

Project 1 Milestone 3 Part A

Group Number: 25

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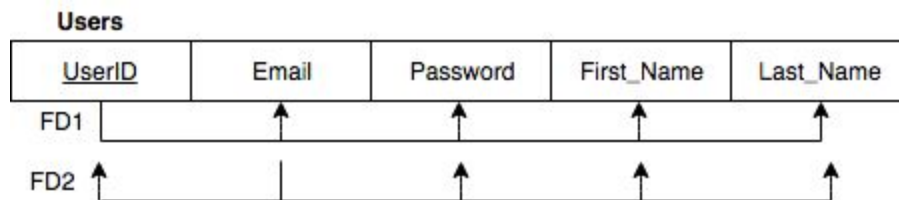
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Part A - BCNF Normalization

We have relations: Users, Appointment, ProfRoom, Courses, Teach, and Availability. They are already in BCNF.

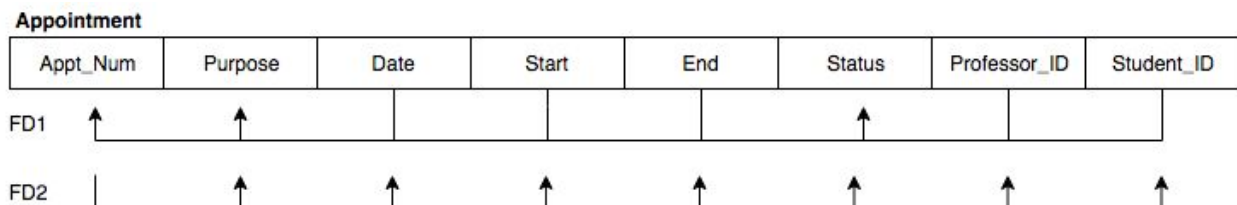
Users:

We have the UserID as our primary key while Email is a candidate key in this case. Both are also the superkeys for this relation. Hence, BCNF is satisfied.



Appointment:

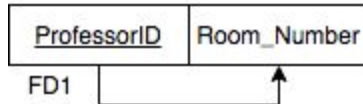
We have the appointment number (auto-generated) as the primary key while having the combination of ProfessorID, StudentID, Date, Start time, and End time as unique. Both the appointment number and the combination mentioned above are our superkeys, satisfying the rule for BCNF (additionally, splitting up the relation in this case doesn't have significant positive effect on space).



ProfRoom:

This Relation is to indicate the corresponding office rooms for the professors. We only have one FD and this is in BCNF. ProfessorID is the primary key and the superkey.

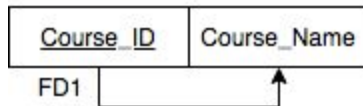
ProfRoom



Courses:

We only have one FD and this is in BCNF. CourseID is the primary key and the superkey.

Courses



Availability:

The combination of ProfessorID and Day is the primary key to indicate his/her time availability for a certain day throughout the week. It is also the superkey.

Availability



Teach:

Because a professor can teach multiple courses, this table takes care of the multi-value attribute (CourseID). The combination of ProfessID and the CourseID that he/she is teaching is the primary key to this table.

Teach

