Database Design
9-2: Basic Mapping: The Transformation Process
Practice Solutions
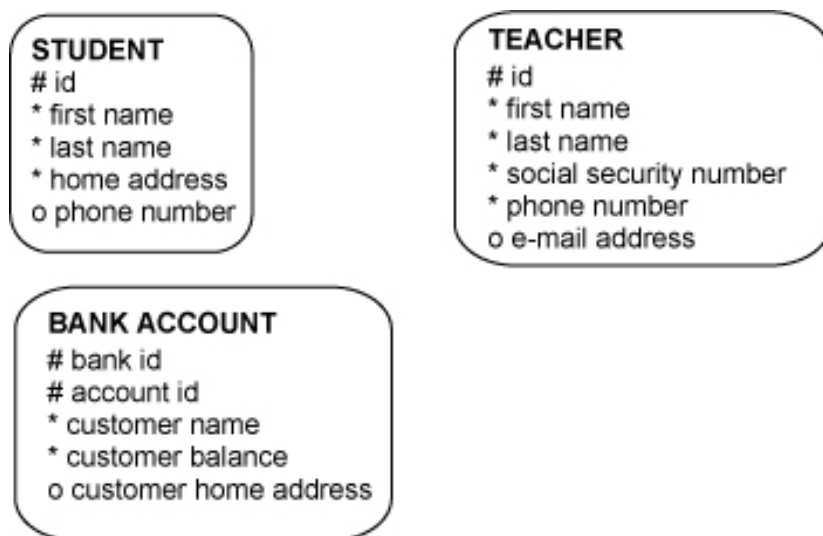Vocabulary

Directions: Identify the vocabulary word for each definition below.

Transform	To change the elements of an ERD into database elements
Map	To associate the elements of an ERD with database elements

Try It / Solve It

1. Transform the following entities into table definitions, using suitable naming conventions.

STUDENT
id
* first name
* last name
* home address
o phone number

TEACHER
id
* first name
* last name
* social security number
* phone number
o e-mail address

BANK ACCOUNT
bank id
account id
* customer name
* customer balance
o customer home address

Solution:

Explain that we are not creating tables; we are creating definitions of tables. The physical implementation of the table will be done in a later lesson using HTML DB.

Check that students have recognized the composite UID in BANK ACCOUNT.

Although we are not too concerned with foreign key relationships at this stage, some students will recognize that bank id in BANK ACCOUNT is probably a foreign key to a BANK entity.

2. Match the ERD elements to their corresponding database elements.

Analysis	Design
Attribute (1)	Column (1)
Entity (2)	Foreign key (6)
ER Model (3)	Physical design (3)
Instance (4)	Primary key (5)
Primary UID (5)	Row (4)
Relationship (6)	Table (2)
Secondary UID (7)	Unique key (7)

3. Identify the table diagram notations listed below.
   - "pk"   **Primary key**
   - "fk"   **Foreign key**
   - "uk"   **Unique key**
   - "*"   **Mandatory**
   - "o"   **Optional**

4. Create short names for the terms below based on the naming conventions rules.
   - Academic major   **AMR**
   - Undergraduate   **UDE**
   - Class   **CLS**

5. Identify what is wrong with each of the table names below.
   - 1997classes
     Can't start with numbers: must start with a letter

   - Schedule_of_classes_spring_2003
     Name is more than 30 characters long

   - Financial Aid deadlines!
     Name cannot contain spaces or special characters

6. (Optional Practice: Global Fast Foods)

   This practice is step 11 in the Global Fast Foods project.