**IDBMS Lab Assignment 2**

Consider an ONLINE\_AUCTION database system in which members (buyers and sellers) participate in the sale of items. The data requirements for this system are summarized as follows:

* The online site has members, each of whom is identified by a unique member number and is described by an email address, name, home address, password and phone number.
* A member may be a buyer or a seller. A buyer has a shipping address recorded in database. A seller has a bank account number and routing number recorded in the database.
* Items are placed by a seller for sale and are identified by a unique item number assigned by the system. Items are also described by an item title, a description, starting bid price, bidding increment, the start date of the auction and end date of auction.
* Items are also categorized based on a fixed classification hierarchy (for example: a Modem may be classified as Computer->Hardware->Modem).
* Buyers make bid for the items they are interested in. Bid price and time of bid is recorded. The bidder at the end of the auction with the highest bid price is declared the winner and a transaction between buyer and seller may then proceed.
* The Buyer and Seller may record feedback regarding their completed transactions. Feedback contains a rating of the other party participating in the transaction (1-10) and comment.

For the above ONLINE\_AUCTION database, perform the following:

1. Design an Entity Relationship diagram. Define all the cardinality and participation constraints.
2. Convert the above ER model into relational model using SQL.
3. Specify your tables with primary keys and foreign keys.