CS331 Project Phase 3 Report

Team HaramBase

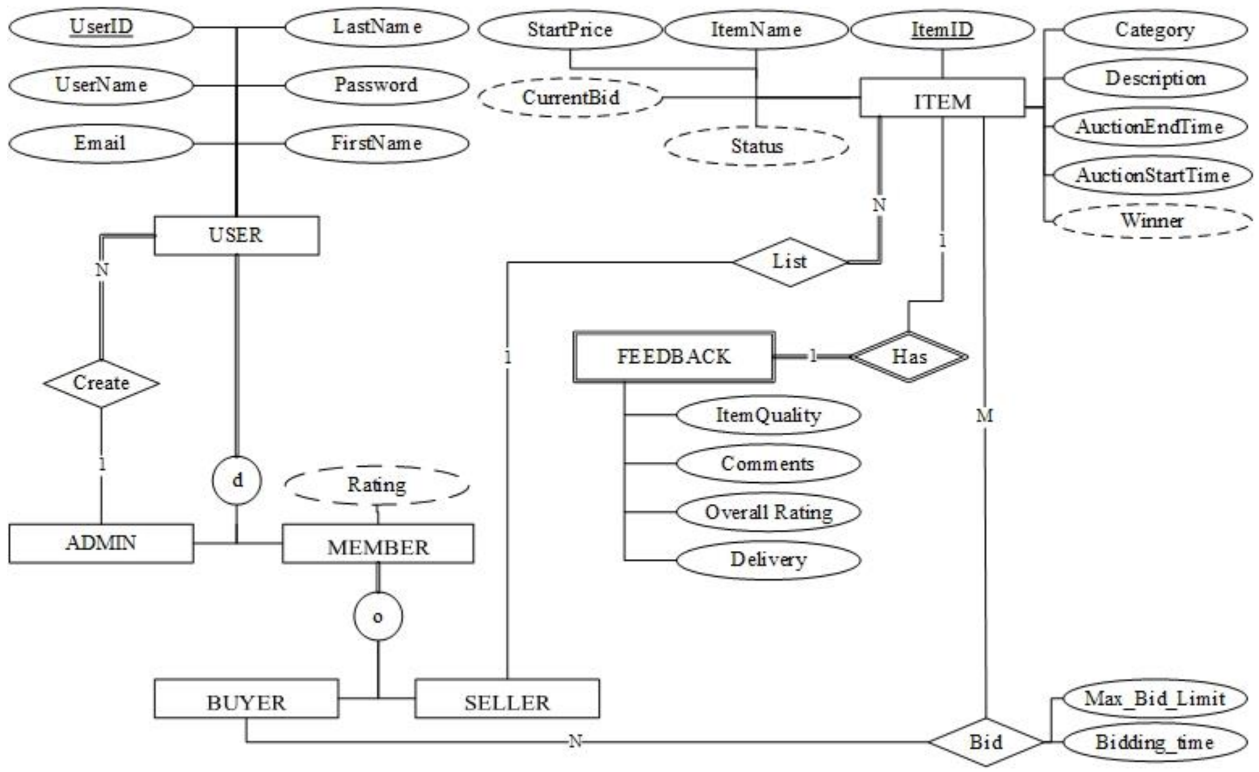
Shilei Lin, Joshua Folkerds, Matthew Kouniyom

This project is dedicated to our hero, Harambe, the Gorilla that was.

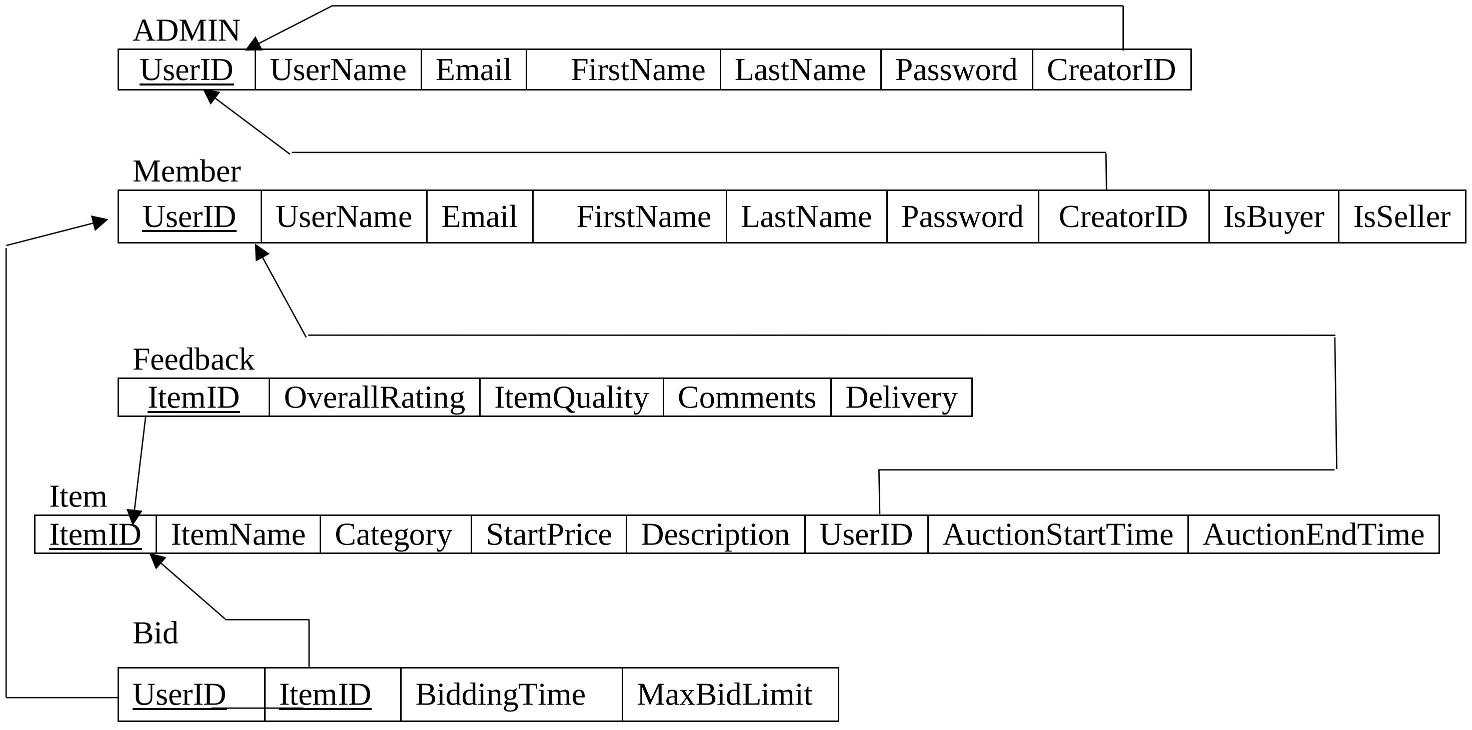
Table of Contents

PART I: Updated Diagrams

1. EER diagram:



2. Relational schema diagram



ADMIN

UserID	UserName	Email	FirstName	LastName	Password	CreatorID

Member

UserID	UserName	Email	FirstName	LastName	Password	CreatorID	IsBuyer	IsSeller

Feedback

ItemID	OverallRating	ItemQuality	Comments	Delivery

Item

ItemID	ItemName	Category	StartPrice	Description	UserID	AuctionStartTime	AuctionEndTime

Bid

UserID	ItemID	BiddingTime	MaxBidLimit

PART II: Physical Database Design

The code is used for creating the databases and with comments on the left side

Comments | **DDL statements**

1. This will create the *ADMIN* table of database, which has *USERID* as primary Key and other 5 attributes. UNAME is another unique attribute.

```sql
DROP TABLE  HARAMBASE_ADMIN CASCADE CONSTRAINTS;
CREATE TABLE HARAMBASE_ADMIN(
       USERID INTEGER PRIMARY KEY,
       UNAME VARCHAR(10) UNIQUE,
       EMAIL VARCHAR(20),
       FNAME VARCHAR(15),
       LNAME VARCHAR(15),
       PASSWORD VARCHAR(16),
       CREATORID INTEGER,
  FOREIGN KEY (CREATORID) REFERENCES HARAMBASE_ADMIN(USERID)
    ON DELETE SET NULL);
```

2. This will create the *MEMBER* table of database, which has *USERID* as primary Key and other 8 attributes. UNAME is another unique attribute.

```sql
DROP TABLE  HARAMBASE_MEMBER CASCADE CONSTRAINTS;
CREATE TABLE HARAMBASE_MEMBER(
       USERID INTEGER PRIMARY KEY,
       UNAME VARCHAR(10) UNIQUE,
       EMAIL VARCHAR(20),
       FNAME VARCHAR(15),
       LNAME VARCHAR(15),
       PASSWORD VARCHAR(16),
       CREATORID INTEGER,
       ISBUYER NUMBER(1, 0),
       ISELLER NUMBER(1, 0),
  FOREIGN KEY (CREATORID) REFERENCES HARAMBASE_ADMIN(USERID)
    ON DELETE SET NULL);
```

3. This will create the *ITEM* table of database, which has *ITEMID* as primary Key and other 7 attributes.

```sql
DROP TABLE  HARAMBASE_ITEM CASCADE CONSTRAINTS;
CREATE TABLE HARAMBASE_ITEM(
       ITEMID INTEGER PRIMARY KEY,
       ITEMNAME VARCHAR(150),
       ITEMCATEGORY VARCHAR(50),
       STARTPRICE NUMBER(6,2),
       DESCRIPTION VARCHAR(300),
       SELLERID INTEGER,
       AUCTIONSTARTTIME TIMESTAMP(3),
       AUCTIONENDTIME TIMESTAMP(3),
  FOREIGN KEY (SELLERID) REFERENCES HARAMBASE_MEMBER(USERID)
    ON DELETE SET NULL);
```

4. This will create the *FEEDBACK* table of database, which has *ITEMID* as primary Key and other 7 attributes.

```sql
DROP TABLE  HARAMBASE_FEEDBACK CASCADE CONSTRAINTS;
CREATE TABLE HARAMBASE_FEEDBACK(
       ITEMID INTEGER PRIMARY KEY,
       OVERALLRATING NUMBER(3,1),
       ITEMQUALITY NUMBER(2,1),
       DELIVERY NUMBER(2,1),
       COMMENTS VARCHAR(300),
  FOREIGN KEY (ITEMID) REFERENCES HARAMBASE_ITEM(ITEMID)
    ON DELETE SET NULL);
```

5. This will create the *BID* table of database, which has the combination of *ITEMID* and *USERID* as

```sql
DROP TABLE  HARAMBASE_BID CASCADE CONSTRAINTS;
CREATE TABLE HARAMBASE_BID(
       USERID INTEGER,
       ITEMID INTEGER,
       BIDDINGTIME TIMESTAMP(3),
  MAXBIDLIMIT NUMBER(6,2),
  PRIMARY KEY (USERID, ITEMID),--THIS IS HOW YOU DEFINE PRIMARY KEY
```

primary Key and other 2 attributes.	`FOREIGN KEY (USERID) REFERENCES HARAMBASE_MEMBER(USERID)`
	`ON DELETE SET NULL,`
	`FOREIGN KEY (ITEMID) REFERENCES HARAMBASE_ITEM(ITEMID)`
	`ON DELETE SET NULL);`

6. This part of codes will insert users into the database.	`INSERT INTO HARAMBASE_ADMIN VALUES (0, 'admin', 'admin@harambase.org', 'ad', 'min', 'admin', NULL);`
	`INSERT INTO HARAMBASE_MEMBER VALUES (1, 'jfolks', 'jfolks@harambase.org', 'Josh', 'Folkerds', 'Folkerds', 0, 1, 1);`
	`INSERT INTO HARAMBASE_MEMBER VALUES (2, 'mkounn', 'mkounn@harambase.org', 'Matthew', 'Kounniyom', 'Kounniyom', 0, 1, 1);`
	`INSERT INTO HARAMBASE_MEMBER VALUES (3, 'slin', 'slin@harambase.org', 'Shilei', 'Lin', 'Lin', 0, 1, 1);`
	`INSERT INTO HARAMBASE_MEMBER VALUES (4, 'irahal', 'irahal@harambase.org', 'Imad', 'Rahal', 'Rahal', 0, 1, 1);`

7. This part of codes will insert items into the database.	`INSERT INTO HARAMBASE_ITEM VALUES (100, 'SJU Snapback Hat', 'Outdoor Gear',30,'For the Johnniest of Johnnies!', 1, TO_TIMESTAMP('03-NOV-2016 11:00:00', 'DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('13-NOV-2016 12:00:00', 'DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (101, 'DATABASES BOOK', 'BOOK',100, 'BRAND NEW', 3, TO_TIMESTAMP('03-NOV-2016 11:00:00', 'DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('12-NOV-2016 12:00:00', 'DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (102, 'CHINSES INSTANT NODDLES', 'FOOD', 20, 'COOK IN 5 MINS', 2, TO_TIMESTAMP('03-NOV-2016 11:00:00','DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('10-NOV-2016 12:00:00','DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (103, 'TACO', 'FOOD', 5, 'FRESH', 3, TO_TIMESTAMP('03-NOV-2016 11:00:00','DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('10-NOV-2016 12:00:00','DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (104, 'Abstract Mathematics', 'BOOK', 20, 'BRAND NEW', 3, TO_TIMESTAMP('03-NOV-2016 11:00:00'), TO_TIMESTAMP('10-NOV-2016,12:00:00','DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (105, 'INTRODUCTION TO Mathematics', 'BOOK', 40, 'BRAND NEW', 3, TO_TIMESTAMP('03-NOV-2017 11:00:00','DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('10-NOV-2017 12:00:00','DD-MM-YYYY HH:MI:SS'));`
	`INSERT INTO HARAMBASE_ITEM VALUES (106, 'INTRODUCTION TO Mathematics', 'BOOK', 50, 'BRAND NEW', 3, TO_TIMESTAMP('03-NOV-2016 11:00:00','DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('10-NOV-2017 12:00:00','DD-MM-YYYY HH:MI:SS'));`

8. This part of codes will insert feedback into the database.	`INSERT INTO HARAMBASE_FEEDBACK VALUES (100, 9.5, 3.0, 1.0,'The hat did not arrive at all, I recieved a notifcation of shipping from the seller. But got nothing.');`
	`INSERT INTO HARAMBASE_FEEDBACK VALUES (101, 8.0, 5.0, 4.0,'The BOOK IS GOOD.');`
	`INSERT INTO HARAMBASE_FEEDBACK VALUES (104, 5.0, 5.0, 4.0,'The NOODLE IS GOOD.');`
	`INSERT INTO HARAMBASE_FEEDBACK VALUES (102, 10.0, 5.0, 4.0,'The BOOK IS GOOD.');`

9. This part of codes will insert bidding into the database.	`INSERT INTO HARAMBASE_BID VALUES(2,100,TO_TIMESTAMP('04-NOV-2016 11:00:00','DD-MM-YYYY HH:MI:SS'),50);`
	`INSERT INTO HARAMBASE_BID VALUES(3,100,TO_TIMESTAMP('04-NOV-2016 12:00:00','DD-MM-YYYY HH:MI:SS'),60);`
	`INSERT INTO HARAMBASE_BID VALUES(2,101,TO_TIMESTAMP('04-NOV-2016 10:00:00','DD-MM-YYYY HH:MI:SS'),150);`
	`INSERT INTO HARAMBASE_BID VALUES(3,101,TO_TIMESTAMP('05-NOV-2016 11:00:00','DD-MM-YYYY HH:MI:SS'),160);`
	`INSERT INTO HARAMBASE_BID VALUES(4,101,TO_TIMESTAMP('06-NOV-2016 12:00:00','DD-MM-YYYY HH:MI:SS'),170);`

```
INSERT INTO HARAMBASE_BID VALUES(3,102,TO_TIMESTAMP('06-NOV-2016
11:00:00','DD-MM-YYYY HH:MI:SS'),6);
INSERT INTO HARAMBASE_BID VALUES(4,102,TO_TIMESTAMP('05-NOV-2016
12:00:00','DD-MM-YYYY HH:MI:SS'),7);
INSERT INTO HARAMBASE_BID VALUES(4,104,TO_TIMESTAMP('05-NOV-2016
12:00:00','DD-MM-YYYY HH:MI:SS'),50);
INSERT INTO HARAMBASE_BID VALUES(1,103,TO_TIMESTAMP('11-NOV-2016
12:00:00','DD-MM-YYYY HH:MI:SS'),10);
INSERT INTO HARAMBASE_BID VALUES(2,103,TO_TIMESTAMP('11-NOV-2016
12:00:01','DD-MM-YYYY HH:MI:SS'),10);
```

Part III: System Functionality Descriptions

- We did not include the procedures, functions, views and triggers codes in this part because it will be duplicating with PART IV: SQL Code Components.
- However, we will still mention them in the verbose description.
- Some sample outputs have been reformatted for display only.

Section One: Admin Subsystem:

Functionalities for administrators (total of 5 functionalities)

NO.1 Functionality: Admin login

The SQL calls functions ADMIN_LOG_IN_FUNC with two input parameters userID and password. The function will return 1 or 0 as success or fail to login

SQL Queries:

```
SELECT ADMIN_LOG_IN_FUNC('admin','admin') FROM DUAL;
```

Sample Output:

```
--EXPECTED: 1
--       ADMIN_LOG_IN_FUNC('ADMIN','ADMIN')
-----------------------------------------
--                                     1
```

NO.2 Functionality: View Users

The Admin will view all the users (non-admin)

SQL Queries:

```
SELECT USERID, UNAME, FNAME, LNAME, EMAIL, PASSWORD FROM HARAMBASE_MEMBER;
```

Sample Output:

```
--    USERID UNAME      FNAME           LNAME           EMAIL                PASSWORD
------------ ---------- --------------- --------------- -------------------- ----------
--         1 jfolks     Josh            Folkerds        jfolks@harambase.org  Folkerds
--
--         2 mkounn     Matthew         Kounniyom       mkounn@harambase.org  Kounniyom
--
--         3 slin       Shilei          Lin             slin@harambase.org    Lin
--
--         4 irahal     Imad            Rahal           irahal@harambase.org  Rahal
```

NO.3 Functionality: Add Users

The Admin will can add a new user by the procedure. Also, by calling this procedure, we do not need to specify the actual userID because a trigger will generate it before insert into the database. The default '-1' there will not be inserted into the database, but we still need one to pass as parameters.

SQL Queries:

```
Set serveroutput on;
DECLARE
  STATUS INT;
BEGIN
  ADD_USER_PRO(-1, 'hrambe', 'hrambe@harambase.org', 'Harambe', 'Gorilla', 'Gorilla',
0, 0, 0, STATUS);
```

```
  DBMS_OUTPUT.PUT_LINE(STATUS);
  ADD_USER_PRO(-1, 'lmatt', 'Matt@harambase.org', 'Matthew', 'Lynch', 'Lynch', 0, 1,
1,STATUS);
  DBMS_OUTPUT.PUT_LINE(STATUS);
END;
```

Sample Output:

```
--    USERID UNAME      FNAME           LNAME           EMAIL                 PASSWORD
------------ ---------- --------------- --------------- -------------------- ----------
--         1 jfolks     Josh            Folkerds        jfolks@harambase.org  Folkerds
--
--         2 mkounn     Matthew         Kounniyom       mkounn@harambase.org  Kounniyom
--
--         3 slin       Shilei          Lin             slin@harambase.org    Lin
--
--         4 irahal     Imad            Rahal           irahal@harambase.org  Rahal
--
--         5 hrambe     Harambe         Gorilla         hrambe@harambase.org  Gorilla
--
--         6 lmatt      Matthew         Lynch           Matt@harambase.org   Lynch
```

NO.4 Functionality: Sales Summary Report

Admin would like to view a sales summary, which is grouped by item category and then item id and shows the list of items sold with item info and the commission free from the sale. This will select information from SALES_SUMMARY_REPORT view

SQL Queries:

```
SELECT * FROM SALES_SUMMARY_REPORT;
```

Sample Output:

```
--CATE            ID         NAME                     FINAL_PRICE       COMMISSION
------------ ---------- ----------------------- --------------- --------------------
--BOOK          104      Abstarct Mathematics         21           1.05
--BOOK          101      DATABASES BOOK              151           7.55
--FOOD          102      CHINSES INSTANT NODDLES       7           0.35
--FOOD          103      TACO                         11           0.55
--Outdoor Gear  100      SJU Snapback Hat             51            2.55
```

NO.5 Functionality: Sales Summary Report

Admin would like to view a list of sellers who sold items. It is grouped by user id and shows user info with commission fees each has paid with total income at the bottom. This will select information from SALES_SUMMARY_REPORT view

SQL Queries:

```
SELECT * FROM OVERALL_COMMISSION_VIEW;
```

Sample Output:

```
--USERID USER_NAME  FIRST_NAME      LAST_NAME       EMAIL     SELLER_RATING COMMISSIONS
------------ ---------- --------------- --------------- ------------------------------
-- 1 jfolks      Josh            Folkerds        jfolks@harambase.org  9.5        2.55
-- 2 mkounn      Matthew         Kounniyom       mkounn@harambase.org  10         .35
-- 3 slin        Shilei          Lin             slin@harambase.org    7.7E+00    9.15
```

Section Two: Customer Subsystem

Functionalities for Customers (total of 13 functionalities)

NO.1 Functionality: User Login

The SQL calls functions ADMIN_LOG_IN_FUNC with two input parameters userID and password. The function will return 1 or 0 as success or fail to login

SQL Queries:

```
SELECT MEMBER_LOG_IN_FUNC('slin','Lin') FROM DUAL;
```

Sample Output:

```
--EXPECTED: 1
--       MEMBER_LOG_IN_FUNC('SLIN','LIN')
-----------------------------------------
--                                      1
```

NO.2 Functionality: Update Profile

The SQL will invoke the procedure for updating properses. The procedure will return SUCC as indicator whether the update success or not. Different SUCC number means different failure condition User wishes to update their profile information. (For Seller and Buyer)

SQL Queries:

```
set serveroutput on;
declare
  SUCC Integer;
begin
  UPDATE_PROFILE_PRO(3,NULL, '2@A.COM',NULL,'BOBARINO',NULL,NULL,NULL,SUCC);
  DBMS_OUTPUT.PUT_LINE(SUCC);
end;

SELECT * FROM HARAMBASE_MEMBER WHERE USERID = 2;
```

Sample Output:

```
--USERID UNAME   EMAIL     FNAME    LNAME     PASSWORD  CREATORID  ISBUYER     ISELLER
------------------ ---------- ---------- ---------- -------- --------  -----------
--2      mkounn 2@A.COM  Matthew  BOBARINO  Kounniyom   0         1           1
```

NO.3 Functionality: Show List of Items

Seller wishes to see all the items they are listing (For Seller)

SQL Queries:

```
SELECT ITEM.ITEMID, ITEM.ITEMNAME, ITEM.ITEMCATEGORY, ITEM.AUCTIONSTARTTIME,
       ITEM.AUCTIONENDTIME, HARAMBASE_GETPRICE_FUNC(ITEM.ITEMID) AS CURRENT_BID,
       GET_STATUS_FUNC(ITEM.ITEMID) AS STATUS
FROM HARAMBASE_ITEM ITEM
WHERE ITEM.SELLERID IN (SELECT M.USERID
                        FROM HARAMBASE_MEMBER M)
      AND ITEM.SELLERID = '3'
ORDER BY GET_STATUS_FUNC(ITEM.ITEMID) DESC, ITEM.ITEMID;
```

Sample Output:

```
--ITEMID     ITEMNAME      CATE   AUCTION START TIME
```

```
AUCTION END TIME              CURRENTBID STATUS
-------------------------------------------------------------------------------------
--101  DATABASES BOOK       BOOK   03-NOV-16 11.00.00.000000000 AM
12-NOV-16 12.00.00.000000000 PM    151    1
--103  TACO   FOOD   03-NOV-16 11.00.00.000000000 AM
10-NOV-16 12.00.00.000000000 PM    11     1
--104  Abstarct Mathematics BOOK   03-NOV-16 11.00.00.000000000 AM
10-NOV-16 12.00.00.000000000 PM    21     1
--106  INTRODUCTION TO Mathematics BOOK   03-NOV-16 11.00.00.000000000 AM
10-NOV-17 12.00.00.000000000 PM    0      0
--105  INTRODUCTION TO Mathematics BOOK   03-NOV-17 11.00.00.000000000 AM
10-NOV-17 12.00.00.000000000 PM    0      -1
-------------------------------------------------------------------------------------
```

NO.4 Functionality: Show List of Bidders

Seller wishes to see all the bidders by his/her current item. (For Seller)

SQL Queries:

```
SELECT HB.BIDDINGTIME ,HM.UNAME AS USERNAME, HB.MAXBIDLIMIT AS MAX_BID_LIMIT
FROM HARAMBASE_BID HB, HARAMBASE_MEMBER HM
WHERE HB.USERID IN (SELECT HM.USERID
                      FROM HARAMBASE_ITEM HM)
                      AND HB.ITEMID = 101
ORDER BY HB.BIDDINGTIME;
```

Sample Output:

```
--BIDDINGTIME                       USERNAME   MAX_BID_LIMIT
--------------------------------- ---------- -------------
--04-NOV-16 10.00.00.000000000 AM mkounn               150
--05-NOV-16 11.00.00.000000000 AM slin                 160
--06-NOV-16 12.00.00.000000000 PM irahal               170
```

NO.5 Functionality: Show Item Information

User wishes to view detailed information about an item they listed above. (For Seller)

SQL Queries:

```
SELECT ITEM.ITEMID, ITEM.ITEMNAME, ITEM.ITEMCATEGORY, ITEM.AUCTIONSTARTTIME,
       ITEM.AUCTIONENDTIME, ITEM.DESCRIPTION
FROM HARAMBASE_ITEM ITEM
WHERE ITEM.ITEMID = '101';
```

Sample Output:

```
--ITEMID     ITEMNAME CATE   AUCTION START TIME
AUCTION END TIME            DESCRIPTION
-------------------------------------------------------------------------------------
--101  DATABASES BOOK       BOOK   03-NOV-16 11.00.00.000000000 AM   12-NOV-16
12.00.00.000000000 PM       BRAND NEW
```

NO.6 Functionality: Add Item

Invoke Trigger, User wishes to add a new item to sell..

SQL Queries:

```
SELECT *  FROM Harambase_ITEM;
EXEC ADD_ITEM_PRO(1, 'TESTING', 'BOOK', 50, 'BRAND NEW', 3, TO_TIMESTAMP('03-NOV-2016
11:00:00', 'DD-MM-YYYY HH:MI:SS'), TO_TIMESTAMP('10-NOV-2017 12:00:00', 'DD-MM-YYYY
HH:MI:SS'));
SELECT *  FROM Harambase_ITEM;
```

Sample Output:

```
--ITEMID     ITEMNAME CATE    AUCTION START TIME
AUCTION END TIME            DESCRIPTION
----------------------------------------------------------------------------------
--101  DATABASES BOOK       BOOK    03-NOV-16 11.00.00.000000000 AM    12-NOV-16
12.00.00.000000000 PM       BRAND NEW
```

NO.8 and 9 Functionality: Search

The procedure will accept all the inputs and return a table. User wishes to search for an item to bid on.

SQL Queries:

```
set serveroutput on;
DECLARE
  TID NUMBER;
  KEYWORD VARCHAR2(200);
  TCATEGORY VARCHAR2(200);
  TAUCTIONSTARTTIME TIMESTAMP;
  TAUCTIONENDTIME TIMESTAMP;
  CURBIDMIN NUMBER;
  CURBIDMAX NUMBER;
  CURBID NUMBER;
  STATUS NUMBER;
  RESULTSET SYS_REFCURSOR;
BEGIN
  TID := NULL;
  KEYWORD := 'DATA';
  TCATEGORY := NULL;
  TAUCTIONSTARTTIME := TO_TIMESTAMP('01-NOV-2016 10:00:00','DD-MM-YYYY HH:MI:SS');
  TAUCTIONENDTIME := TO_TIMESTAMP('20-NOV-2017 11:00:00','DD-MM-YYYY HH:MI:SS');
  CURBIDMIN := NULL;
  CURBIDMAX := NULL;
  CURBID := 0;
  STATUS := 0;

   SEARCH_ITEM_PRO--    TID,
   KEYWORD,
   TCATEGORY,
   TAUCTIONSTARTTIME,
   TAUCTIONENDTIME,
   CURBIDMIN,
   CURBIDMAX,
   RESULTSET
 );
  DBMS_OUTPUT.PUT_LINE('ID  | NAME | CATE |            AUCTION STAR TIME              |
AUCTION END TIME|   CURRENT BID |   STATUS');
  LOOP
    FETCH RESULTSET
    INTO TID, KEYWORD,TCATEGORY,TAUCTIONSTARTTIME,TAUCTIONENDTIME,CURBID,STATUS;
    EXIT WHEN RESULTSET%NOTFOUND;
    DBMS_OUTPUT.PUT_LINE(TID || ' | ' || KEYWORD || ' | ' || TCATEGORY|| ' | '
||TAUCTIONSTARTTIME || ' | ' ||
            TAUCTIONENDTIME|| ' | ' ||CURBID|| ' | ' ||STATUS);
  END LOOP;
  CLOSE RESULTSET;
--rollback;
END;
```

Sample Output:

```
--OUTPUT:
--PL/SQL procedure successfully completed.
--
--ID  | NAME | CATE |             AUCTION STAR TIME             |
 AUCTION END TIME|      CURRENT BID |   STATUS
--101 | DATABASES BOOK | BOOK | 03-NOV-16 11.00.00.000000 AM |
12-NOV-16 12.00.00.000000 PM | 1501 | 1
```

NO.9 Functionality: Add Bid To item (Bid On Item)

User wishes to view detailed information about an item they listed above. (For Seller)

OUTPUT VALUE LOOKUP

- 1: Success
- -1: Auction has not yet started.
- 2: Item has been sold
- 3: MaxBidLimit is less than Start Price
- 4: User currently is the Winner

SQL Queries: (Excute left one first and then the right one)

```
set serveroutput on;
declare
  SUCC Integer;
begin
  ADD_BID_PRO(4,106,100,SUCC);
  DBMS_OUTPUT.PUT_LINE(SUCC);
end;
```

```
set serveroutput on;
declare
  SUCC Integer;
begin
  ADD_BID_PRO(4,106,150,SUCC);
  DBMS_OUTPUT.PUT_LINE(SUCC);
end;
```

```
SELECT * FROM harambase_bid WHERE itemid = 106;
```

Sample Output:

```
1
```

```
4
```

```
--    USERID     ITEMID BIDDINGTIME                           MAXBIDLIMIT
------------ ---------- ------------------------------- -----------
--         4        106 15-NOV-16 01.18.37.457000000 AM         100
```

NO.10 Functionality: List Items Bid On

This page displays every item that the user is bidding on. The item ID, item name, category, the auction start and end time, the start price, the current price, the winner (if there is one) will be displayed on this page.

SQL Queries:

```
SELECT Distinct I.ItemID, I.ItemName, I.ItemCategory, I.AuctionStartTime,
                I.AuctionEndTime, Harambase_getPrice_Func(I.ItemID) AS CurrentBid,
                M.Uname AS Winner
FROM Harambase_BID B, Harambase_ITEM I, Harambase_Member M, Harambase_BID X
WHERE B.UserID = 4 AND B.ItemID = I.ItemID AND M.UserID = GetWinner_Func(I.ItemID)
ORDER BY I.ITEMID;
```

Sample Output:

```
--ItemID  ItemName   ItemCategory  StartTime
```

```
EndTime   CurrentBid  Winner
-----------------------------------------------------------------------------------
--101  DATABASES BOOK       BOOK   03-NOV-16 11.00.00.000000000 AM    12-NOV-16
12.00.00.000000000 PM       151    irahal
--102  CHINSES INSTANT NODDLES     FOOD   03-NOV-16 11.00.00.000000000 AM    10-NOV-16
12.00.00.000000000 PM       7      irahal
--104  Abstarct Mathematics BOOK   03-NOV-16 11.00.00.000000000 AM    10-NOV-16
12.00.00.000000000 PM       21     irahal
```

NO.11 Functionality: List Items bought

This page displays every item that the user has won. The item ID, item name, category, the auction start and end time, the start price, the sold price, the seller username and the seller email is displayed on this page. The user can also rate the seller from this page. (For Customer)

SQL Queries:

```
SELECT Distinct I.ItemID, I.ItemName, I.ItemCategory, I.AuctionStartTime,
                I.AuctionEndTime, I.StartPrice, Harambase_getPrice_Func(I.ItemID)
                AS SoldPrice, M.UName AS SellerUname, M.Email
FROM Harambase_ITEM I, Harambase_BID B, Harambase_MEMBER M
WHERE B.UserID = 4 AND M.UserID = I.SellerID AND B.UserID = GetWinner_Func(I.ItemID)
ORDER BY I.ITEMID;
```

Sample Output:

```
--ItemID  ItemName      ItemCategory  StartTime
EndTime              StartPrice  SoldPrice   SellerUname
Email
--101  DATABASES BOOK   BOOK          03-NOV-16 11.00.00.000000000 AM
12-NOV-16 12.00.00.000000000 PM   100             151         slin
       slin@harambase.org
--102  CHINSES INSTANT NODDLE  FOOD             03-NOV-16 11.00.00.000000000 AM
10-NOV-16 12.00.00.000000000 PM   20                7           mkounn
       mkounn@harambase.org
--104  Abstarct Mathematics     BOOK             03-NOV-16 11.00.00.000000000 AM
10-NOV-16 12.00.00.000000000 PM   20                21            slin
       slin@harambase.org
```

NO.12 Functionality: Rate Seller or Leave feedback

This page is linked to the *List Items Bought* functionality. The Item Id is auto filled while the overall rating, item quality, delivery, and comments can be entered in by the user to leave for the seller to review. This cannot be changed when entered.

SQL Queries:

```
SELECT *  FROM HARAMBASE_FEEDBACK FEED WHERE FEED.ITEMID = 103;
EXEC ADD_FEEDBACK_PRO(103, 10, 5, 5, 'VERY GOOD');
SELECT *  FROM HARAMBASE_FEEDBACK FEED WHERE FEED.ITEMID = 103;
```

Sample Output:

```
--PL/SQL procedure successfully completed.
--    ITEMID OVERALLRATING ITEMQUALITY   DELIVERY   COMMENTS
------------------------------------------------------------------
--       103             10           5           5    VERY GOOD
```

NO.13 Functionality: View my Feedback

The view my feedback page displays a table of all the feedback a user has received. The table displays the username of the user who submitted the feedback, as well as the item number, overall rating, item quality, delivery rating and any comments left by the reviewer.

SQL Queries:

```
SELECT Distinct M.UName, B.ItemID, F.OverallRating, F.ItemQuality, F.Delivery,
                F.Comments
FROM Harambase_FEEDBACK F, Harambase_ITEM I, Harambase_MEMBER M, Harambase_BID B
WHERE I.SellerID = 3 AND I.ItemID = F.ItemID
      AND B.MaxBidLimit = (SELECT Max(MaxBidLimit)
                           FROM Harambase_BID B
                           WHERE I.ItemID = B.ItemID)
                                 AND F.ItemID = B.ItemID AND B.UserID = M.UserID;
```

Sample Output:

```
--Uname   ItemID  OverallRating ItemQuality Delivery  Comments
---------------------------------------------------------------------
--irahal      104        5              5           4           The NOODLE IS GOOD.
--irahal      101        8              5           4           The BOOK IS GOOD.
```

PART IV: SQL Code Components

2 Components: ***Sequence***

No.	***Description***	Code

1	***Title:*** USERSEQ
	
	This is the sequence that will automatic generates the next USERID increment by 1. First it will get the CURMAX from the member table which represents the current maximum USERID. So, the next USERID will be CURMAX + 1.
		DECLARE
		 CURMAX INTEGER;
		BEGIN
		 CURMAX := 1;
		 SELECT MAX(USERID) INTO CURMAX FROM HARAMBASE_MEMBER;
		 IF CURMAX > 1 THEN
		    EXECUTE IMMEDIATE 'DROP SEQUENCE USERSEQ';
		 END IF;
		 CURMAX := CURMAX + 1;
		 EXECUTE IMMEDIATE 'CREATE SEQUENCE USERSEQ MINVALUE 1 MAXVALUE 1000 INCREMENT BY 1 START WITH '||CURMAX||' NOCACHE ORDER NOCYCLE NOPARTITION' ;
		       END;
		--Do not run the if statement for the first time because there will be no sequence

2	***Title:*** ITEMSEQ
	
	This is the sequence that will automatic generates the next ITEMID increment by 1. First it will get the CURMAX from the member table which represents the current maximum USERID. So, the next USERID will be CURMAX + 1.
		DECLARE
		 CURMAX INTEGER;
		BEGIN
		 CURMAX := 1;
		 SELECT MAX(ITEMID) INTO CURMAX FROM HARAMBASE_ITEM;
		 IF CURMAX > 100 THEN
		    EXECUTE IMMEDIATE 'DROP SEQUENCE ITEMSEQ';
		 END IF;
		 CURMAX := CURMAX + 1;
		 EXECUTE IMMEDIATE 'CREATE SEQUENCE ITEMSEQ MINVALUE 100 MAXVALUE 1000 INCREMENT BY 1 START WITH '||CURMAX||' NOCACHE ORDER NOCYCLE NOPARTITION' ;
		END;
		--Do not run the if statement for the first time because there will be no sequence

2 Components: ***Trigger***

NO	Description	Code

1	***Title:*** *GenerateItemID*
	
	This is the trigger that will get the itemid from the ITEMSEQ sequence before it gets insert into the database
		Create or Replace Trigger GenerateItemID
		BEFORE INSERT ON Harambase_ITEM
		FOR EACH ROW
		BEGIN
		       SELECT ITEMSEQ.NEXTVAL into :new.ItemID FROM dual;
		END;

2	***Title:*** Generateuserid
	
	This is the trigger that will get the userID from the USERSEQ sequence before it gets insert into the database
		CREATE OR REPLACE TRIGGER Generateuserid
		BEFORE INSERT ON harambase_member
		FOR EACH ROW
		BEGIN
		       SELECT USERSEQ.nextval INTO :NEW.userid FROM dual;
		END;

5 Components: ***Functions***

NO	Description	Code

1	***Title:***
	MEMBER_LOG_IN_FUNC
	
	This is the function that will return value of ISLOG. It counts how many maching records in the database (should be 1 or 0) and then put the count result into ISLOG. If ISLOG = 1, it means we find the record and successful login. If ISLOG = 0, it means we have a mismatch somewhere and login failed
		`create or replace FUNCTION MEMBER_LOG_IN_FUNC`
		`(`
		`USERNAME IN VARCHAR2`
		`, USERPASSWORD IN VARCHAR2`
		`) RETURN INTEGER AS ISLOG INT := 0;`
		`--CHECK FOR USERNAME AND PASSWORD. T/F = 1/0`
		`BEGIN`
		`SELECT COUNT(*) INTO ISLOG FROM HARAMBASE_MEMBER M`
		`WHERE M.UNAME = USERNAME AND M.PASSWORD = USERPASSWORD;`
		`RETURN ISLOG; --RETURN 1 IF COUNT IS 1.`
		
		`END MEMBER_LOG_IN_FUNC;`

2	***Title:***
	ADMIN_LOG_IN_FUNC
	
	This is the function that will return value of ISLOG. It counts how many maching records in the database (should be 1 or 0) and then put the count result into ISLOG. If ISLOG = 1, it means we find the record and successful login. If ISLOG = 0, it means we have a mismatch somewhere and login failed
		`create or replace FUNCTION ADMIN_LOG_IN_FUNC`
		`(`
		`  USERNAME IN VARCHAR2`
		`, USERPASSWORD IN VARCHAR2`
		`) RETURN INTEGER AS ISLOG INT := 0;`
		`--CHECK FOR USERNAME AND PASSWORD. T/F = 1/0`
		`BEGIN`
		`  SELECT COUNT(*) INTO ISLOG FROM HARAMBASE_ADMIN A`
		`  WHERE A.UNAME = USERNAME AND A.PASSWORD = USERPASSWORD;`
		`  RETURN ISLOG; --RETURN 1 IF COUNT IS 1.`
		
		`END ADMIN_LOG_IN_FUNC;`

3	***Title:*** GetPrice_Func
	
	This function will return the current price of the item. It will return the price of second highest bid + 1 as current bidding price
		`create or replace Function GetPrice_Func`
		`(`
		`  iID int`
		`) Return int`
		`  AS`
		`    price int := 0;`
		`    numRows int := 0;`
		`    Begin`
		`        Select count(*) Into numRows`
		`        From Harambase_BID B`
		`        Where B.ItemID = iID;`
		
		`        If (numRows = 0) Then`
		`            RETURN 0;`
		`        ElsIf (numRows = 1) Then`
		`            Select I.StartPrice + 1 Into price`
		`            From Harambase_Item I`
		`            Where I.ItemID = iID;`
		`        Else`
		`            Select B.MaxBidLimit + 1 Into price`
		`            From Harambase_BID B`
		`            Where B.ItemID = iID AND rownum = 1`

		`        Order By B.MaxBidLimit;`
		`      End If;`
		`      Return price;`
		`End Harambase_getPrice_Func;`

4	***Title:*** GETWINNER_FUNC
	
	This function will return the winner's id of the input `itemid` , if not bid on it will return 0 otherwise it will finds the bidder with the highest bid and submitted in the earliest time then return the userid.
		`create or replace Function GETWINNER_FUNC`
		`(`
		`  item int`
		`) Return int`
		`  AS`
		`    winner int := 0;`
		`    numMax int := 0;`
		`    Begin`
		`        Select count(UserID) Into numMax From Harambase_BID`
		`        Where MaxBidLimit = (SELECT Max(X.MaxBidLimit)`
		`                             FROM Harambase_BID X`
		`                             WHERE X.ItemID = item)`
		`        AND ItemID = item;`
		`      IF (numMax > 1) THEN`
		`          Select B.UserID Into winner From Harambase_BID B`
		`          Where B.MaxBidLimit = (SELECT Max(X.MaxBidLimit)`
		`                                 FROM Harambase_BID X`
		`                                 WHERE X.ItemID = item)`
		`        AND ItemID = item`
		`        AND B.BIDDINGTIME < (SELECT Y.BIDDINGTIME`
		`                             FROM HARAMBASE_BID Y`
		`                             WHERE Y.MAXBIDLIMIT = MAXBIDLIMIT`
		`                             AND Y.USERID <> B.USERID`
		`                             AND Y.ItemID = item);`
		`      ElsIf (numMax=0) THEN`
		`          winner := 0;`
		`      ELSE`
		`          Select UserID Into winner From Harambase_BID`
		`          Where MaxBidLimit = (SELECT Max(X.MaxBidLimit)`
		`                               FROM Harambase_BID X`
		`                               WHERE X.ItemID = item)`
		`                               AND ItemID = item;`
		
		`      End If;`
		`      Return winner;`
		
		`END GETWINNER_FUNC;`

5	***Title:***
	GET_STATUS_FUNC
	
	This function will return the item's STATUS.
	Possible output of variable STATUS:
	1. **1:** the item has been sold
	2. **0:** the item is still on Auction
	3. **-1**: the Auction has not yet started.
		`create or replace function get_status_func`
		`(`
		`iid int`
		`) return int AS`
		`  STATUS int := 0;`
		`  endTime date := TO_TIMESTAMP('01/JAN/1900 12:00:00','DD/MM/YYYY HH:MI:SS');`
		`  startTime date := TO_TIMESTAMP('01/JAN/1900 11:00:00','DD/MM/YYYY HH:MI:SS');`
		`begin`
		`      Select I.AuctionEndTime Into endTime From Harambase_Item I Where I.ItemID = iid;`
		`      Select I.AuctionStartTime Into startTime From Harambase_Item I Where I.ItemID = iid;`
		
		`      If (endTime < CURRENT_TIMESTAMP) Then`
		`          STATUS := 1; --SOLD`
		`      ELSE`
		`          STATUS := 0; --ON AUCTION`
		`      End If;`

		`    IF (startTime > CURRENT_TIMESTAMP) THEN`
		`        STATUS := -1; --NOT ON AUCTION`
		`    END IF;`
		
		`    RETURN STATUS;`
		
		`end get_status_func;`

6 *COMPONENTS:* PROCEDURES

NO	Description	Code

1	***Title:***
	ADD_BID_PRO
	
	This procedure will add a new bidding object into the database.
	The variable SUCC is out variable which has following possible results:
	
	1. 1: success
	2. 2: item has been sold
	3. -1: Auction has not started
	4. 3: The MAXBIDLIMIT is smaller than the start price
	5. 4: the user is currently the winner.
		`CREATE or replace PROCEDURE ADD_BID_PRO`
		`(`
		`  USERID IN NUMBER`
		`, TID IN NUMBER`
		`, MAXBIDLIMIT IN NUMBER`
		`, SUCC OUT INTEGER`
		`) AS`
		`  STATUS INT := 0;`
		`  STARTPRICE NUMBER := 0;`
		`  CURRBID NUMBER := 0;`
		`  WINNERID NUMBER := 0;`
		`  CT INT := 0;`
		`BEGIN`
		`  SELECT get_status_func(TID) INTO STATUS FROM DUAL;`
		`  SELECT HARAMBASE_GETPRICE_FUNC(TID) INTO CURRBID FROM DUAL;`
		`  SELECT ITEM.STARTPRICE INTO STARTPRICE FROM HARAMBASE_ITEM ITEM`
		`  WHERE ITEM.ITEMID = TID;`
		`  SELECT GETWINNER_FUNC(TID) INTO WINNERID FROM DUAL;`
		
		`  IF STATUS = 0 AND  STARTPRICE < MAXBIDLIMIT AND USERID <>`
		`WINNERID THEN`
		`    SELECT COUNT(*) INTO CT FROM HARAMBASE_BID BID WHERE`
		`BID.USERID = USERID;`
		`    IF CT = 1 THEN`
		`      DELETE FROM team2.HARAMBASE_BID BID`
		`           WHERE BID.USERID = USERID;`
		`    END IF;`
		`    INSERT INTO team2.HARAMBASE_BID`
		`           VALUES (USERID, TID, CURRENT_TIMESTAMP, MAXBIDLIMIT);`
		`    SUCC := 1; --SUCCESS`
		`  ELSIF STATUS = 1  THEN SUCC := 2;`
		`   --ITEM HAS BEEN SOLD`
		`  ELSIF STATUS = -1 THEN SUCC := -1;`
		`    --THE AUCTION HAS NOT STARTED YET`
		`  ELSIF STATUS = 0 AND STARTPRICE >= MAXBIDLIMIT THEN SUCC := 3;`
		`    --MAXLIMIT REJECTED`
		`  ELSIF STATUS = 0 AND STARTPRICE < MAXBIDLIMIT`
		`         AND USERID = WINNERID`
		`         THEN SUCC := 4; --WINNER REJECTED`
		`  END IF;`
		
		`END ADD_BID_PRO;`

2	***Title:***
	ADD_ITEM_PRO
	
	This procedure will add a new item into the database
		`create or replace PROCEDURE ADD_ITEM_PRO`
		`(`
		`  ITEMID IN NUMBER`
		`, ITEMNAME IN VARCHAR2`
		`, ITEMCATEGORY IN VARCHAR2`

	after the trigger generates the new ITEMID.	, STARTPRICE IN NUMBER , DESCRIPTION IN VARCHAR2 , SELLERID IN NUMBER , AUCTIONSTARTTIME IN TIMESTAMP , AUCTIONENDTIME IN TIMESTAMP) AS BEGIN INSERT INTO team2.HARAMBASE_ITEM VALUES (ITEMID,ITEMNAME,ITEMCATEGORY,STARTPRICE, DESCRIPTION,SELLERID,AUCTIONSTARTTIME,AUCTIONENDTIME); END ADD_ITEM_PRO;
3	***Title:*** ADD_FEEDBACK_PRO This procedure will add a new feedback object into the database by the specified variable values.	create or replace PROCEDURE ADD_FEEDBACK_PRO (ITEMID IN NUMBER , OVERALLRATING IN NUMBER , ITEMQUALITY IN NUMBER , DELIVERY IN NUMBER , COMMENTS IN VARCHAR2) AS BEGIN INSERT INTO team2.HARAMBASE_FEEDBACK VALUES (ITEMID,OVERALLRATING,ITEMQUALITY,DELIVERY,COMMENTS); END ADD_FEEDBACK_PRO;
4	***Title:*** ADD_USER_PRO This procedure will add a new user into the database after the trigger generates the new USERID . It will have an output integer STATUS which has following possible values: 6. 0: success 7. 1: Violating rules possibly UNAME is duplicated.	create or replace PROCEDURE ADD_USER_PRO (USERID IN NUMBER , NAME IN VARCHAR2 , EMAIL IN VARCHAR2 , FNAME IN VARCHAR2 , LNAME IN VARCHAR2 , PASSWORD IN VARCHAR2 , CREATORID IN NUMBER , ISBUYER IN NUMBER , ISELLER IN NUMBER , STATUS OUT INTEGER) AS BEGIN STATUS := 0; SELECT COUNT(*) INTO STATUS FROM HARAMBASE_MEMBER M WHERE M.UNAME = NAME; IF STATUS = 0 THEN INSERT INTO team2.HARAMBASE_MEMBER VALUES (USERID,NAME,EMAIL,FNAME,LNAME,PASSWORD,CREATORID,ISBUYER,ISE LLER); END IF; END ADD_USER_PRO;
5	***Title:*** SEARCH_ITEM_PRO Searches for an item based on the given parameters and returns a RESULTSET that contains the results as a form of a table.	create or replace PROCEDURE SEARCH_ITEM_PRO (TID IN NUMBER , KEYWORD IN VARCHAR2 , TCATEGORY IN VARCHAR2 , TAUCTIONSTARTTIME IN TIMESTAMP , TAUCTIONENDTIME IN TIMESTAMP , CURBIDMIN IN NUMBER , CURBIDMAX IN NUMBER , RESULTSET OUT SYS_REFCURSOR) AS BEGIN

The search PROCEDURE contains following functionality:

1. Search by item id alone,
2. Search by keyword alone,
3. Search by keyword and category,
4. Search by keyword and current bid range,
5. Search by keyword and auction time period,
6. Search by keyword, category and current bid range,
7. Search by keyword, category and auction time period,
8. Search by keyword, current bid range and auction time period,
9. Search by keyword, category, current bid range and auction time period.
10. Inexact search on item name.

```
  IF TID IS NOT NULL THEN
    OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS
CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE HI.ITEMID = TID;
  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NOT NULL
        AND CURBIDMIN IS NOT NULL
        AND CURBIDMAX IS NOT NULL
        AND TAUCTIONSTARTTIME IS NOT NULL
        AND TAUCTIONENDTIME IS NOT NULL THEN
    OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS
CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                 OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                 AND TCATEGORY = HI.ITEMCATEGORY
                 AND HARAMBASE_GETPRICE_FUNC(HI.ITEMID) <=
CURBIDMAX
                 AND CURBIDMIN <=
HARAMBASE_GETPRICE_FUNC(HI.ITEMID)
                 AND TAUCTIONSTARTTIME <=  HI.AUCTIONSTARTTIME
                 AND TAUCTIONENDTIME >= HI.AUCTIONENDTIME;

  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NULL
        AND CURBIDMIN IS NOT NULL
        AND CURBIDMAX IS NOT NULL
        AND TAUCTIONSTARTTIME IS NOT NULL
        AND TAUCTIONENDTIME IS NOT NULL THEN
      OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS
CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS

          FROM HARAMBASE_ITEM HI
          WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                AND HARAMBASE_GETPRICE_FUNC(HI.ITEMID) <=
CURBIDMAX
                AND CURBIDMIN <=
HARAMBASE_GETPRICE_FUNC(HI.ITEMID)
                AND TAUCTIONSTARTTIME <=  HI.AUCTIONSTARTTIME
                AND TAUCTIONENDTIME >= HI.AUCTIONENDTIME;

  ELSIF KEYWORD IS NOT NULL
      AND TCATEGORY IS NOT NULL
      AND CURBIDMIN IS NULL
      AND CURBIDMAX IS NULL
      AND TAUCTIONSTARTTIME IS NOT NULL
      AND TAUCTIONENDTIME IS NOT NULL THEN
    OPEN RESULTSET FOR
         SELECT HI.ITEMID, HI.ITEMNAME,
                HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS CURRENTBID,
                GET_STATUS_FUNC(HI.ITEMID) AS STATUS
         FROM HARAMBASE_ITEM HI
         WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
              OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
              AND TCATEGORY = HI.ITEMCATEGORY
              AND TAUCTIONSTARTTIME <=  HI.AUCTIONSTARTTIME
              AND TAUCTIONENDTIME >= HI.AUCTIONENDTIME;

  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NOT NULL
        AND CURBIDMIN IS NOT NULL
        AND CURBIDMAX IS NOT NULL
        AND TAUCTIONSTARTTIME IS NULL
        AND TAUCTIONENDTIME IS NULL THEN
    OPEN RESULTSET FOR
         SELECT HI.ITEMID, HI.ITEMNAME,
                HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS CURRENTBID,
                GET_STATUS_FUNC(HI.ITEMID) AS STATUS
         FROM HARAMBASE_ITEM HI
         WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                AND TCATEGORY = HI.ITEMCATEGORY
                AND HARAMBASE_GETPRICE_FUNC(HI.ITEMID) <=
CURBIDMAX
                AND CURBIDMIN <=
HARAMBASE_GETPRICE_FUNC(HI.ITEMID);

  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NULL
        AND CURBIDMIN IS NOT NULL
        AND CURBIDMAX IS NOT NULL
        AND TAUCTIONSTARTTIME IS NULL
        AND TAUCTIONENDTIME IS NULL THEN
    OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS
CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                AND HARAMBASE_GETPRICE_FUNC(HI.ITEMID) <=
CURBIDMAX
                AND CURBIDMIN <=
HARAMBASE_GETPRICE_FUNC(HI.ITEMID);

  ELSIF KEYWORD IS NOT NULL
      AND TCATEGORY IS NULL
```

```
        AND CURBIDMIN IS NULL
        AND CURBIDMAX IS NULL
        AND TAUCTIONSTARTTIME IS NOT NULL
        AND TAUCTIONENDTIME IS NOT NULL THEN

      OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                AND TAUCTIONSTARTTIME <=  HI.AUCTIONSTARTTIME
                AND TAUCTIONENDTIME >= HI.AUCTIONENDTIME;

  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NOT NULL
        AND CURBIDMIN IS NULL
        AND CURBIDMAX IS NULL
        AND TAUCTIONSTARTTIME IS  NULL
        AND TAUCTIONENDTIME IS NULL THEN
      OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE (UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME))
                AND TCATEGORY = HI.ITEMCATEGORY;

  ELSIF KEYWORD IS NOT NULL
        AND TCATEGORY IS NULL
        AND CURBIDMIN IS NULL
        AND CURBIDMAX IS NULL
        AND TAUCTIONSTARTTIME IS NULL
        AND TAUCTIONENDTIME IS NULL THEN
      OPEN RESULTSET FOR
          SELECT HI.ITEMID, HI.ITEMNAME,
                 HI.ITEMCATEGORY, HI.AUCTIONSTARTTIME,
HI.AUCTIONENDTIME,
                 HARAMBASE_GETPRICE_FUNC(HI.ITEMID) AS CURRENTBID,
                 GET_STATUS_FUNC(HI.ITEMID) AS STATUS
          FROM HARAMBASE_ITEM HI
          WHERE UPPER(HI.ITEMNAME) LIKE '%'||UPPER(KEYWORD)||'%'
                OR SOUNDEX(KEYWORD) = SOUNDEX(HI.ITEMNAME);
  END IF;

END SEARCH_ITEM_PRO;
```

6	***Title:*** UPDATE_PROFILE_PRO
	
	This procedure will update the user's profile. It will have an output integer which has following possible values:
		`create or replace PROCEDURE UPDATE_PROFILE_PRO`
		`(`
		`  URID IN NUMBER`
		`, USERNAME IN VARCHAR2`
		`, USEREMAIL IN VARCHAR2`
		`, USERFNAME IN VARCHAR2`
		`, USERLNAME IN VARCHAR2`
		`, USEROLDPASSWORD IN VARCHAR2`

8. 1: success
9. 0: Violating rules possible
10. -1: New passwords do not match
11. -2: Wrong old password

```
, USERNEWPASSWPRD_1 IN VARCHAR2
, USERNEWPASSWORD_2 IN VARCHAR2
, STATES OUT INTEGER
) AS
BEGIN
  STATES := 0;
  IF USERNAME IS NOT NULL THEN
     UPDATE team2.HARAMBASE_MEMBER set UNAME = USERNAME WHERE
USERID = URID;
     STATES := 1;
  END IF;

  IF USEREMAIL IS NOT NULL THEN
    UPDATE team2.HARAMBASE_MEMBER set EMAIL = USEREMAIL WHERE
USERID = URID;
    STATES := 1;
  END IF;

  IF USERFNAME IS NOT NULL THEN
    UPDATE team2.HARAMBASE_MEMBER set FNAME = USERFNAME WHERE
USERID = URID;
    STATES := 1;
  END IF;

  IF USERLNAME IS NOT NULL THEN
    UPDATE team2.HARAMBASE_MEMBER set LNAME = USERLNAME WHERE
USERID = URID;
    STATES := 1;
  END IF;

  IF USEROLDPASSWORD IS NOT NULL AND USERNEWPASSWPRD_1 IS NOT
NULL AND USERNEWPASSWORD_2 IS NOT NULL THEN
    IF USERNEWPASSWPRD_1 = USERNEWPASSWORD_2 THEN
      SELECT COUNT(*) INTO STATES FROM HARAMBASE_MEMBER M
WHERE M.USERID = URID AND M.PASSWORD = USEROLDPASSWORD;
      IF STATES > 0 THEN
        UPDATE team2.HARAMBASE_MEMBER set PASSWORD =
USERNEWPASSWPRD_1 WHERE USERID = URID;
        STATES := 1;
      END IF;
      STATES := -2;
    ELSE
       STATES := -1;
    END IF;
  END IF;
--  1:sucess
--  0:Violating rules possible
-- -1:New password does not match
-- -2:Wrong old password
END UPDATE_PROFILE_PRO;
```

2 ***COMPONENTS:*** VIEWS

NO	Description	Code
1	***Title:*** SALES_SUMMARY_REPORT **Creates or replaces a view titled** *SALES_SUMMARY_REPORT* **which selects all the items sold and sorts them by category and then by item id. A commission field is also calculated from 5% of the final selling price**	`CREATE OR REPLACE FORCE VIEW SALES_SUMMARY_REPORT AS` `SELECT ITEM.ITEMCATEGORY, ITEM.ITEMID, ITEM.ITEMNAME,` `HARAMBASE_GETPRICE_FUNC(ITEM.ITEMID) AS FINAL_SELLING_PRICE,` `HARAMBASE_GETPRICE_FUNC(ITEM.ITEMID)*0.05 AS COMMISSION` `FROM HARAMBASE_ITEM ITEM` `WHERE GET_STATUS_FUNC(ITEM.ITEMID) = 1` `ORDER BY ITEM.ITEMCATEGORY;`
2	***Title:*** Overall_Commission_View **Creates or replaces a view titled** *OVERALL_COMMISSION_VIEW* **which selects all the user ids and displays their basic information such as user id, user name, first name, last name, and email. It also displays a SELLER RATING and COMMISSION field which are calculated by averaging out the users OVERALL RATING from their feedback and the sum of the commissions from their sold items.**	`CREATE OR REPLACE VIEW Overall_Commission_View AS` `SELECT HM.UserID as userID, HM.Uname as User_Name,` `HM.Fname as First_Name,` `HM.Lname as Last_Name, HM.Email as Email,` `AVG(HF.OverallRating) AS Seller_Rating,` `SUM(SR.COMMISSION) AS COMMISSIONS` `FROM Harambase_Feedback HF, Harambase_MEMBER HM,` `SALES_SUMMARY_REPORT SR` `WHERE HM.UserID IN (Select Item.SellerID` `From Harambase_Item Item` `WHERE ITEM.ITEMID = SR.ITEMID AND ITEM.ITEMID` `= HF.ITEMID)` `Group By HM.UserID, HM.Uname, HM.Fname, HM.Lname, HM.Email` `ORDER BY HM.USERID;`

PART V: Highlighted Problems

- Some of the problems that our team faced was that we thought this phase would be a lot easier than it was!
- the SQL Developer is always a bit unresponsive and bugging at times. These issues needed great patience to overcome.
- One problem our team faced during this phase was that SQL Developer was not being responsive at times.

PART VI: Task Decomposition

Name	Task Assigned and Completed
Shilei Lin	For this phase I wrote the Queries/Functions/Procedures for the follow functionalities: Admin Log-In, View Users, Add User, View Sales Summary Report, Overall Commission Report, Member Log-In, Update Profile, Add Bid On, Add Item, and Search For Items. I also helped my teammates debug their functionalities.
Matthew Kounniyom	For this phase I helped write all the Create and Insert statements to create our database. Also, I wrote the Query for the Show Item Info functionality and put this report together. I personally did not do much in this phase due to not fully understanding what was going on because I was sick. My partners helped guide me to understanding PL/SQL.
Joshua Folkerds	For this phase I helped write all the Create and Insert statements to create our database. I wrote the SQL queries and the verbose descriptions for the bid on item, show items bid on, list items bought, rate seller, and view my feedback functionalities. I also wrote the GetWinner_Func() and the Harambase_GetPrice_Func() functions. I wrote the GenerateItemID and the GenerateUserID triggers. Throughout this phase, I also helped my teammates to debug their own functionalities.

PART VII: Meeting Minutes

DATE	DETAILS
10/16	We met to discuss what we plan on doing for this phase, and worked on updating our diagrams from phase II.
10/20	*Shilei believes he met with Imad about the diagrams*
10/23	We started writing the create and insert statements for the database.
10/27	Finished writing the create statements and finalized our inserts with MEANINGFUL data!
10/30	Started our SQL programming with the little knowledge that we had. Mostly discussed the next few days.
11/03	We dived farther into SQL programming and divided the tasks evenly to have something done for the next meeting. Meeting ended early due to Matt not feeling well.
11/06	*Matt: No Call, No Show* Because I (Matt) am writing the report, I have no idea what they did this day. I believe they just worked on SQL programming.
11/10	We got together and worked on our functionalities and discussed logic and helped each other out.
11/13	Matt started writing the report, and Shilei and Josh worked more on some complicated queries. We also talked about the requirements of this phase again.
11/14	We met and checked over our queries one final time, and looking over the report.