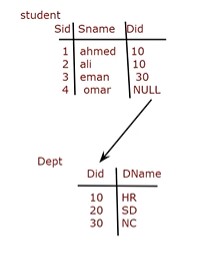
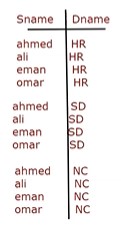
Part 4, Joins

Join Types

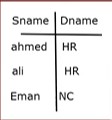


* Cross Join
* Cartesian Product
  + - Select Sname, Dname

From Student **,** Dept

* + - Select Sname, Dname

From Student **Cross Join** Dept

* Inner Join
* Equi Join (PK = FK)
  + - Select Sname, Dname

From Student , Dept

Where Dept.Did = Student.Did

* + - Select Sname, Dname

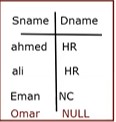
From Student S , Dept D

Where D.Did = S.Did

* + - Select Sname, Dname

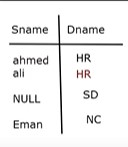
From Student S Inner join Dept D

on D.Did = S.Did

* Outer Join
* Left Outer Join (4 rows)
  + - Select Sname, Dname

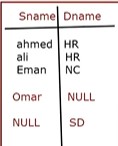
From Student S Left Outer Join Dept D

on D.Did = S.Did

* Right Outer Join (4 rows)
  + - Select Sname, Dname

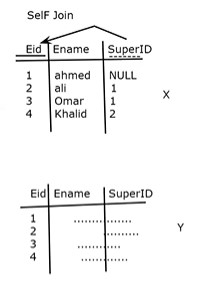
From Student S Right Outer Join Dept D

on D.Did = S.Did

* Full Outer Join (5 rows)
  + - Select Sname, Dname

From Student S Full Outer Join Dept D

on D.Did = S.Did

* Self Join
* When there is a Self – Relationship.
  + - Select X.Ename as Emp , Y. Ename as SuperName From Employee X , Employee Y

Where Y.Eid = X.SuperID

DB Integrity

* **DB Integrity** 🡺 Correct and Meet business rules.
* Should follow 3 things:
  + Domain Integrity.
  + Entity Integrity.
  + Referential Integrity.

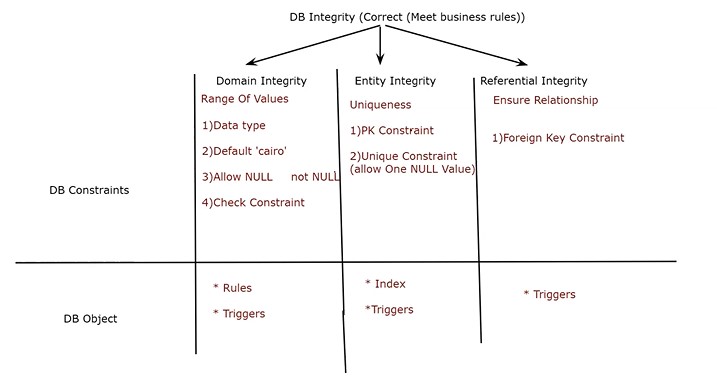
1) Domain Integrity

* **Domain Integrity** **refers to** 🡺 Range of values.
* 1.1) DB Constraints for Domain Integrity
  + Data Type.
  + Default Value.
  + Allow Null / not Null.
  + Check Constrain.
* 1.2) DB Objects for Domain Integrity
* Rules.
* Triggers.

Entity Integrity

* **Entity Integrity** **refers to** 🡺 Uniqueness.
* DB Constrains for Entity Integrity
  + PK Constraint.
  + Unique Constraint (allow ONE Null Value).
* DB Objects for Entity Integrity
* Index.
* Triggers.

Referential Integrity

* **Referential Integrity refers to** 🡺 Ensure Relationship.
* DB Constrains for Referential Integrity
  + Foreign Key Constraint.
* DB Objects for Referential Integrity
* Triggers.