**Lab Sheet 9**

**Part 1:**

**Relational Model:**

dvd(dvdID(PK), dvdTitle, dvdGenre, dvdDirector, dvdDescription, dvdRentalRate, dvdNoCopies, dvdAvailability)

loan(dvdID(PK,FK), memberID(PK,FK), dueBackDate, returnDate)

member(memberID(PK), memberName, memberAddress1, memberAddress2, memberAddress3, overdueDVD)

cast(dvdID(PK,FK),actorID(PK), actor)

**Normalisation:**

**1NF: -** No repeating groups

**2NF: -**

cast(dvdID(PK,FK), actorID(PK,FK)

actor(actorID(PK),actor)

**3NF: -**

genre(genreID(PK), genre)

director(directorID(PK), director)

dvdID(dvdID(PK), dvdTitle, dvdDescription, dvdRentalRate, dvdNoCopies, dvdAvailability, genreID(FK), directorID(FK))

**Result:**

dvdID(dvdID(PK), dvdTitle, dvdDescription, dvdRentalRate, dvdNoCopies, dvdAvailability, genreID(FK), directorID(FK))

loan(dvdID(PK,FK), memberID(PK,FK), dueBackDate, returnDate)

member(memberID(PK), memberName, memberAddress1, memberAddress2, memberAddress3, overdueDVD)

cast(dvdID(PK,FK), actorID(PK,FK)

actor(actorID(PK),actor)

genre(genreID(PK), genre)

director(directorID(PK), director)

**Part 2:**

**Exercise a)**

Transaction(transactionNo(PK), transactionDate, CustID, item, qty, amount)

**1NF: -** Item, Qty and Amount are repeating

Transaction(transactionNo(PK), transactionDate, CustID)

TransItem(transactionNo(PK,FK), itemID(PK), item, qty, amount)

**2NF: -**

Transaction(transactionNo(PK), transactionDate, CustID)

TransItem(transactionNo(PK,FK), itemID(PK,FK), qty, amount)

Item(itemID(PK), item)

**3NF: -**

Customer(CustID(PK), CustName)

Transaction(transactionNo(PK), transactionDate, CustID(FK))

**Result:**

Transaction(transactionNo(PK), transactionDate, CustID)

TransItem(transactionNo(PK,FK), itemID(PK,FK), qty, amount)

Item(itemID(PK), item)

Customer(CustID(PK), CustName)

**Exercise b)**

Movie(movieID(PK), movieTitle, movieYear, type, director, directorDOB, yr\_releases\_cnt, actor)

**1NF: -** No repeating fields

**2NF: - Can be more than one actor**

cast(movieID(PK,FK), actorID(PK,FK)

actor(actorID(PK),actor)

**3NF: -**

type(typeID(PK), type)

director(directorID(PK), director, directorDOB)

Movie(movieID(PK), movieTitle, movieYear, yr\_releases\_cnt, typeID(FK), directorID(FK))

**Results:**

Movie(movieID(PK), movieTitle, movieYear, yr\_releases\_cnt, typeID(FK), directorID(FK))

cast(movieID(PK,FK), actorID(PK,FK)

actor(actorID(PK),actor)

type(typeID(PK), type)

director(directorID(PK), director, directorDOB)