**Module 11 Practice Problem Solutions**

**Problem 1**

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| **FD** | **Falsifications** |
| StdCity → OfferNo | (1,2), (3,4) |
| StdCity → OffTerm | (3,4) |
| StdCity → OffYear | (1,2), (3,4) |
| StdCity → EnrGrade | (1,2), (3,4) |
| StdCity → CourseNo | (1,2),(3,4) |
| StdCity → CrsDesc | (3,4) |
| StdCity → StdNo | None |
| StdCity → StdClass | None |

**Problem 3**

Student(**StdID**, Name, Phone, Email, Web, Major, Minor, GPA, AdvisorNo, AdivserName)

Interview(**InterviewID**, *StdID*, Date, Time, BldgName, RoomNo, RoomType

FOREIGN KEY (*StdID*) REFERENCES Student (*StdID*)

)

Interviewer(**InterviewerID**, *CompID*, Name, Phone, Email

FOREIGN KEY (*CompID*) REFERENCES Company (*CompID*)

)

Company(**CompID**, CompName)

CompPos(*CompID*, *PosID*, **City**, **State**

FOREIGN KEY (*CompID*) REFERENCES Company (*CompID*)

FOREIGN KEY (*PosID*) REFERENCES Company (*PosID*)

)

Position(**PosID**, Name)

**Further normalization**

1. The student table is not in BCNF because AdviserNo ® AdviserName. If this FD is significant, split student into 2 tables with AdviserNo and AdviserName in a new table. AdviserNo is the primary key of the new table.
2. The Interview table is not in BCNF because BldgName, RoomNo ® RoomType. If this FD is significant split interview into 2 tables with BldgName, RoomNo, and RoomType in a new table. The combination of BldgName and RoomNo is the primary key of the new table.
3. Another possible interpretation of the RoomNo attribute is that it contains both a building abbreviation and a room number. For example, PL212 means room 212 in the Plaza building. If RoomNo contains both a room number and a building abbreviation, then RoomNo® BldgName, RoomType. If this FD is significant split the interview table into 2 tables with BldgName, RoomNo, and RoomType in a new table. The primary key of the new table is RoomNo.

**Problem 4**