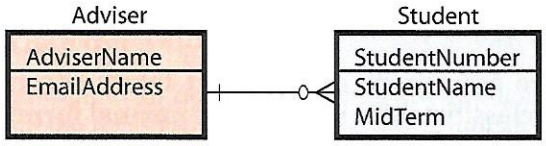
For example, consider the E-R diagram in Figure 5-25 (a). The *Adviser* entity has a 1:N relationship to the *Student* entity. To create the database design, we construct a table for *Adviser* and a second table for *Student*, as shown in Figure 5-25 (b). The key of the *Adviser* table is *AdviserName*, and the key of the *Student* table is *StudentNumber*.

Further, the *EmailAddress* attribute of the *Adviser* entity becomes the *EmailAddress* column of the *Adviser* table, and the *StudentName* and *MidTerm* attributes of the *Student* entity become the *StudentName* and *MidTerm* columns of the *Student* table.

The next task is to represent the relationship. Because we are using the relational model, we know that we must add a foreign key to one of the two tables. The possibilities are: (1) place the foreign key *StudentNumber* in the *Adviser* table or (2) place the foreign key *AdviserName* in the *Student* table.

The correct choice is to place *AdviserName* in the *Student* table, as shown in Figure 5-25 (c). To determine a student's adviser, we just look into the *AdviserName* column of that student's row. To determine the adviser's students, we search the *AdviserName* column in the *Student* table to determine which rows have that adviser's

Figure 5-25
Representing a 1:N Relationship



(a) 1:N Relationship Between Adviser and Student Entities

Adviser Table—Key is AdviserName

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

Student Table—Key is StudentNumber

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

(b) Creating a Table for Each Entity

Adviser Table—Key is AdviserName

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

Student—Key is StudentNumber

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

Foreign Key Column Represents Relationship

(c) Using the *AdviserName* Foreign Key to Represent the 1:N Relationship