

**Problem 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 Student table:**

The dependencies between **StdNo** and **StdEmail** violate BCNF. Both **StdNo** and **StdEmail** are determinants

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

UNIQUE(StdEmail)

- **The Institution table:**

The dependencies between **InstNo** and **InstName** violate BCN

**Institution** ( **InstNo** , InstName, InstMascot)

UNIQUE(InstName)

- **The lender table:**

**Lender** ( **LenderNo** , LenderName)

UNIQUE(LenderName)