

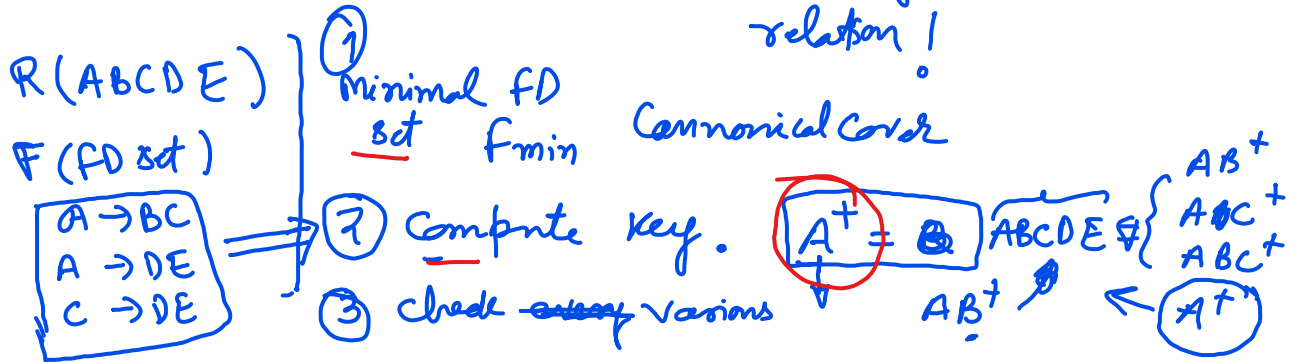
Normal Forms?

1NF

2NF

3NF

⇒ BCNF measure (metric) for goodness of a relation!



✓

ERD → Relations BCNF

ER to Relational mapping

Validate that BCNF

$AB \rightarrow EF$

$AB \rightarrow E$

$AB \rightarrow F$

$ssn \rightarrow \{name, salary, dob, dno, superssn, dname, mgrssn\}$
 $dno \rightarrow \{dname, mgrssn\}$
 $pno \rightarrow \{pname, plocation, dno, dname, mgrssn\}$
 $\{ssn, pno\} \rightarrow hours$
 $\{ssn, dep_name\} \rightarrow \{dep_gender, dep_bdate, relationship\}$

$R /$ dependent(ssn, dep_name, dep_bdate, relationship)

Key: ? {SSN, DEP Name}

BCNF: yes NO

$SSN, depname$
 $\rightarrow dep_gender$
 $\rightarrow dep_bdate$
 $\rightarrow relationship$

~~$SSN \rightarrow Name$~~

Team(TeamID, TeamPWD, MentorID)

R

MembID → {MembName, MembEmail, TeamID, TeamPWD, MentorID, MentorName, MentorEmail, InstID, InstName, City, PIN, State}
TeamID → {TeamPWD, MentorID, MentorName, MentorEmail, InstID, InstName, City, PIN, State}
MentorID → {MentorName, MentorEmail, InstID}
InstID → {InstName, City, PIN, State}
PIN → {City, State}

F | TeamID → TeamPWD
| TeamID → MentorID

Key: TeamID

BENF: Yes in

① ~~Mentor has to be same institute~~

②

TeamID → ~~TeamID~~ InstID Transitive
TeamID → MentorID
MentorID → ~~MentorID~~ InstID