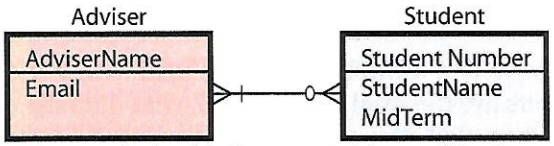
name. If a student changes advisers, we simply change the value in the *AdviserName* column. Changing *Jackson* to *Jones* in the first row, for example, will assign student 100 to Professor Jones.

For this data model, placing *StudentNumber* in *Adviser* would be incorrect. If we were to do that, we could assign only one student to an adviser. There is no place to assign a second adviser.

This strategy for placing foreign keys will not work for N:M relationships, however. Consider the data model in Figure 5-26 (a); here advisers and students have a many-to-many relationship. An adviser may have many students, and a student may have multiple advisers (for multiple majors).

The foreign key strategy we used for the 1:N data model will not work here. To see why, examine Figure 5-26 (b). If student 100 has more than one adviser, there is no place to record second or subsequent advisers.

Figure 5-26
Representing an N:M Relationship



(a) N:M Relationship Between Adviser and Student

Adviser—Key is AdviserName

AdviserName	Email
Jones	Jones@myuniv.edu
Choi	Choi@myuniv.edu
Jackson	Jackson@myuniv.edu

No room to place second or third AdviserName

Student—Key is StudentNumber

StudentNumber	StudentName	MidTerm	AdviserName
100	Lisa	90	Jackson
200	Jennie	85	Jackson
300	Jason	82	Choi
400	Terry	95	Jackson

(b) Incorrect Representation of N:M Relationship

Adviser—Key is AdviserName

AdviserName	Email
Jones	Jones@myuniv.edu
Choi	Choi@myuniv.edu
Jackson	Jackson@myuniv.edu

Student—Key is StudentNumber

StudentNumber	StudentName	MidTerm
100	Lisa	90
200	Jennie	85
300	Jason	82
400	Terry	95

Adviser_Student_Intersection

AdviserName	StudentNumber
Jackson	100
Jackson	200
Choi	300
Jackson	400
Choi	100
Jones	100

Student 100 has three advisers.

(c) Adviser_Student_Intersection Table Represents the N:M Relationship