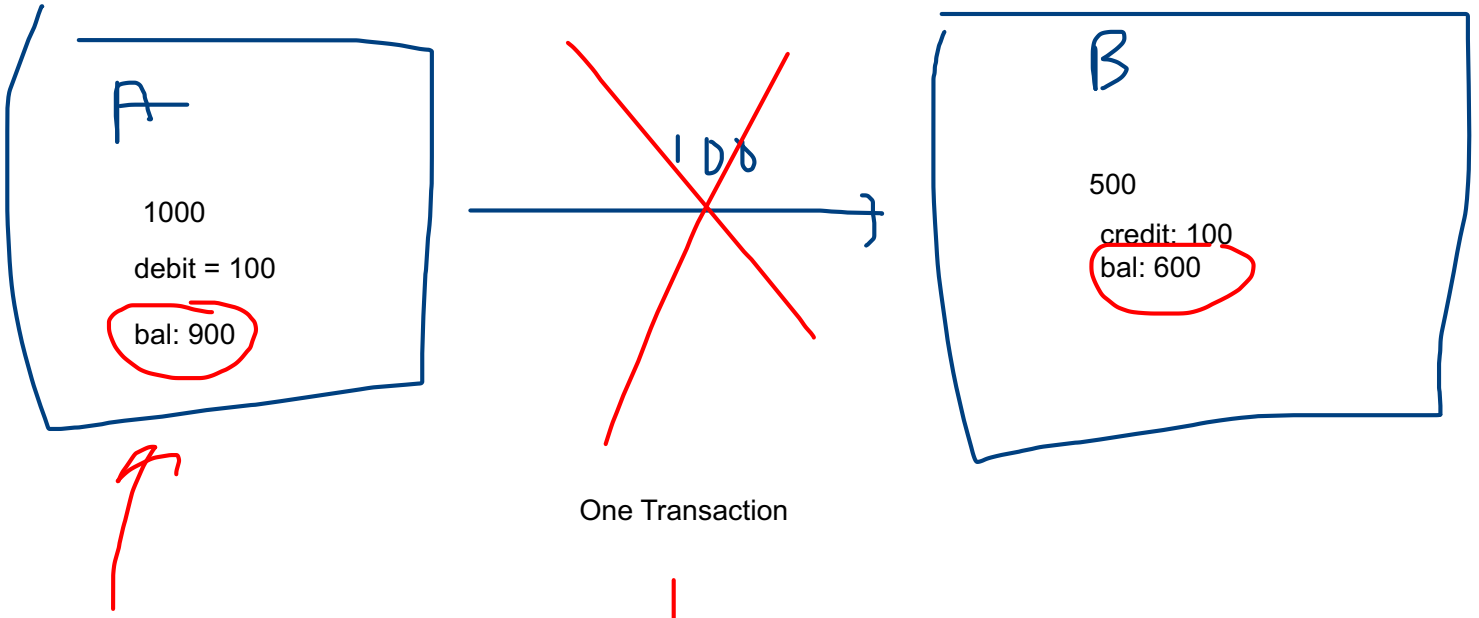
SDE1

SDE2

SDM

Student ID	Name	age	Phone no.
1	Eshan	21	99
2	Eshan	22	88

ATOMICTY



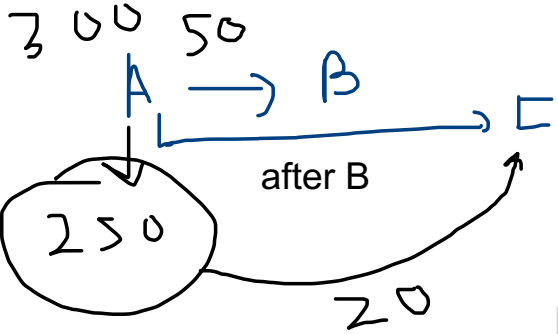
One Transaction

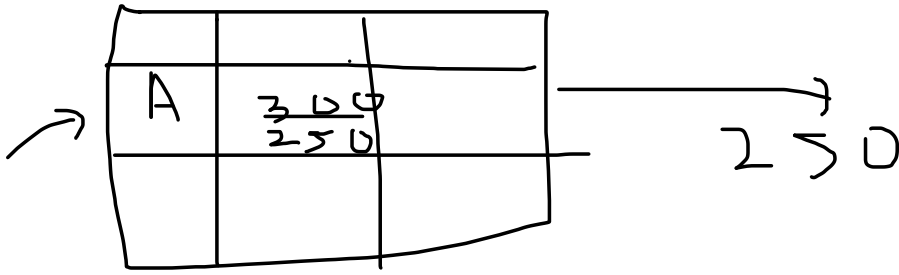
ROLLBACK

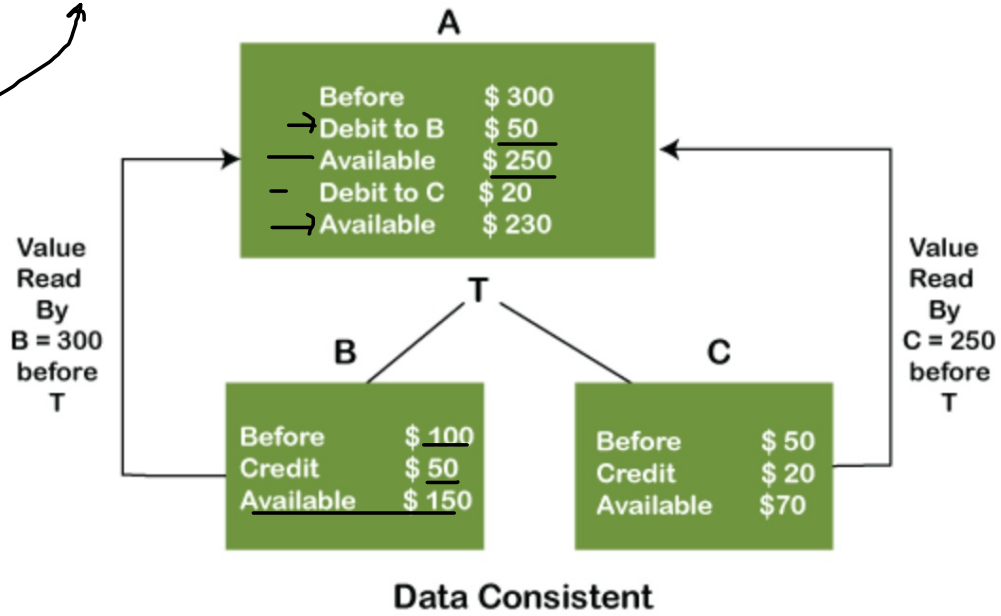
SQL Query running --> updating the DB's

COMMIT

Consistency





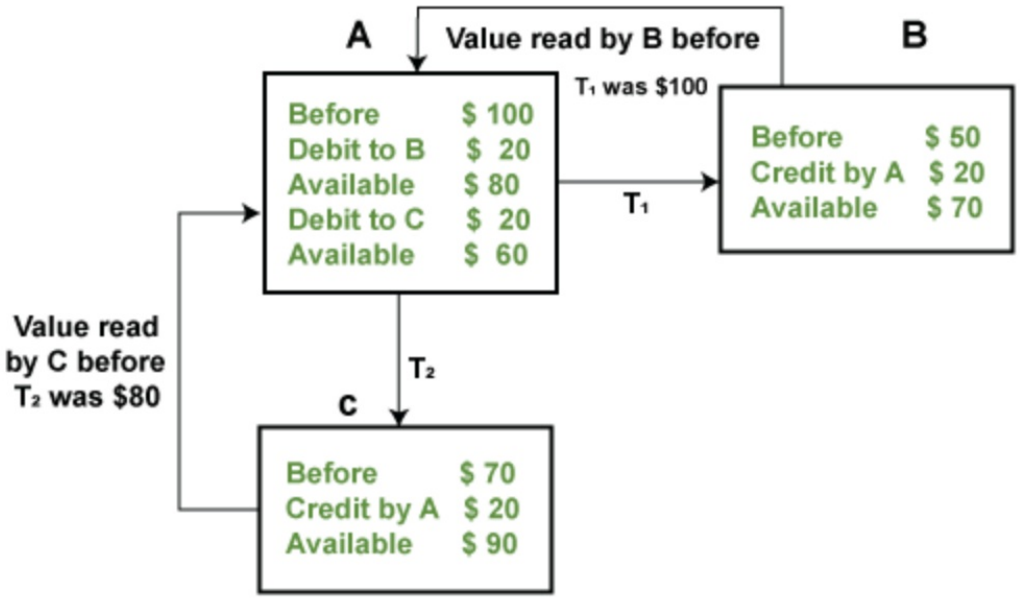


T

B C

In the above figure, there are three accounts, A, B, and C, where A is making

Isolation

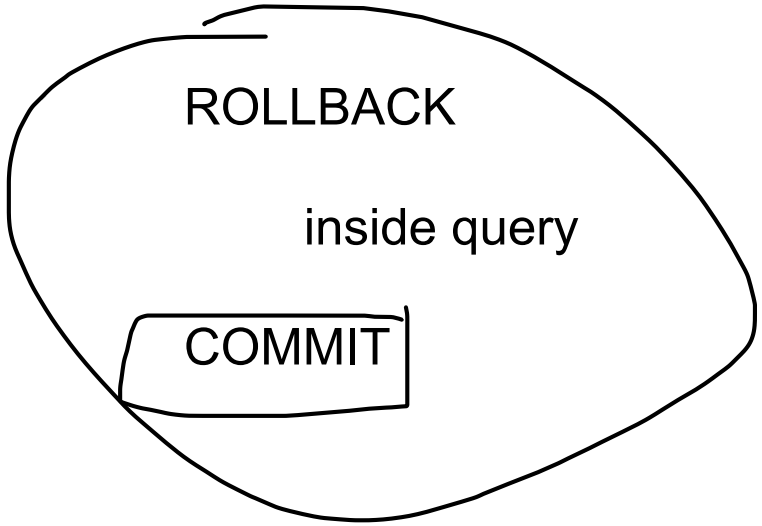


Isolation - Independent execution of T_1 & T_2 by A

T_1

T_2

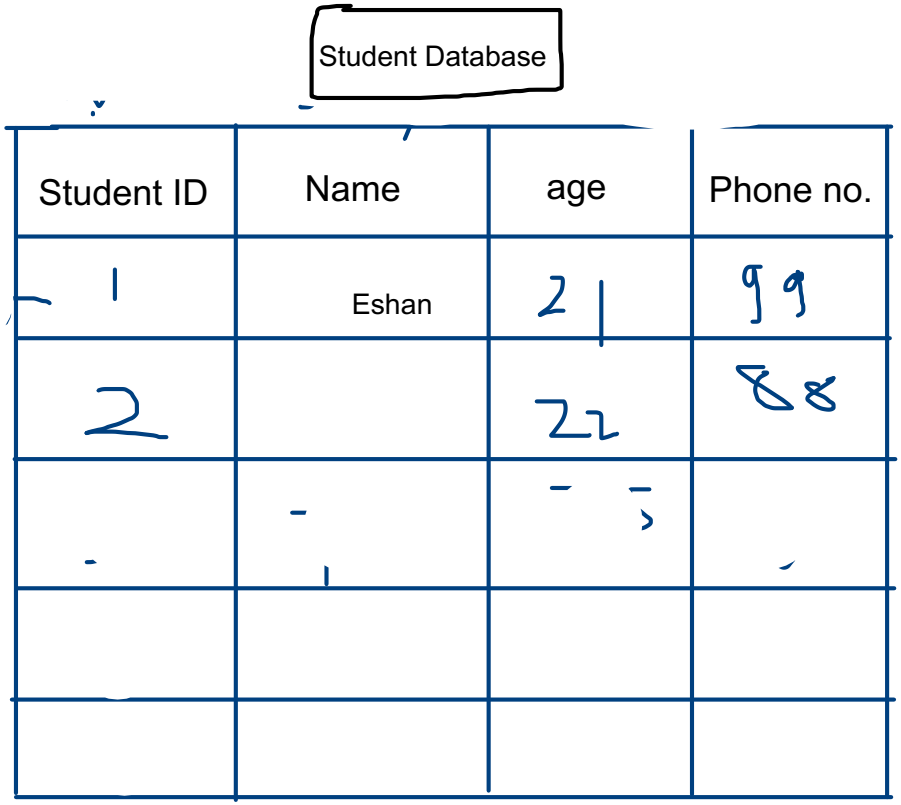
Durability

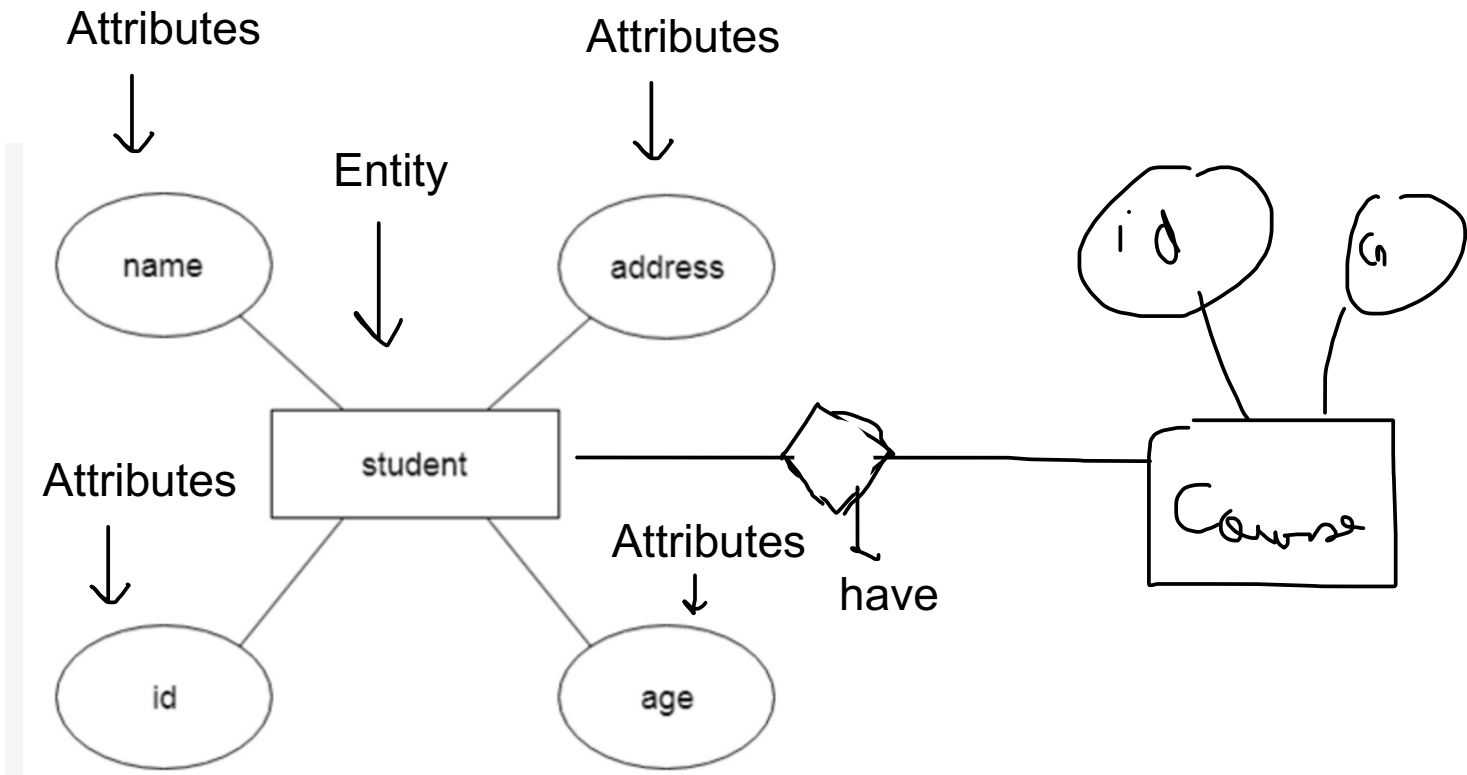


ER (Entity-Relationship)

Entity

RelationShip

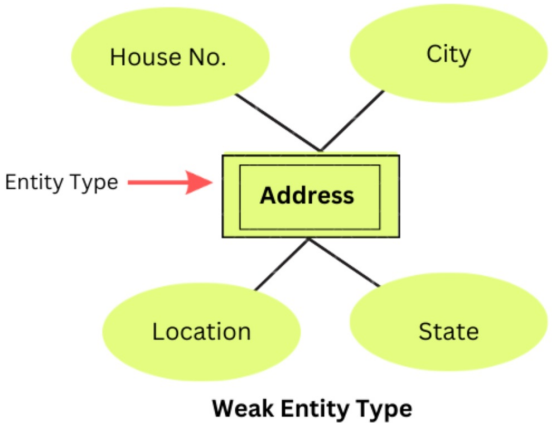



Attributes
Attributes
Entity
name
address
student
Attributes
Attributes
id
age
have
Course

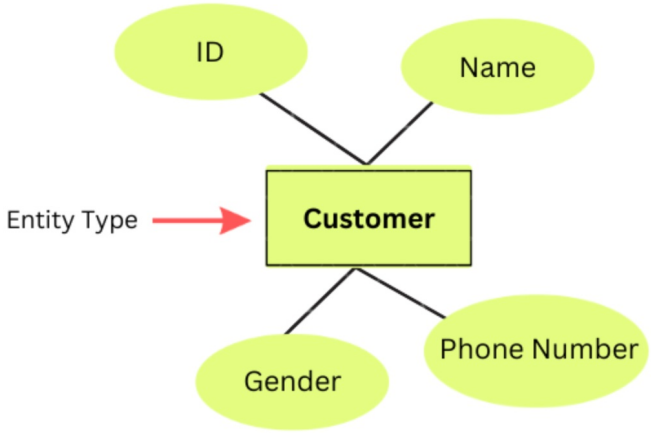
Entity

Weak Entity --> depends on strong entity for its existance

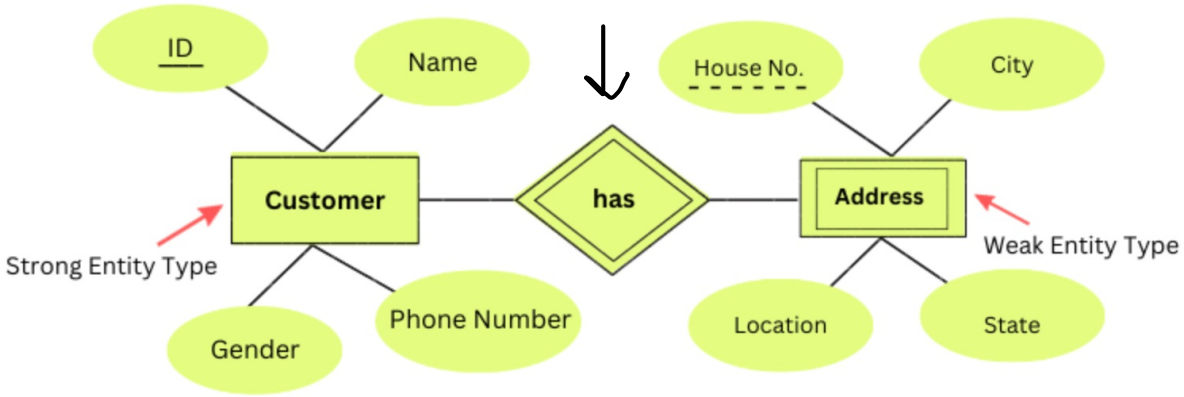
Strong Entity -> do not depeneds on anything or any object



Weak Entity Type

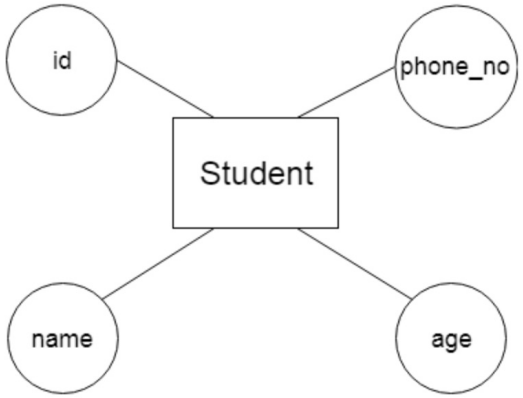


Strong Entity Type

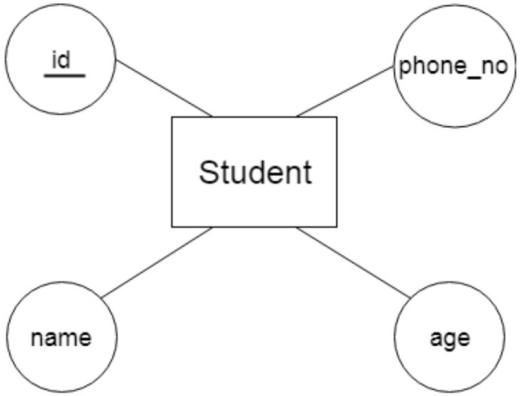


Entity Relationship Diagram between Strong Entity Type & Weak Entity Type

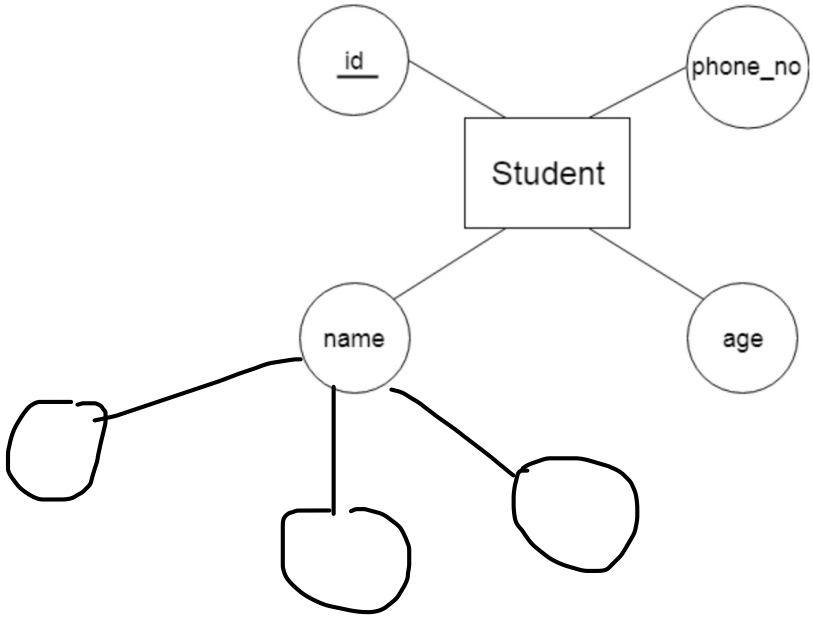
Attribute

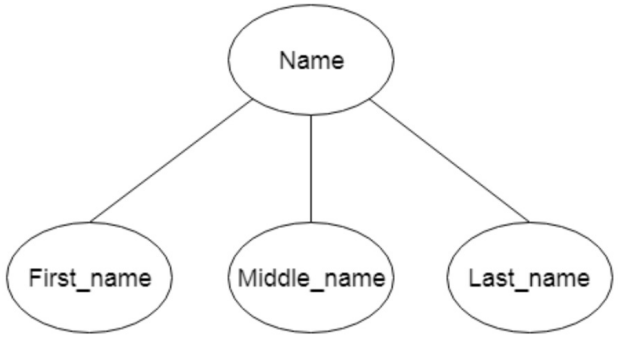


Key Attribute --> id



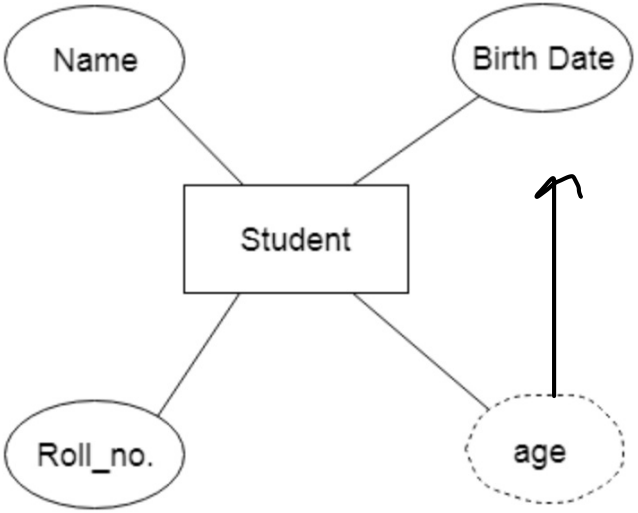
Composite Attribute --> name





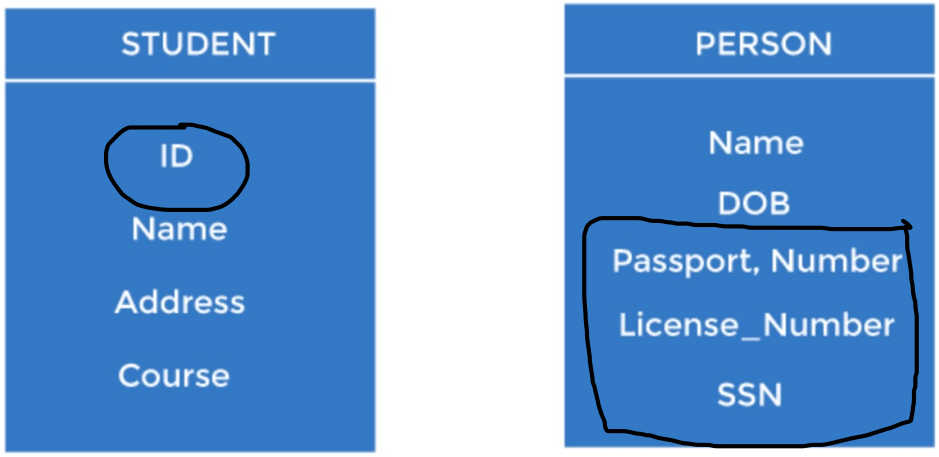
Multivalued Attribute -- phn no.

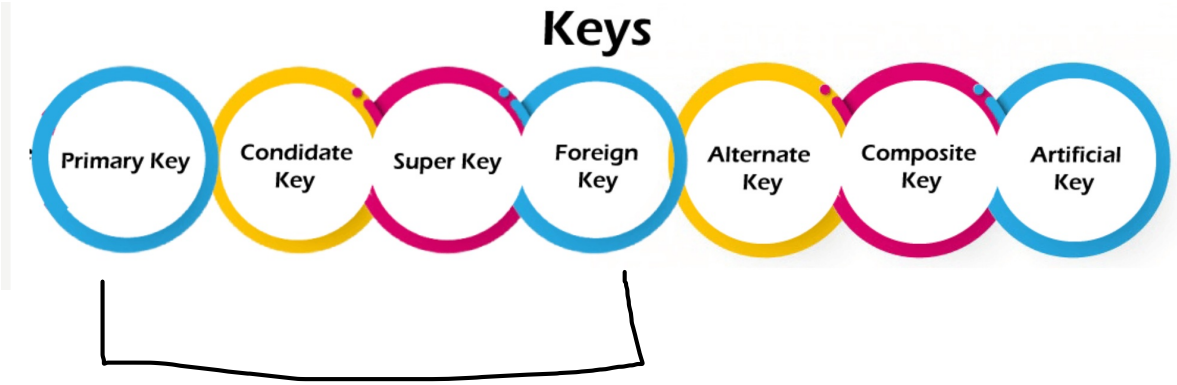
Derived Attribute --> age



Relationship

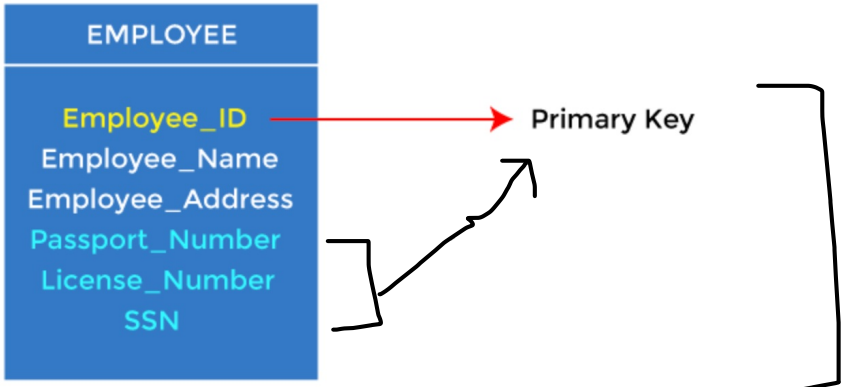
KEYS

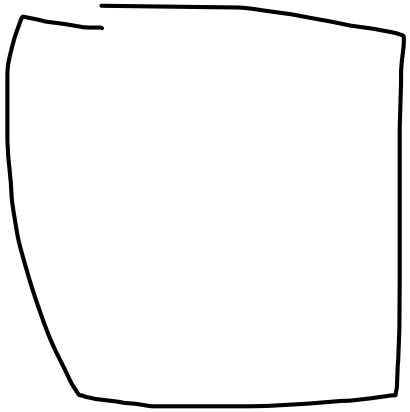

STUDENT
ID
Name
Address
Course
PERSON
Name
DOB
Passport, Number
License_Number
SSN


Keys
Primary Key
Condidate Key
Super Key
Foreign Key
Alternate Key
Composite Key
Artificial Key

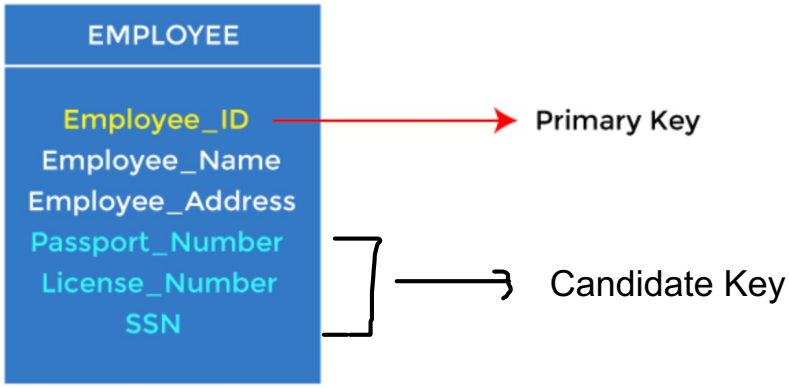
Primary key

the primary key selection is based on requirements and developers.





Candidate key -- set

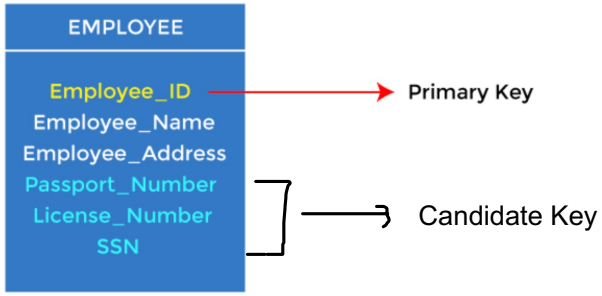


SSN --> Primary Key

Emp_Id, PassPort_num, Lic_num --> Candidate Key

Super Key

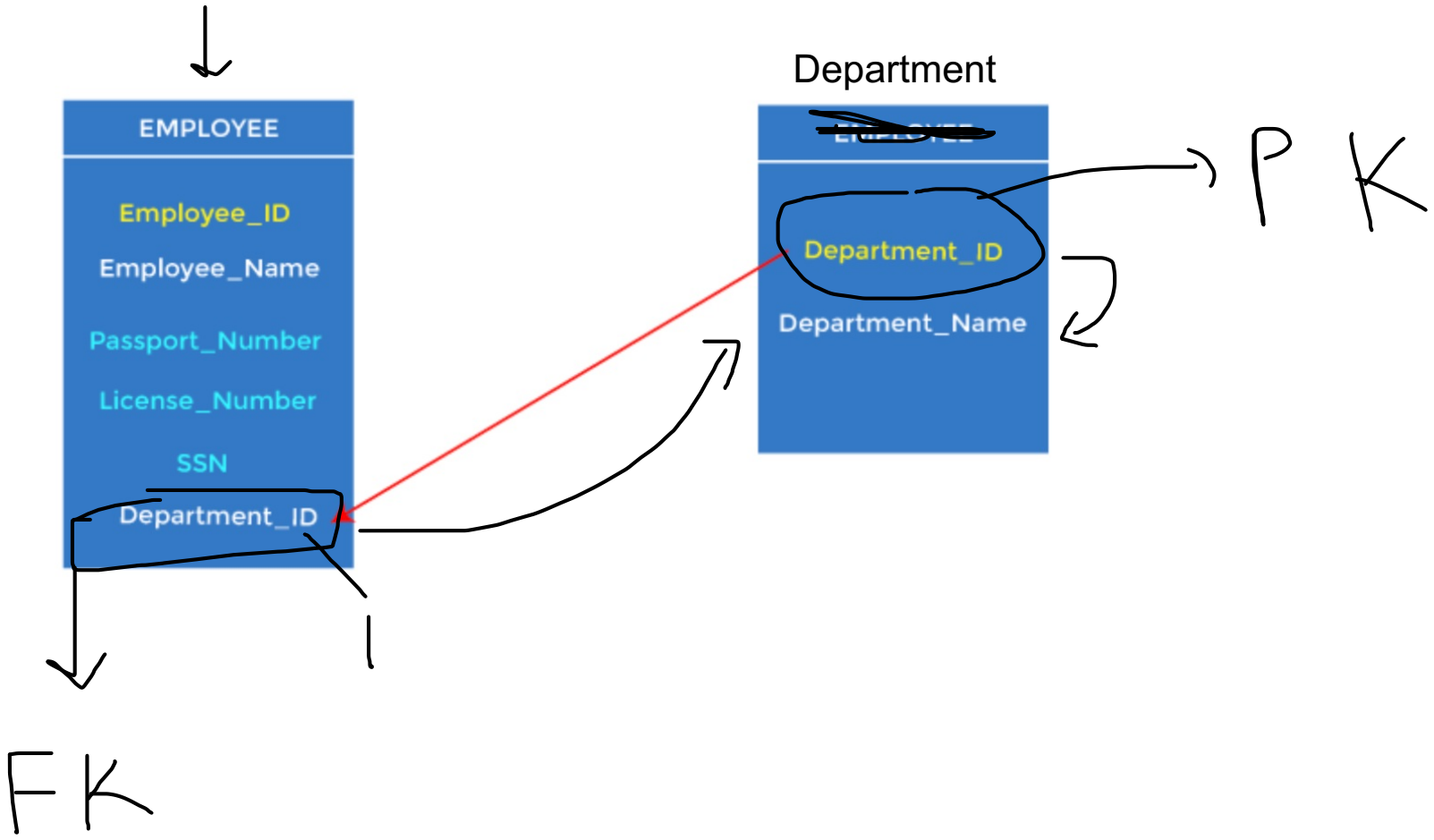
cadidate keys: emp_id, pass_num, lic_num, SSN

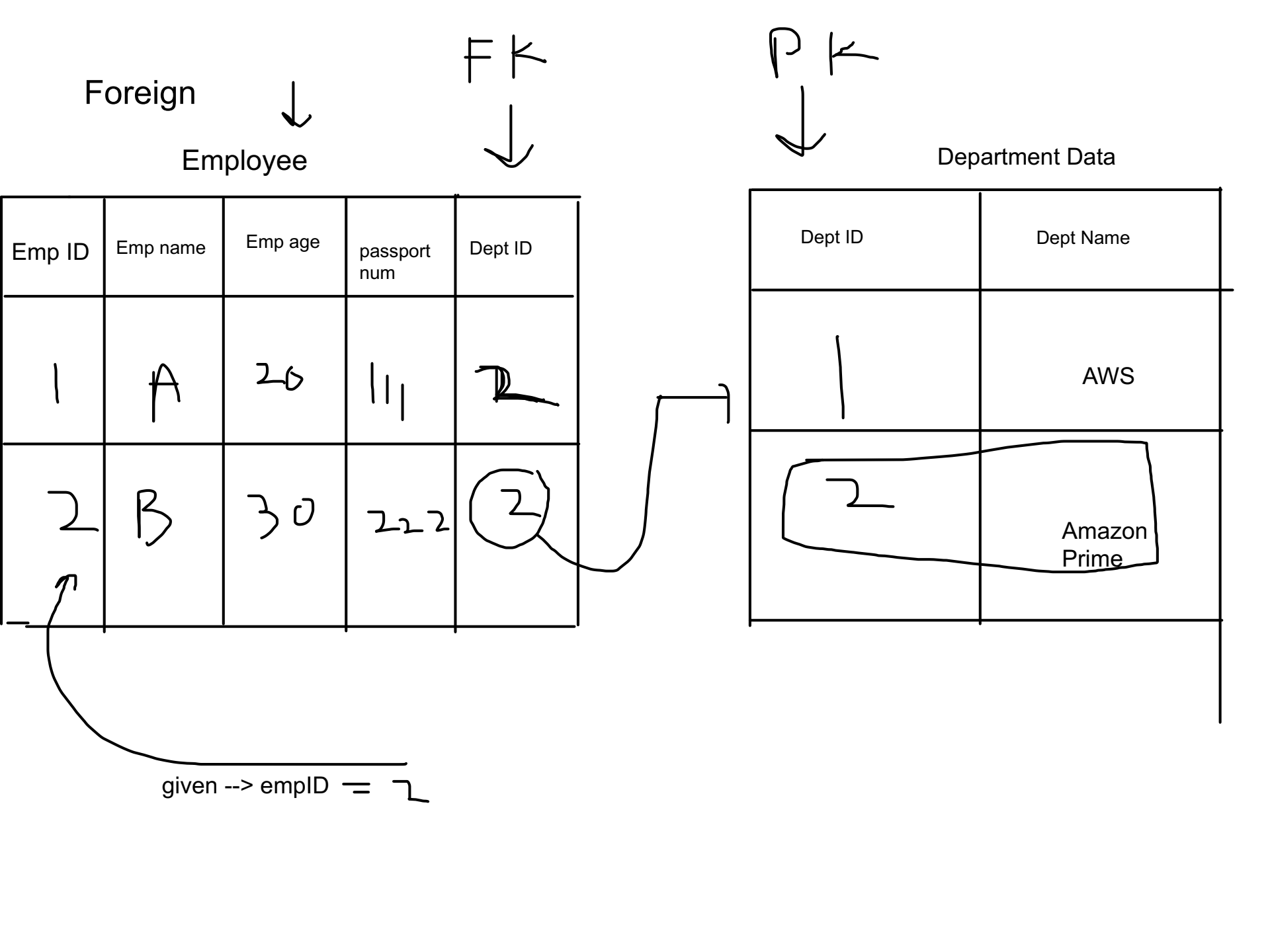


key --> set --> (candidatekey, non-candidate key)

Super Key (emp_id, emp_name) (pass_num, emp_add)

Foreign key (FK)




Foreign
FK
PK
Employee
Department Data
Emp ID
Emp name
Emp age
passport num
Dept ID
Dept ID
Dept Name
1
A
20
111
2
AWS
2
B
30
222
2
2
Amazon Prime
given --> empID = 2