### Online Auction

### Problem Statement:

Dukaandaar is a e-commerce portal. Users can auction and bid for products available on [www.dukaandaar.com](http://www.dukaandaar.com). Users have to first log-into the system. Use the following method to implement this feature :

**public void authenticateUser(User user) throws**

**AuthenticationFailureException**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

**The bean class User has been provided to you. Do not remove or change anything in the class. You are free to add your own data members and member methods**

**User details have been given in a CSV file named users.csv. Details are in the format user id, username and password.**

**If authentication fails the method must throw the listed exception. The exception class has also been provided to you.**

User’s can add new items they wish to auction to the portal’s database. Use the following method to implement this feature:

**public void insertItemForUSer(Item item, User user)**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

**The bean class Item has been provided to you. Do not remove or change anything in the**

**class. You are free to add your own data members and member methods**

**An item’s details include its name, description, starting price and quantity.**

User’s should be able to retrieve and view a list of all their items from the database. Use the following method to implement this feature:

**public void getAllItemsForUser(User user)**

User’s can choose one of their listed items from above and create an auction for the item they wish to sell. Use the following method to implement this feature:

**public void createAuction(Auction auction)**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

**The bean class Auction has been provided to you. Do not remove or change anything in the class. You are free to add your own data members and member methods**

The following rules must be followed when data for auction is taken as input.

* Start date must be before or equal to end date
* Minimum increment and shipping charges should not be less than zero

You can write your own method to validate this information

Users can view a list of items on auction except their own. Only those items that are valid for a bid as of current date must be visible. Use the following method to implement this feature:

**public Set<Auction> getAllItemsOnAuction(User user)**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

Users can now bid for an item on auction. Use the following method to implement this feature:

**public void createBid(Bid bid)**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

**The bean class Bid has been provided to you. Do not remove or change anything in the class. You are free to add your own data members and member methods**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

The following rules must be followed while making a bid

* The bid price must be either equal or more than starting price + minimum increment

Users should be able to view all bids they have received for an item that they had earlier added to the auction with the following method:

**public Set<Bid> getAllBidsForItem(Item item)**

**This method has been provided to you in Client.java. Please do not change the method signature. You are free to add more data members and methods.**

**Create the following tables through the MySQL command prompt:**

**CREATE DATABASE `online\_auction\_db`;**

**USE `online\_auction\_db`;**

**CREATE TABLE `items` (**

**`itemId` INT(11) NOT NULL AUTO\_INCREMENT,**

**`userId` INT(11) NOT NULL,**

**`itemName` VARCHAR(32) NOT NULL,**

**`description` VARCHAR(128) NOT NULL,**

**`startingPrice` DOUBLE NOT NULL,**

**`quantity` INT(11) NOT NULL,**

**PRIMARY KEY (`itemId`)**

**) ENGINE=INNODB DEFAULT CHARSET=latin1**

**CREATE TABLE `auctions` (**

**`auctionId` INT(11) NOT NULL AUTO\_INCREMENT,**

**`itemId` INT(11) NOT NULL,**

**`startDate` DATE NOT NULL,**

**`endDate` DATE NOT NULL,**

**`minimumIncrement` DOUBLE NOT NULL,**

**`shippingCharges` DOUBLE NOT NULL,**

**PRIMARY KEY (`auctionId`),**

**KEY `FK\_auctions\_items` (`itemId`),**

**CONSTRAINT `FK\_auctions\_items` FOREIGN KEY (`itemId`) REFERENCES `items` (`itemId`)**

**) ENGINE=INNODB DEFAULT CHARSET=latin1**

**CREATE TABLE `bids` (**

**`bidId` INT(11) NOT NULL AUTO\_INCREMENT,**

**`itemId` INT(11) NOT NULL,**

**`bidAmount` DOUBLE NOT NULL,**

**PRIMARY KEY (`bidId`),**

**KEY `FK\_bids\_items` (`itemId`),**

**CONSTRAINT `FK\_bids\_items` FOREIGN KEY (`itemId`) REFERENCES `items` (`itemId`)**

**) ENGINE=INNODB DEFAULT CHARSET=latin1**

**Database Information:**

Url: jdbc:mysql://localhost:3306/movie\_db

Driver class: com.mysql.jdbc.Driver

Username: root

Password: root