All primary keys are underlined.

1. entity type rule to convert Student, Institution, Lender, DistriburseLine, Loan into entity type

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

**Institution** (InstID, InstName, InstMascot)

**Lender** (LenderNo, LenderName)

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

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

1. 1-M relationship rule is that the relationship is added as a foreign key in the child table, the child table denotes the entity on which the crows foot is attached.

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

**Institution** (InstID, InstName, InstMascot)

**Lender** (LenderNo, LenderName)

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

FOREIGN KEY(LoanNo) REFERENCE Loan

**Loan** (LoanNo , StdNo, InstID, LenderNo, ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate)

FOREIGN KEY(StdNo) REFERENCE Student

FOREIGN KEY(InstID) REFERENCE Institution

FOREIGN KEY(LenderNo) REFERENCE Lender

StdNo Not Null

InstID Not Null

LenderNo Not Null

1. No M-N Relationship present
2. Use the identification dependency rule to add component (LoanNo) to the primary key of the DisburseLine table

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

**Institution** (InstID, InstName, InstMascot)

**Lender** (LenderNo, LenderName)

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

FOREIGN KEY(LoanNo) REFERENCE Loan

**Loan** (LoanNo , StdNo, InstID, LenderNo, ProcDate, DisbMethod, DisbBank, DateAuth, NoteValue, Subsidized, Rate)

FOREIGN KEY(StdNo) REFERENCE Student

FOREIGN KEY(InstID) REFERENCE Institution

FOREIGN KEY(LenderNo) REFERENCE Lender

StdNo Not Null

InstID Not Null

LenderNo Not Null

1. Entity type rule to convert Account to entity type

1-M rule for Decomposed (DecAccNo Foreign Key)

**Account** (Acctid, DecAccNo, AcctName, Balance)

FOREIGN KEY (DecAccNo) REFERENCE Account

1. Entity type rule used

M-N Relationship Rule used

**Owner** (OwnId, OwnName, OwnPhone)

**Property**(PropId, BldgName, UnitNo, Bdrms)

**Shares** (OwnId, PropId, StartWeek, EndWeek)

FOREIGN KEY(OwnId) REFERENCE Owner

FOREIGN KEY(PropId) REFERENCE Property