

GROUP EXERCISE
Chapter 3
The Relational Model and Normalization
Exercise 5

Faculty members can be on many committees. Faculty members can teach many courses. The courses faculty members teach are not related to committee membership. Fname is unique. You might be tempted to create the following relation.

FACULTY

Fname	Committee	Course
Jones	Admissions	IM101
Jones	Scholarship	IM101
Jones	Admissions	IM102
Jones	Scholarship	IM102
Jones	Admissions	IM103
Jones	Scholarship	IM103
Smith	Personnel Review	PS101
Brown	Admissions	IM101

1. What are the functional dependencies of this relation?
2. What are the candidate keys in this relation (unique determinants of all of the other columns)? Primary Key?
3. Describe some modification anomaly problems that you foresee.
4. Why do you think there is so much data redundancy in this table?
5. Is this relation in BCNF? Why?
6. Decompose this relation to avoid modifications anomalies. Remember the data.