

Assignment for Module 10

The assignment for Module 10 involves problems for schema conversion. Problems 1 to 4 involve the ERD in Figure 1.

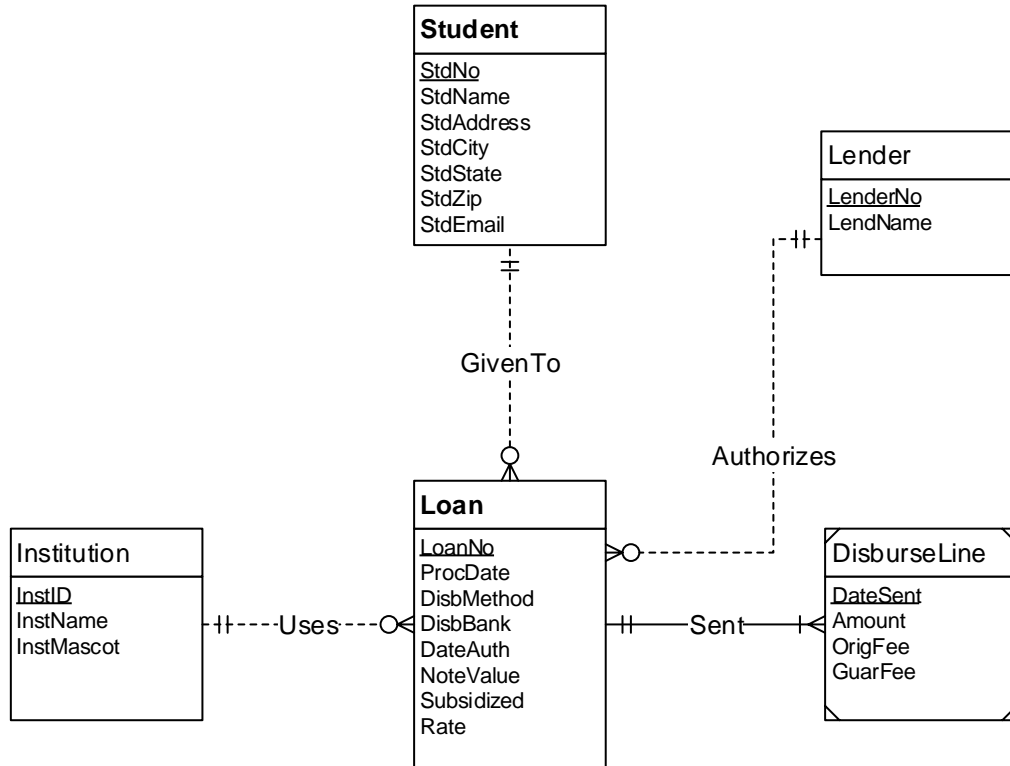


Figure 1: ERD for Problems 1 to 4

1. Requirements for Data Modeling Problems

- For the ERD in Figure 1, you should indicate the applications of the entity type rule. For each entity type rule application, you should identify the table name, primary key, and other columns. You do not need to write CREATE TABLE statements.

Student(StdNo, StdName, StdAddress, StdCity, StdState, StdZip, StdEmail)

Institution(InstID, InstName, InstMascot)

Loan(LoanNo, ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate)

Lender(LenderNo, LendName)

DisburseLine(DateSent, Amount, OrigFee, GuarFee)

2. For the ERD in Figure 1, you should indicate applications of the 1-M relationship rule. For each 1-M relationship rule application, you should indicate the changes to the tables you listed in problem 1 including foreign key columns and NOT NULL constraints for foreign keys if necessary.

Student(StdNo, StdName, StdAddress, StdCity, StdState, StdZip, StdEmail)

Institution(InstID, InstName, InstMascot)

FOREIGN KEY (InstID) REFERENCES Institution

FOREIGN KEY (StdNo) REFERENCES Student

FOREIGN KEY (LenderNo) REFERENCES Lender

InstID NOT NULL

Student NOT NULL

Lender NOT NULL

Loan(LoanNo, ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate)

Lender(LenderNo, LendName)

DisburseLine(DateSent, Amount, OrigFee, GuarFee)

3. For the ERD in Figure 1, you should indicate applications of the M-N relationship rule. For each M-N relationship rule application, you should list the table name, primary key, and other columns.

There is no M-N relationship in Figure 1.

4. For the ERD in Figure 1, you should indicate applications of the identifying relationship rule. For each identifying relationship rule application, you should indicate the changes to the tables you listed in problem 2.

Student(StdNo, StdName, StdAddress, StdCity, StdState, StdZip, StdEmail)

Institution(InstID, InstName, InstMascot)

FOREIGN KEY (InstID) REFERENCES Institution

FOREIGN KEY (StdNo) REFERENCES Student

FOREIGN KEY (LenderNo) REFERENCES Lender

InstID NOT NULL

Student NOT NULL

Lender NOT NULL

Loan(LoanNo, ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate)

Lender(LenderNo, LendName)

DisburseLine(LoanNo, DateSent, Amount, OrigFee, GuarFee)

FOREIGN KEY (LoanNo) REFERENCES Loan

5. Convert the ERD shown in Figure 2 into tables. List the conversion rules used and table design. For each table, you should list the primary key, foreign keys, other columns, and NOT NULL constraints for foreign keys if necessary. You do not need to write CREATE TABLE statements.

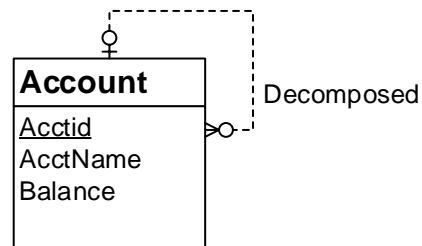


Figure 2: ERD for Conversion Problem 5

Account(Acctid, DecomAcctid, AcctName, Balance)

FOREIGN KEY (DecomAcctid) REFERENCES Account

- Use the entity type rule to convert the Account entity type
- Use the 1-M relationship rule for the Decomposed relationships

6. Convert the ERD shown in Figure 3 into tables. List the conversion rules used and table design. For each table, you should list the primary key, foreign keys, other columns, and NOT NULL constraints for foreign keys if necessary. You do not need to write CREATE TABLE statements.

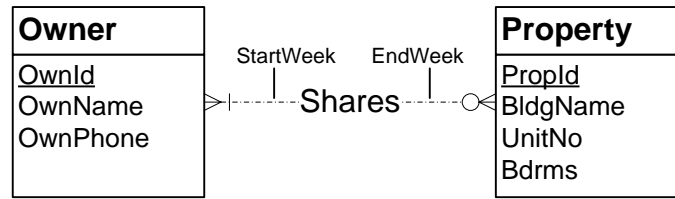


Figure 3: ERD for Conversion Problem 6

Owner(OwnId, OwnName, OwnPhone)

Property(PropId, BldgName, UnitNo, Bdrms)

Shares(OwnId, PropId, StartWeek, EndWeek)

FOREIGN KEY (OwnId) REFERENCES Owner

FOREIGN KEY (PropId) REFERENCES Property

- Use the entity type rule to convert the entity type
- Use the M-N rule to convert the shares relationship

2. Submission Requirements

The submission requirements involve evidence that you use the conversion rules for the ERD in each problem. You should label the problems in a document so that the grader can easily match your work to the specified problems. *** Add details about submission ***