**CS6070 Database Systems**

**Lab – 6**

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1. **Convert the ER Diagram below to a list of tables. Be sure to identify primary keys and foreign keys.**

Here the relationship between two tables is 1:1 binary.

In this instance, placing a foreign key *KSUID*  in the PARKING SPACE table is the best option. There will not be any null values in the column. Additionally, this option is desirable because it increases the database by only one column, making it easier to read and maintain.

STUDENT(KSUID, LastName, FirstName,)

PARKING SPACE(ParkingSpaceNo, LotName, *KSUID*)

1. **Convert the ER Diagram below to a list of tables. Be sure to identify primary keys and foreign keys.**

Here the relationship between two tables is 1:N binary.

Appending the foreign key *FName, LName* to COW table is typically the best solution. In the case where every COW belongs to the FARMER, this rule is particularly true. Note that in the case where a COW does not belong to a FARMER, there will be a null value for the foreign key.

FARMER(FName, LName, County, State)

COW(TagNo, Breed, DOB, *FName, LName*)

1. **Convert the ER Diagram below to a list of tables. Be sure to identify primary keys and foreign keys.**

Here the relationship between two tables is N:M binary.

Creating an association table is the best solution possible for this instance. In fact, anytime there is a N:M relation, an additional table is necessary because that allows for either entity to be assigned to multiple instances of the other entity.

AUTHOR(AuthNo, AuthName)

BOOK(ISBN, Title)

ITEMS(*AuthNo, ISBN*)

1. **Convert the ER Diagram below to a list of tables. Be sure to identify primary keys and foreign keys.**

Here the relationship between two tables is 1:N binary.

CUSTOMER(CustomerID, LastName, FirstName, Address, City, State, Zip, Phone, Email, *REFERRED-BY\_CustomerID)*

1. **Map the following super‐type, sub‐type relationship to tables. Be sure to identify primary keys and foreign keys.**

PROPERTY(PropertyID, PropertyType, Address, City, State, Zip)

HOUSE(*PropertyID*, NumberOfBedrooms, {OtherAttributes})

APARTMENT\_HOUSE(*PropertyID*, NumberOfUnits, ManagerName, {OtherAttributes})

COMMERCIAL(*PropertyID*, NumberOfUnits, TotalFloorSpace, {OtherAtrributes})