4.3)

UNF:

ClientRental (clientNo, cName, {propNo, pAddress, rentalStart, rentFinish, rent, ownerNo, oName})

Repeating groups: {propNo, pAddress, rentalStart, rentFinish, rent, ownerNo, oName}

UNF -> 1NF:

ClientRental (clientNo, cName, propNo, pAddress, rentalStart, rentFinish, rent, ownerNo, oName)

Assumptions: A client only rents a given property once.

1NF -> 2NF: Remove partial dependencies.

Dependent relations

clientNo -> cName

clientNo -> propNo

propNo -> pAdress, Start, Finish, rentCost, oName (partial dependencies, a propNo can have mutiple Start, Finish)

RentalDuration (clientNo, propNo, Start, Finish) => composite key

ClientRental (clientNo, cName, ownerNo)

Property (propNo, pAdress, rentCos, oName, oNo)

*Fk: clientNo, propNo references ClientRental and Property (clientNo, propNo)*

2NF -> 3NF: Remove transitive dependencies.

Dependent relations:

Client (clientNo, cName)

Owner (ownerNo, ownerName)

RentalDuration (clientNo, propNo, Start, Finish)

Property (propNo, pAdress, rentCost, ownerNo)

4.5)

i) UNF:

ClassList (semester, courseNo, courseTitle, semester, insLocation, {insID and Name, stuNo, stuName, major, grade})

ii) Repeating groups: {insID, insName, stuNo, stuName, major, grade}

UNF -> 1NF: remove repeating groups

ClassList (semester, courseNo, courseTitle, insLocation, insID, insName, stuNo, stuName, major, grade)

Primary Key: courseNo and stuNo and semester

Assumption: A student may take the same course again if she/he fails.

iii) 1NF -> 2NF: remove partial dependencies.

Dependent relation:

semester, courseNo -> courseTitle, insLocation, insID, insName

stuNo -> stuName, major, grade (partial dependencies)

Classlist (courseTitle, studName, semester, insLocation, insID, insName)