Module 11-3

3) You should determine if the *Student*, *Lender*, and *Institution* tables are in BCNF. In the *Lender* table, *LenderName* is unique. In the *Institution* table, *InstName* is unique. In the *Student* table, *StdEmail* is unique. The primary key of each table is underlined. The primary key of each table is underlined. You should explain your decision and modify the table design by splitting tables or adding constraints if necessary.

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

Lender(LenderNo, LenderName)

Institution(InstNo, InstName, InstMascot)

**Solution:**

The given tables are in BCNF , because the BCNF process results in the same tables...lets us consider the following process:

FD’s:

StdNo -> StdName , StdAddress, StdCity, StdState, StdZip

StdEmail -> StdNo, StdName,StdAddress, StdCity, StdState, StdZip

lenderNo -> lenderName

LenderName -> LenderNo

InstNo -> InstName,InstMascot

Instname -> InstNo,InstMascot

InstNo,InstName -> InstMascot

Creating tables for these FDs and then Merging them again results in the same tables given in the question i.e

The First two FDs are grouped to from student table with stdNo as primary key and StdEmail as unique attribute

The nest two FDs are groupd to from Lender table with Lendero as primary key and LenderName as Unique atteibute

The remaiming three FDs are grouped and the Institution table is formed with InstNo as primary key and InstName as unique attribute