Chapter 3

Question 1

Using the STUDENT and PROFESSOR tables shown in Figure Q3.8 to illustrate the difference between a natural join, an equijoin, an outer join, a left outer join and a right outer join.

FIGURE Q3.8 Ch03_CollegeQue Database Tables

Table name: STUDENT **Database name: Ch03_CollegeQue**

STU_CODE	PROF_CODE
100278	
128569	2
512272	4
531235	2
531268	
553427	1

Table name: PROFESSOR

PROF_CODE	DEPT_CODE
1	2
2	6
3	6
4	4

Question 2

Use the database shown in Figure P3.10 to work Problems 10−16. Note that the database is composed of four tables that reflect these relationships:

- An EMPLOYEE has only one JOB_CODE, but a JOB_CODE can be held by many EMPLOYEEs.
- An EMPLOYEE can participate in many PLANs, and any PLAN can be assigned to many EMPLOYEEs.

Note also that the M:N relationship has been broken down into two 1:M relationships for which the BENEFIT table serves as the composite or bridge entity.

FIGURE P3.10 The Ch03_BeneCo Database Tables

Database name: Ch03_BeneCo

Table name: EMPLOYEE

EMP_CODE	EMP_LNAME	JOB_CODE
14	Rudell	2
15	McDade	1
16	Ruellardo	1
17	Smith	3
20	Smith	2

Table name: BENEFIT

EMP_CODE	PLAN_CODE
15	2
15	3
16	1
17	1
17	3
17	4
20	3

Table name: JOB

JOB_CODE	JOB_DESCRIPTION
1	Clerical
2	Technical
3	Managerial

Table name: PLAN

PLAN_CODE	PLAN_DESCRIPTION
1	Term life
2	Stock purchase
3	Long-term disability
4	Dental

1. For each table in the database, identify the primary key and the foreign key(s). If a table does not have a foreign key, write *None* in the assigned space provided.
2. Create the ERD to show the relationship between EMPLOYEE and JOB.
3. Create the relational diagram to show the relationship between EMPLOYEE and JOB.
4. Do the tables exhibit entity integrity? Answer yes or no and then explain your answer.
5. Do the tables exhibit referential integrity? Answer yes or no and then explain your answer. Write *NA* (Not Applicable) if the table does not have a foreign key.
6. Create the ERD to show the relationships among EMPLOYEE, BENEFIT, JOB, and PLAN.
7. Create the relational diagram to show the relationships among EMPLOYEE, BENEFIT, JOB, and PLAN.