Menus:

Main—

1 – Admin 2 – Seller 3 – Buyer 4 – Exit

Admin—

1 – View All Users 2 – Delete any User 3 – View Particular Seller Information 4 – Block and Unblock Sellers 4 – Terminate Any Auction Before Time 5 – Redo Any Concerned Auction 6 – Generate Overall Summary to Auctions 7 – Return to Main Menu (Add any other if Missing #Okasha)

Seller

1 – Add Item for Auction

2 – Remove Particular Item

3 – Edit Particular Item Details

4 – View only Items of the Seller

5 – View Expired Auction Items

6 – Return to Main Menu (Add any other if missing #Okasha)

Buyer

1 – Place Bid

2 – View Ongoing Auctions

3 – View Auction Status

4 – View Won Auction Items

5 – Return to Main Menu (Add anyother Missing ones #Okasha)

Structs (IF possible use these, But if you want to change these then share your changes to group because loading and saving data functions need to be updated.)

struct Seller {

int id;

string name;

float budget;

bool isBlocked;

};

struct Item {

int id;

string name;

string description;

float startingPrice;

float currentBid;

int sellerId;

bool isAuctionActive;

bool isDelivered;

int buyerId;

};

struct Delivery {

int itemId;

int buyerId;

bool delivered;

};

struct Bid {

int id;

int itemId;

int buyerId;

float amount;

};

struct Auction {

int id;

int itemId;

bool isTerminated;

time\_t startTime;

time\_t endTime;

};

struct Buyer {

int id;

string name;

float budget;

int chances;

};

struct Bill {

int id;

int buyerId;

int itemId;

float amount;

};

const int MAX\_BUYERS = 100;

const int MAX\_SELLERS = 100;

const int MAX\_ITEMS = 1000;

const int MAX\_AUCTIONS = 100;

const int MAX\_BIDS = 10000;

const int MAX\_BILLS = 10000;

const int MAX\_ Deliveries= 10000;

Seller sellers[MAX\_SELLERS];

Buyer buyers[MAX\_BUYERS];

Item items[MAX\_ITEMS];

Auction auctions[MAX\_AUCTIONS];

Bid bids[MAX\_BIDS];

Delivery deliveries[MAX\_Deliveries];

----We will use Defined sized arrays of structs in this Program. (If you want to change then tell in the group, we will discuss there)

Tasks Helping Material (Function Data type can be any (if you want to change), we only wants result. Also make sure if your function not needed in any other’s ones if yes then choose data type according to it)

HASHIM

void placeBid(Bid bids[], int& numBids, Item items[], int& numItems, Buyer buyers[], int& numBuyers, int buyerID, int itemID)

void terminateAuction(Auction auctions[], int& numAuctions, Item items[], int& numItems, int auctionID);

void viewExpiredItems(Item items[], int numItems, Auction auctions[], int numAuctions);

void viewWonAuctions(Bid bids[], int numBids, Item items[], int numItems, int buyerId)

void getBuyerDetailsForDelivery(Buyer buyers[], int numBuyers, int buyerID);

void viewDeliveryStatus(Item items[], int numItems, int itemId);

void viewDeliveryHistory(Delivery deliveries[], int numDeliveries, Buyer buyers[], int numBuyers, int buyerId)

MUDABIR AHMED

void redoAuction(Auction auctions[], int& numAuctions, Item items[], int& numItems, int auctionID);

void viewSellerItems(Item items[], int numItems, int sellerID);

void handleReferral(Buyer buyers[], int& numBuyers, int referringUserID, float discountAmount);

OKASHA

void displayAdminMenu();

void displaySellerMenu();

void displayBuyerMenu();

void removeItem(Item items[], int& numItems, int itemID);

void editItemDetails(Item items[], int numItems, int itemID);

OMER ANWAR

void addItemForAuction(Item items[], int& numItems, Seller sellers[], int sellerID);

void blockSeller(Seller sellers[], int numSellers, int sellerId);

void unblockSeller(Seller sellers[], int numSellers, int sellerId);

ZUNAIRA ABDUL AZIZ

void manageSellerBudget(Seller sellers[], int& numSellers, int sellerID);

void manageBuyerBudget(Buyer buyers[], int& numBuyers, int buyerID);

FATIMA IMRAN & MINAHIL NAEEM

void generateSummary(Bid bids[], int numBids, Item items[], int numItems, Auction auctions[], int numAuctions, Buyer buyers[], int numBuyers, Bill bills[], int numBills, Delivery deliveries[], int numDeliveries);

void viewOngoingAuctions(Auction auctions[], int numAuctions, Item items[], int numItems);

void viewAuctionStatus(Seller sellers[], int sellerID, Auction auctions[], int numAuctions, Item items[], int numItems);

void searchItemsByname(Item items[], int numItems, string name);

AREEBA SHAHBAZ

void viewSellerInfo(Seller sellers[], int numSellers, Item items[], int numItems, int sellerId);

void viewAllUsers(Buyer buyers[], int numBuyers, Seller sellers[], int numSellers);

{ these 2 functions can be integrated into one as needed

void deleteUser(Buyer buyers[], int& numBuyers, int buyerId);

void deleteUser(Seller sellers[], int& numSellers, int sellerId);

}

void viewAllItems(Item items[], int numItems);