**Module 10**

1. 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 the foreign keys if necessary.

**Applying 1-M relationship Rule:**

1. **Apply 1-M relationship on all the relationship in the diagram (Uses, GivenTo etc.)**
2. **Applying not null constraints on the foreign keys**

**•Institution**

(InstID, InstName, InstMascot,PRIMARY KEY(InstID))

**•Student**

(StdNo, StdName,StdAddress, StdCity, StdState, StdZip, StdEmail, PRIMARY KEY(StdNo))

**•Lender**

(LenderNo, LendName,PRIMARY KEY(LenderNo))

•**Loan**

(LoanNo,*InstID,StdNo,LenderNo,*ProcDate,DisbMethod,DisbBank,

DateAuth,NoteValue,Subsidized,Rate, PRIMARY KEY(LoanNo),

FOREIGN KEY(*InstID) REFERENCES Institution,*

FOREIGN KEY(*StdNo) REFERENCES Student,*

FOREIGN KEY(*LenderNo) REFERENCES Lender,*

*InstID NOT NULL,*

*StdNo NOT NULL,*

*LenderNo NOT NULL*)

•**DisburseLine**

(DateSent,*LoanNo*,Amount,OrigFree,GuarFree,

PRIMARY KEY(DateSent)

FOREIGN KEY(LoanNo) REFERENCES Loan,

LoanNo NOT NULL)