Assignment 10

**Problem 1**

For the Fig.1, there are 5 applications of the **Entity-type rule**. They are:

1. Student (Table name), StdNo (Primary Key), StdAddress, StdCity, StdState, StdZip, StdEmail (Other Columns).
2. Loan (Table name), LoanNo (Primary Key), ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate (Other Columns).
3. Lender (Table name), LenderNo (Primary Key), LendName (Other Column).
4. Institution (Table name), InstId (Primary Key), InstName, InstMascot (Other Columns).
5. DisburseLine (Table name), DateSent, (Primary Key), Amount, OrigFee, GuaFee (Other Columns).

**Problem 2**

For the Fig.1, there are 4 applications of the **1-M relationship rule**. They are:

1. GivenTo Relationship. Foreign key added to Loan Table.

Foreign Key (StdNo) References Student NOT Null

1. Uses Relationship. Foreign key added to Loan Table.

Foreign Key (InstId) References Institution NOT Null

1. Authorizes Relationship. Foreign key added to Loan Table.

Foreign Key (LenderNo) References Lender NOT Null

1. Sent Relationship. Foreign key added to DiaburseLine Table.

Foreign Key (LoanNo) References Loan NOT Null

**Problem 3**

For the Fig.1, There are no applications of M-N relationship rule.\

**Problem 4**

For the Fig.1, There is 1 application of **Identifying Relationship Rule.**

So, a particular change is need to be changed.

Another primary key need to be added to DisburseLine Table.

(DateSent, LoanNo) is the new combined Primary Key.

**Problem 5**

For the Fig.2, the following conversion rules are used. They are:

\*Entity type Rule: Account is a new table created. Acctid is its Primary Key. AcctName, Balance are other columns.

\*1-M Relationship Rule: a new attribute supraccid as Foreign Key to the table. “Foreign Key supraccid Referneces Account”.

**Problem 6**

For the Fig.3, the following conversion rules are used. They are:

\*Entity type Rule:

Create table Owner (OwnName varchar(20), OwnPhone char(10),

OwnId integer, Constraint ownpk Primary Key (OwnId));

Create table Property (Bldgname varchar(20), Unitno integer, Bdrms integer, Propid char(4), Constraint Propk Primary Key (Propid));

\*1-M Relationship type: No 1-M relationships

\*M-N Relationship type:

Create table Share (StartWeek int, EndWeek int,

Constraint shpk Primary Key(OwnId, Propid),

Constraint shfko Foreign Key(OwnId) References Owner,

Constraint shfkt Foreign Key(Propid) References Property);