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DATABASE SCHEMAS:

```
DROP TABLE IF EXISTS user;
create table USER
(
    uID int primary key auto_increment,
    uName varchar(20) unique not null,
    age int not null,
    password varchar(255) not null,
    email varchar(255) unique not null,
    name varchar(20) default null references CREDITCARD(name) on delete cascade,
    cID bigint default null references CREDITCARD(cID) on delete cascade,
    #name varchar(20) default null references CREDITCARD(name) on delete set null,
    #cID bigint default null references CREDITCARD(cID) on delete set null,
    owned int default 0,
    lastLogOff timestamp not null on update current_timestamp default current_timestamp,
    created timestamp default current_timestamp
);
alter table USER auto_increment = 1;
```

```
DROP TABLE IF EXISTS creditcard;
create table CREDITCARD
(
    cID bigint primary key auto_increment,
    sN int unique not null,
    name varchar(20) not null,
    balance double(10,2)
);
Alter table creditcard auto_increment = 4831;
```

```
DROP TABLE IF EXISTS GAME;
CREATE TABLE GAME
(
    gameID bigint primary key auto_increment,
    name VARCHAR(30) not null,
    price double(5,2) not null,
    pID int,
    genre VARCHAR(30) not null,
    ratingStars double(2,1),
```

```
ageRestriction varchar(20) not null,  
FOREIGN KEY(pID) REFERENCES PUBLISHER(pID) on delete cascade  
);  
alter table GAME auto_increment = 1;
```

```
DROP TABLE IF EXISTS REVIEW;  
create table REVIEW  
(  
    rID int primary key auto_increment,  
    uID int references USER(uID),  
    gameID bigint references GAME(gameID),  
    comments varchar(255),  
    rating double default null,  
    date timestamp default current_timestamp  
);  
alter table REVIEW auto_increment = 1;
```

```
DROP TABLE IF EXISTS PUBLISHER;  
CREATE TABLE PUBLISHER  
(  
    pID int auto_increment,  
    company VARCHAR(30),  
    dateEstablished timestamp default current_timestamp,  
    PRIMARY KEY(pID)  
);  
alter table publisher auto_increment = 1;
```

```
DROP TABLE IF EXISTS ownedlibrary;  
CREATE TABLE OWNEDLIBRARY  
(  
    ownedID INT auto_increment,  
    gameTitle VARCHAR(50),  
    dateOfPurchase DATE timestamp not null on update current_timestamp default  
current_timestamp,  
    price double(5,2),  
    uID INT,  
    gameID bigint,  
    PRIMARY KEY(ownedID),  
    FOREIGN KEY(uID) references User(uID) on delete cascade,  
    FOREIGN KEY(gameID) references Game(gameID) on delete cascade  
);  
alter table OWNEDLIBRARY auto_increment = 1;
```

SCREENSHOTS OF RELATIONS:

1. USER RELATION

uID	uName	age	password	email	name	cID	owned	lastLogOff	created
1	kirkland	16	vitamin	antodox@gmail.com	NULL	NULL	0	2018-12-07 16:59:54	2018-12-07 16:59:54
2	ghghdlfk	18	rainbow	ghghdlfk@gmail.com	konan park	4833	6	2018-12-07 20:45:24	2018-12-07 17:09:10
3	rodtngkrtk	19	tkfkdgol	rodtngkrtk@gmail.com	james kodic	4831	5	2018-12-07 20:46:42	2018-12-07 17:10:46
5	chewable	13	vitamin	chewable@gmail.com	o briant	4832	3	2018-12-07 20:40:58	2018-12-07 17:11:58
6	drinkingware	17	water	drinking@gmail.com	kyuhak yuk	4835	4	2018-12-07 20:41:43	2018-12-07 17:12:41
7	iammc	18	gregor	mc@gmail.com	mc gregor	4836	5	2018-12-07 20:42:26	2018-12-07 17:13:06
8	praha	18	pra	ha@gmail.com	cain velasquez	4843	4	2018-12-07 20:43:05	2018-12-07 17:14:00
9	homerun	23	doson	jack@gmail.com	jack doson	4846	3	2018-12-07 20:40:04	2018-12-07 17:15:01
10	baseball	28	base	ball@gmail.com	evan	4849	5	2018-12-07 20:43:45	2018-12-07 17:15:26
11	underthesea	31	son	wat@gmail.com	emma watson	4850	5	2018-12-07 20:44:37	2018-12-07 17:16:09
12	soccer	43	son	min@gmail.com	emma ston	4851	1	2018-12-07 22:03:49	2018-12-07 17:16:36
13	manu	34	park	jisung@gmail.com	walter	4852	3	2018-12-07 20:39:35	2018-12-07 17:17:00
14	cs157a	28	newpassword	name@sjsu.edu	NULL	NULL	0	2018-12-07 21:55:15	2018-12-07 21:46:38

2. CREDIT CARD RELATION

cID	sN	name	balance
4831	78	james kodic	54.28
4832	38	o briant	9.26
4833	28	konan park	122.41
4834	29	seongjun park	134.00
4835	34	kyuhak yuk	134491.26
4836	54	mc gregor	64.27
4843	57	cain velasquez	847.56
4846	14	jack doson	55.55
4849	20	evan	132.41
4850	11	emma watson	50.57
4851	103	emma ston	340.53
4852	104	walter	27.55

3. Game relation

gameID	name	price	pID	genre	ratingStars	ageRestriction
1	Mario	10.99	1	platform	NULL	10
2	poketmon	5.99	1	platform	NULL	10
3	the legend of zelda	6.99	1	RPG	NULL	10
4	counter-strike	20.99	2	shooter	NULL	18
5	dota2	8.99	2	RPG	4.5	15
6	grand theft auto	14.99	3	adventure	4.9	19
7	max payne	4.99	3	RPG	NULL	14
8	FIFA18	20.99	4	sports	4.5	14
9	FIFA17	10.99	4	sports	NULL	14
10	FIFA16	5.99	4	sports	3.8	14
11	battlefield	11.99	4	survivor	5.0	18
20	Diablo III	11.99	5	RPG	4.9	17
21	Diablo II	5.99	5	RPG	4.9	17
22	WOW	10.99	5	RPG	4.3	17
23	Finding marcos	5.99	6	adventure	NULL	10
24	moving howl castle	6.99	6	adventure	NULL	10
25	Assassin's creed	16.99	7	adventure	NULL	18
26	Far cry	6.99	7	RPG	NULL	13
27	Tom Clancy	6.99	7	RPG	NULL	13
28	Sonic the hedgehog	8.99	8	shooter	NULL	16
29	Virtua Fighter	3.99	8	fighting	NULL	16
30	Total War	13.99	8	shooting	NULL	18
31	Mass Effect	13.99	9	shooting	1.0	18
32	Dragon Age	10.99	9	RPG	3.1	16
33	Star Wars	17.99	9	RPG	NULL	18
34	Crash Bandicoot	7.99	10	RPG	2.0	18
35	Jak and Daxter	7.99	10	shooting	3.6	18

4. Publisher

pID	company	dateEstablished
1	nintendo	2018-12-07 16:32:59
2	valve coporation	2018-12-07 16:33:18
3	rockstar games	2018-12-07 16:33:29
4	electronic arts	2018-12-07 16:33:42
5	blizzard	2018-12-07 16:33:51
6	sony	2018-12-07 16:34:00
7	ubisoft	2018-12-07 16:34:07
8	saga	2018-12-07 16:34:13
9	bioware	2018-12-07 16:34:18
10	naughty dog	2018-12-07 16:34:25

5. OwnedLibrary

ownedID	gameTitle	dateOfPurchase	price	uID	gameID
7	FIFA18	2018-12-07 17:21:48	20.99	3	8
11	dota2	2018-12-07 20:33:49	8.99	6	5
12	battlefield	2018-12-07 20:37:08	11.99	2	11
13	Mario	2018-12-07 20:38:44	10.99	13	1
14	max payne	2018-12-07 20:39:31	4.99	13	7
15	dota2	2018-12-07 20:39:35	8.99	13	5
16	FIFA17	2018-12-07 20:39:51	10.99	9	9
17	FIFA18	2018-12-07 20:39:58	20.99	9	8
18	max payne	2018-12-07 20:40:04	4.99	9	7
19	grand theft auto	2018-12-07 20:40:41	14.99	5	6
20	counter-strike	2018-12-07 20:40:53	20.99	5	4
21	the legend of zelda	2018-12-07 20:40:58	6.99	5	3
22	Far cry	2018-12-07 20:41:30	6.99	6	26
23	Tom Clancy	2018-12-07 20:41:36	6.99	6	27
24	moving howl castle	2018-12-07 20:41:43	6.99	6	24
25	Diablo II	2018-12-07 20:42:01	5.99	7	21
26	Diablo III	2018-12-07 20:42:06	11.99	7	20
27	WOW	2018-12-07 20:42:14	10.99	7	22
28	battlefield	2018-12-07 20:42:21	11.99	7	11
29	Tom Clancy	2018-12-07 20:42:26	6.99	7	27
30	Jak and Daxter	2018-12-07 20:42:40	7.99	8	35
31	Crash Bandicoot	2018-12-07 20:42:48	7.99	8	34
32	Dragon Age	2018-12-07 20:43:00	10.99	8	32
33	Star Wars	2018-12-07 20:43:05	17.99	8	33
34	Sonic the hedgehog	2018-12-07 20:43:24	8.99	10	28
35	Mass Effect	2018-12-07 20:43:28	13.99	10	31
36	Total War	2018-12-07 20:43:34	13.99	10	30
37	Jak and Daxter	2018-12-07 20:43:39	7.99	10	35
38	Crash Bandicoot	2018-12-07 20:43:45	7.99	10	34
39	Total War	2018-12-07 20:44:01	13.99	11	30
40	Diablo III	2018-12-07 20:44:25	11.99	11	20
41	battlefield	2018-12-07 20:44:28	11.99	11	11
42	grand theft auto	2018-12-07 20:44:34	14.99	11	6
43	dota2	2018-12-07 20:44:37	8.99	11	5
44	Diablo III	2018-12-07 20:44:59	11.99	2	20
45	FIFA16	2018-12-07 20:45:05	5.99	2	10
46	FIFA18	2018-12-07 20:45:09	20.99	2	8
47	poketmon	2018-12-07 20:45:15	5.99	2	2
48	counter-strike	2018-12-07 20:45:24	20.99	2	4
49	Diablo III	2018-12-07 20:45:38	11.99	3	20
50	grand theft auto	2018-12-07 20:45:44	14.99	3	6
51	WOW	2018-12-07 20:46:32	10.99	3	22
52	battlefield	2018-12-07 20:46:42	11.99	3	11
53	Diablo III	2018-12-07 22:03:49	11.99	12	20

6. Review Relation

rID	uID	gameID	comments	rating	date
1	10	8	motion is really good. but little laggy	4.7	2018-12-07 17:21:14
2	10	11	its killing my time!	5	2018-12-07 20:47:45
3	10	22	fun to play but not for ur main game	4.2	2018-12-07 20:48:34
4	10	6	play it with ur friends!!! super fun!	4.8	2018-12-07 20:48:53
5	10	8		4.3	2018-12-07 20:49:28
6	10	20	my ever last RPG game	3.2	2018-12-07 20:49:48
7	10	10	just playing cuz there is no other soccer game	3.8	2018-12-07 20:50:18
8	10	20	this is the game ive been waiting for	4.8	2018-12-07 20:51:18
9	10	6	what else can i say!	5	2018-12-07 20:51:33
10	10	5	its a good game to try	4.5	2018-12-07 20:51:49
11	10	34	worst game ive ever played	2	2018-12-07 20:52:23
12	10	35		3.6	2018-12-07 20:52:41
13	10	31	do not buy this	1	2018-12-07 20:53:26
14	10	32	its not that bad	3.1	2018-12-07 20:54:09
15	10	20	speechless game	4.8	2018-12-07 20:54:41
16	10	21	please make it remaster	4.9	2018-12-07 20:54:58
17	10	22	why dont u guys play it??	4.5	2018-12-07 20:55:16
18	10	20	I need to study database	4.8	2018-12-07 22:18:02

15 functional requirements

1. sort by rating

```
select name, price, genre, ratingStars from game order by ratingStars;  
sql = "select name, price, genre, ratingStars from game order by ratingStars";
```

2. sort by price

```
select name, price, genre, ratingStars from game order by price;  
sql = "select name, price, genre, ratingStars from game order by price";
```

3. search by name

```
select name, price, genre, ratingStars from game where name = ?;  
sql = "select name, price, genre, ratingStars from game where name = ?";
```

4. search by publisher

```
select name, price, genre, ratingStars from game natural join publisher where company = ?;  
sql = "select name, price, genre, ratingStars from game natural join publisher where company = ?";
```

5. purchase game

```
insert into ownedlibrary (gametitle, dateofpurchased, price, uid, gameid) values  
(?,?,?,?); //create trigger later for credit card  
sql = "insert into ownedlibrary (gametitle, dateofpurchased, price, uid, gameid) values  
(?,?,?,?,?)";
```

6. Check which games user owns

```
System.out.println("Chec");  
sql = "select gametitle and dateofpurchase from user u, ownedlibrary o where u.uid = o.uid  
order by dateofpurchase";  
preparedStatement= conn.prepareStatement(sql);
```

7. Deposit money

```
String sql = null;  
ResultSet rs = null;  
//addCard  
sql = "UPDATE CreditCard "  
+ "(clID, exp, name, balance) VALUES "  
+ "(?, ?, ?, ?)";  
preparedStatement= conn.prepareStatement(sql);  
  
preparedStatement.setInt((1, 436544745445); //creditCardId
```



```
preparedStatement.setInt((2, 122); //userId  
preparedStatement.setString((3, Henry); //name  
preparedStatement.setString((4, 122.3); //bankProvider  
preparedStatement.executeUpdate();
```

8. CREATE CREDIT CARD##

```
sql = "INSERT INTO CreditCard "  
      + "(clD, exp, name, balance) VALUES"  
      + "(?, ?, ?, ?)";
```

```
preparedStatement= conn.prepareStatement(sql);
```

```
preparedStatement.setInt((1, 436544745445); //creditCardId  
preparedStatement.setInt((2, 122); //userId  
preparedStatement.setString((3, Henry); //name  
preparedStatement.setString((4, 122.3); //bankProvider  
preparedStatement.executeUpdate();
```

9. Reset password

```
sql = "update FROM user set password = ? where uname = ?;" ;  
preparedStatement= conn.prepareStatement(sql);
```

```
preparedStatement.setString((1, helloworld); //creditCardId  
preparedStatement.setString((2, Henry); //creditCardId  
preparedStatement.executeUpdate();
```

10. Create account

```
sql = "INSERT INTO USER "  
      + "(uname, password, email, name, cid) VALUES"  
      + "(?, ?, ?, ?, ?)";
```

```
preparedStatement= conn.prepareStatement(sql);
```

```
preparedStatement.setString((1, a786);  
preparedStatement.setString((2, helloworld);  
preparedStatement.setString((3, h@gmail.com);  
preparedStatement.setString((4, ann);  
preparedStatement.setInt((5, 123456);  
preparedStatement.executeUpdate();
```

11. Find a user who has bought the most games

```
String mostGames = "SELECT uid, uname from user u1 where not exists (select * from user u2  
where u1.owned < u2.owned)";
```

12.Add Review

```
String addReview = "INSERT INTO Review (rID, uID, gameID, comments, rating)"  
+ " VALUES (?, ?, ?, ?, ?)";  
PreparedStatement addStmt = conn.prepareStatement(addReview);
```

13. Group by Company

```
String groupCompany = "SELECT company, name, price, ratingStars"  
+ "FROM Game NATURAL JOIN Publisher"  
+ "GROUP BY company, name having company = ?";
```

14 .Game with no review

```
String noReview = "SELECT g.gameID, g.name, g.price, g.genre, r.comments"  
+ " FROM Game G left join Review R"  
= " on g.gameID = r.gameID and g.ratingStars is null";
```

15.Edit Review

```
String editReview = "UPDATE Review set rating = ?"  
+ " WHERE uID = ? and rID = ?";  
PreparedStatement editStmt = conn.prepareStatement(editReview);
```

SQL Select Statements:

1. `select * from game left join review using (gameid) where review.gameid is null`
2. `select p.company, g.name,g.price, g.ratingStars from game g natural join publisher p group by p.company, g.name, g.price, g.ratingStars having p.company = ?`
3. `SELECT * FROM user where uname = ? AND password = ?`
4. `select o.gametitle, o.dateofpurchase from user u natural join ownedlibrary o where uid = ? order by dateofpurchase`
5. `SELECT u1.uid, u1.uname, u1.owned, o.gameTitle from user u1 natural join ownedlibrary o where not exists (select * from user u2 natural join ownedlibrary o2 where u1.owned < u2.owned)`
6. `select name, company, price from game natural join publisher group by name, company, price`
7. `select name, price, genre, ratingStars from game where name = ?`
8. `select name, price, genre, ratingStars from game order by ratingStars desc`
9. `select name, price, genre, ratingStars from game order by price asc`
- 10.

SQL Update Statements:

1. `UPDATE Review set rating = ?`
2. `UPDATE User set password = ? where uName = ?`
3. `update creditcard set balance = balance + ? where cid = ?`

SQL Delete Statements:

1. `Delete review where rid = ?`

Insert Statements:

1. INSERT INTO Review (uID, gameID, comments, rating) VALUES (?, ?, ?, ?)
2. insert into creditcard values (?, ?, ?)
3. insert into ownedlibrary (gametitle, price, uid, gameid) values (?, ?, ?, ?)
4. insert into ownedlibrary (gameTitle, price, uID, gameID) values (?, ?, ?, ?)
5. insert into user (uname, age, password, email, name, cid) values (?, ?, ?, ?, ?, ?)

Triggers

#####trigger for update number of game purchased for a user#####

```
delimiter //
create trigger BuyGame
after insert on ownedlibrary
for each row
begin
update user set owned = owned+1 where uid = new.uid;
end//
```

#####rating trigger#####

```
delimiter //
create trigger GameRating
after insert on REVIEW
for each row
begin
update game set ratingStars = (select avg(rating) from review where gameid=new.gameid)
where gameid=new.gameid;
end//
delimiter;
```

#####

Stored Procedures

#####SIGN IN#####

```
DELIMITER //
create procedure getUserByUname(IN userName varchar(20), IN userPassword varchar(255))
begin
select uID from USER where uName = userName and password = userPassword;
end//
delimiter;
```

```

DELIMITER //
create procedure getUserByEmail(IN userEmail varchar(20), IN userPassword varchar(255))
begin
select uID from USER where email = userEmail and password = userPassword;
end//
delimiter;
#####

```

FUNTIONAL REQUIREMENTS SCREENSHOTS

1. Create Account

```

What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
1

Enter user name: cs157a
Enter your age: 28
Enter your password: myfirstdb
Enter your email: name@sjsu.edu

Do you want to save your credit card info? (y/n)n
Your account has been createdACCOUNT HAS BEEN CREATED!

```

Result:

```
[mysql> select * from user;
```

uID	uName	age	password	email	name	cID	owned	lastLogOff	created
1	kirkland	16	vitamin	antodox@gmail.com	NULL	NULL	0	2018-12-07 16:59:54	2018-12-07 16:59:54
2	ghghdlfk	18	rainbow	ghghdlfk@gmail.com	konan park	4833	6	2018-12-07 20:45:24	2018-12-07 17:09:10
3	rodtngkrtk	19	tkfkdgol	rodtngkrtk@gmail.com	james kodic	4831	5	2018-12-07 20:46:42	2018-12-07 17:10:46
5	chewable	13	vitamin	chewable@gmail.com	o briant	4832	3	2018-12-07 20:40:58	2018-12-07 17:11:58
6	drinkingware	17	water	drinking@gmail.com	kyuhak yuk	4835	4	2018-12-07 20:41:43	2018-12-07 17:12:41
7	iammc	18	gregor	mc@gmail.com	mc gregor	4836	5	2018-12-07 20:42:26	2018-12-07 17:13:06
8	praha	18	pra	ha@gmail.com	cain velasquez	4843	4	2018-12-07 20:43:05	2018-12-07 17:14:00
9	homerun	23	doson	jack@gmail.com	jack doson	4846	3	2018-12-07 20:40:04	2018-12-07 17:15:01
10	baseball	28	base	ball@gmail.com	evan	4849	5	2018-12-07 20:43:45	2018-12-07 17:15:26
11	underthesea	31	son	wat@gmail.com	emma watson	4850	5	2018-12-07 20:44:37	2018-12-07 17:16:09
12	scoccer	43	son	min@gmail.com	emma ston	4851	0	2018-12-07 17:16:36	2018-12-07 17:16:36
13	manu	34	park	jisung@gmail.com	walter	4852	3	2018-12-07 20:39:35	2018-12-07 17:17:00
14	cs157a	28	myfirstdb	name@sjsu.edu	NULL	NULL	0	2018-12-07 21:46:38	2018-12-07 21:46:38

1. SIGN IN

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
2

What is your username? cs157a

Enter your password: myfirstdb
SIGNED IN
What do you want to do?
```

In case of failure:

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
2
```

What is your username? **cs157a**

Enter your password: **wrongpassword**
Invalid password or username

2. Update password

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
3
```

What is your username? **cs157a**

What would you like to change your password to? **newpassword**
Password has been changed!

Result:

uID	uName	age	password	email	name	cID	owned	lastLogOff	created
1	kirkland	16	vitamin	antodox@gmail.com	NULL	NULL	0	2018-12-07 16:59:54	2018-12-07 16:59:54
2	ghghdlfk	18	rainbow	ghghdlfk@gmail.com	konan park	4833	6	2018-12-07 20:45:24	2018-12-07 17:09:10
3	rodtnqkrtk	19	tkfkdgol	rodtnqkrtk@gmail.com	james kodic	4831	5	2018-12-07 20:46:42	2018-12-07 17:10:46
5	chewable	13	vitamin	chewable@gmail.com	o briant	4832	3	2018-12-07 20:40:58	2018-12-07 17:11:58
6	drinkingware	17	water	drinking@gmail.com	kyuhak yuk	4835	4	2018-12-07 20:41:43	2018-12-07 17:12:41
7	iammc	18	gregor	mc@gmail.com	mc gregor	4836	5	2018-12-07 20:42:26	2018-12-07 17:13:06
8	paha	18	pra	ha@gmail.com	cain velasquez	4843	4	2018-12-07 20:43:05	2018-12-07 17:14:00
9	homerun	23	doson	jack@gmail.com	jack doson	4846	3	2018-12-07 20:40:04	2018-12-07 17:15:01
10	baseball	28	base	ball@gmail.com	evan	4849	5	2018-12-07 20:43:45	2018-12-07 17:15:26
11	underthesea	31	son	wat@gmail.com	emma watson	4850	5	2018-12-07 20:44:37	2018-12-07 17:16:09
12	soccer	43	son	min@gmail.com	emma ston	4851	0	2018-12-07 17:16:36	2018-12-07 17:16:36
13	manu	34	park	jisung@gmail.com	walter	4852	3	2018-12-07 20:39:35	2018-12-07 17:17:00
14	cs157a	28	newpassword	name@sjsu.edu	NULL	NULL	0	2018-12-07 21:55:15	2018-12-07 21:46:38

3. Sort Game by company

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
4
```



```
Title: Mario Company: nintendo Price: 10.99
Title: poketmon Company: nintendo Price: 5.99
Title: the legend of zelda Company: nintendo Price: 6.99
Title: counter-strike Company: valve coporation Price: 20.99
Title: dota2 Company: valve coporation Price: 8.99
Title: grand theft auto Company: rockstar games Price: 14.99
Title: max payne Company: rockstar games Price: 4.99
Title: FIFA18 Company: electronic arts Price: 20.99
Title: FIFA17 Company: electronic arts Price: 10.99
Title: FIFA16 Company: electronic arts Price: 5.99
Title: battlefield Company: electronic arts Price: 11.99
Title: Diablo III Company: blizzard Price: 11.99
Title: Diablo II Company: blizzard Price: 5.99
Title: WOW Company: blizzard Price: 10.99
Title: Finding marcos Company: sony Price: 5.99
Title: moving howl castle Company: sony Price: 6.99
Title: Assassin's creed Company: ubisoft Price: 16.99
Title: Far cry Company: ubisoft Price: 6.99
Title: Tom Clancy Company: ubisoft Price: 6.99
Title: Sonic the hedgehog Company: saga Price: 8.99
Title: Virtua Fighter Company: saga Price: 3.99
Title: Total War Company: saqa Price: 13.99
```

4. Purchase

- User should login first to purchase!

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
2

What is your username? scoccer

Enter your password: son
SIGNED IN
```

User scoccer currently owned no game!

uID	uName	age	password	email	name	cID	owned	lastLogOff	created
1	kirkland	16	vitamin	antodox@gmail.com	NULL	NULL	0	2018-12-07 16:59:54	2018-12-07 16:59:54
2	ghghdlfk	18	rainbow	ghghdlfk@gmail.com	konan park	4833	6	2018-12-07 20:45:24	2018-12-07 17:09:10
3	rodtngkrtk	19	tkfkdgol	rodtngkrtk@gmail.com	james kodic	4831	5	2018-12-07 20:46:42	2018-12-07 17:10:46
5	chewable	13	vitamin	chewable@gmail.com	o brian	4832	3	2018-12-07 20:40:58	2018-12-07 17:11:58
6	drinkingware	17	water	drinking@gmail.com	kyuhak yuk	4835	4	2018-12-07 20:41:43	2018-12-07 17:12:41
7	iammc	18	gregor	mc@gmail.com	mc gregor	4836	5	2018-12-07 20:42:26	2018-12-07 17:13:06
8	praha	18	pra	ha@gmail.com	cain velasquez	4843	4	2018-12-07 20:43:05	2018-12-07 17:14:00
9	homerun	23	doson	jack@gmail.com	jack doson	4846	3	2018-12-07 20:40:04	2018-12-07 17:15:01
10	baseball	28	base	ball@gmail.com	evan	4849	5	2018-12-07 20:43:45	2018-12-07 17:15:26
11	underthesea	31	son	wat@gmail.com	emma watson	4850	5	2018-12-07 20:44:37	2018-12-07 17:16:09
12	scoccer	43	son	min@gmail.com	emma ston	4851	0	2018-12-07 17:16:36	2018-12-07 17:16:36
13	manu	34	park	jisung@gmail.com	walter	4852	3	2018-12-07 20:39:35	2018-12-07 17:17:00
14	cs157a	28	newpassword	name@sjsu.edu	NULL	NULL	0	2018-12-07 21:55:15	2018-12-07 21:46:38

13 rows in set (0.00 sec)

Now user purchase!

5. Purchase
 6. View purchased game(s)
 7. Deposit money into bank account to purchase game
 8. Make comments on game you played!
 9. Search Games by company!
 10. Update Rating
 11. Search Game by Name
 12. Sort Games by Rating
 13. Sort Games by Price
 0. END
- 5

Enter the title of the game you want to purchase: **Diablo III**

HERE

HERE

Thank you for purchasing Diablo III. Enjoy!

What do you want to do?

Check if user soccer's owned has increased

```
mysql> select * from user;
```

uID	uName	age	password	email	name	cID	owned	lastLogOff	created
1	kirkland	16	vitamin	antodox@gmail.com	NULL	NULL	0	2018-12-07 16:59:54	2018-12-07 16:59:54
2	ghghdlfk	18	rainbow	ghghdlfk@gmail.com	konan park	4833	6	2018-12-07 20:45:24	2018-12-07 17:09:10
3	rodtqnkrtk	19	tkfkdgol	rodtqnkrtk@gmail.com	james kodic	4831	5	2018-12-07 20:46:42	2018-12-07 17:10:46
5	chewable	13	vitamin	chewable@gmail.com	o brian	4832	3	2018-12-07 20:40:58	2018-12-07 17:11:58
6	drinkingware	17	water	drinking@gmail.com	kyuhak yuk	4835	4	2018-12-07 20:41:43	2018-12-07 17:12:41
7	iammc	18	gregor	mc@gmail.com	mc gregor	4836	5	2018-12-07 20:42:26	2018-12-07 17:13:06
8	praha	18	pra	ha@gmail.com	cain velasquez	4843	4	2018-12-07 20:43:05	2018-12-07 17:14:00
9	homerun	23	doson	jack@gmail.com	jack doson	4846	3	2018-12-07 20:40:04	2018-12-07 17:15:01
10	baseball	28	base	ball@gmail.com	evan	4849	5	2018-12-07 20:43:45	2018-12-07 17:15:26
11	underthesea	31	son	wat@gmail.com	emma watson	4850	5	2018-12-07 20:44:37	2018-12-07 17:16:09
12	soccer	43	son	min@gmail.com	emma ston	4851	1	2018-12-07 22:03:49	2018-12-07 17:16:36
13	manu	34	park	jisung@gmail.com	walter	4852	3	2018-12-07 20:39:35	2018-12-07 17:17:00
14	cs157a	28	newpassword	name@sjsu.edu	NULL	NULL	0	2018-12-07 21:55:15	2018-12-07 21:46:38

12 rows in set (0.00 sec)

5. View purchased game

- Currently user soccer has bought only 1 (using from examples above)

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END

6
Game title: Diablo III on 2018-12-07
```


6. Deposit Money into Bank account

- If user has no money in the bank, they cannot buy game!

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
7
What is your Credit Card ID? 4851
How much do you want to deposit? 100
Transaction has been made
```

7. Leave reviews on the game user purchased

```
What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
8
Which game do you want to leave review on? Diablo III
What would you like to rate the game? 4.8
What comment would you like to leave? I need to study database
```

rID	uID	gameID	comments	rating	date
1	10	8	motion is really good. but little laggy	4.7	2018-12-07 17:21:14
2	10	11	its killing my time!	5	2018-12-07 20:47:45
3	10	22	fun to play but not for ur main game	4.2	2018-12-07 20:48:34
4	10	6	play it with ur friends!!! super fun!	4.8	2018-12-07 20:48:53
5	10	8		4.3	2018-12-07 20:49:28
6	10	20	my ever last RPG game	5	2018-12-07 20:49:48
7	10	10	just playing cuz there is no other soccer game	3.8	2018-12-07 20:50:18
8	10	20	this is the game ive been waiting for	4.8	2018-12-07 20:51:18
9	10	6	what else can i say!	5	2018-12-07 20:51:33
10	10	5	its a good game to try	4.5	2018-12-07 20:51:49
11	10	34	worst game ive ever played	2	2018-12-07 20:52:23
12	10	35		3.6	2018-12-07 20:52:41
13	10	31	do not buy this	1	2018-12-07 20:53:26
14	10	32	its not that bad	3.1	2018-12-07 20:54:09
15	10	20	speechless game	4.8	2018-12-07 20:54:41
16	10	21	please make it remaster	4.9	2018-12-07 20:54:58
17	10	22	why dont u guys play it??	4.5	2018-12-07 20:55:16
18	10	20	I need to study database	4.8	2018-12-07 22:18:02

8. Search game by company name

```

1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
9
What company would you like to view? blizzard
Company: blizzard GameTitle: Diablo III Price: 11.99 Ratings: 4.9
Company: blizzard GameTitle: Diablo II Price: 5.99 Ratings: 4.9
Company: blizzard GameTitle: WOW Price: 10.99 Ratings: 4.3

```

9. Update rating a user made

```

What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
10
Which game do you want to change rating Diablo III
What would you like to rate the game? 3.2

```

10. Search Game by its name

```

What do you want to do?
1. SINGUP
2. SIGNIN
3. UPDATE PASSWORD
4. Sort Game by company
5. Purchase
6. View purchased game(s)
7. Deposit money into bank account to purchase game
8. Make comments on game you played!
9. Search Games by company!
10. Update Rating
11. Search Game by Name
12. Sort Games by Rating
13. Sort Games by Price
0. END
11
Enter the title of the game you are looking for: FIFA18
Title: FIFA18 Price: 20.99 Genre: sports Rating: 4.5

```

11. Sort Games By Rating

- Note: rating with 0 means that no user has left rating yet

```

Title: battlefield Price: 11.99 Genre: survivor Rating: 5.0
Title: grand theft auto Price: 14.99 Genre: adventure Rating: 4.9
Title: Diablo III Price: 11.99 Genre: RPG Rating: 4.9
Title: Diablo II Price: 5.99 Genre: RPG Rating: 4.9
Title: dota2 Price: 8.99 Genre: RPG Rating: 4.5
Title: FIFA18 Price: 20.99 Genre: sports Rating: 4.5
Title: WOW Price: 10.99 Genre: RPG Rating: 4.3
Title: FIFA16 Price: 5.99 Genre: sports Rating: 3.8
Title: Jak and Daxter Price: 7.99 Genre: shooting Rating: 3.6
Title: Dragon Age Price: 10.99 Genre: RPG Rating: 3.1
Title: Crash Bandicoot Price: 7.99 Genre: RPG Rating: 2.0

```

12. Sort Games By Price

```
Title: Virtua Fighter Price: 3.99 Genre: fighting Rating: 0.0
Title: max payne Price: 4.99 Genre: RPG Rating: 0.0
Title: poketmon Price: 5.99 Genre: platform Rating: 0.0
Title: FIFA16 Price: 5.99 Genre: sports Rating: 3.8
Title: Diablo II Price: 5.99 Genre: RPG Rating: 4.9
Title: Finding marcos Price: 5.99 Genre: adventure Rating: 0.0
Title: the legend of zelda Price: 6.99 Genre: RPG Rating: 0.0
Title: moving howl castle Price: 6.99 Genre: adventure Rating: 0.0
Title: Far cry Price: 6.99 Genre: RPG Rating: 0.0
Title: Tom Clancy Price: 6.99 Genre: RPG Rating: 0.0
```

13. Search for user who bought the most games

- First, admin uses only

Are you a user? yes or no

yes

What do you want to do?

0. END

1. Search for user who bought the most games (admin use)

2. Search for games with no rating (admin use)

```
uID: 2 uName: ghghdlfk owned: 6 GameTitle: battlefield
uID: 2 uName: ghghdlfk owned: 6 GameTitle: Diablo III
uID: 2 uName: ghghdlfk owned: 6 GameTitle: FIFA16
uID: 2 uName: ghghdlfk owned: 6 GameTitle: FIFA18
uID: 2 uName: ghghdlfk owned: 6 GameTitle: poketmon
uID: 2 uName: ghghdlfk owned: 6 GameTitle: counter-strike
```

14. Search for games with no rating yet


```
GameID: 1 GameTitle: Mario Price: 10.99
GameID: 2 GameTitle: poketmon Price: 5.99
GameID: 3 GameTitle: the legend of zelda Price: 6.99
GameID: 4 GameTitle: counter-strike Price: 20.99
GameID: 7 GameTitle: max payne Price: 4.99
GameID: 9 GameTitle: FIFA17 Price: 10.99
GameID: 23 GameTitle: Finding marcos Price: 5.99
GameID: 24 GameTitle: moving howl castle Price: 6.99
GameID: 25 GameTitle: Assassin's creed Price: 16.99
GameID: 26 GameTitle: Far cry Price: 6.99
GameID: 27 GameTitle: Tom Clancy Price: 6.99
GameID: 28 GameTitle: Sonic the hedgehog Price: 8.99
GameID: 29 GameTitle: Virtua Fighter Price: 3.99
GameID: 30 GameTitle: Total War Price: 13.99
GameID: 33 GameTitle: Star Wars Price: 17.99
```

- Key constraints violation

```
Enter user name: cs157a
```

```
Enter your age: 23
```

```
Enter your password: anything
```

```
Enter your email: any@gmail.com
```

```
Do you want to save your credit card info? (y/n)n
```

```
Your account has been createdjava.sql.SQLIntegrityConstraintViolationException: Duplicate entry 'cs157a' for key 'uName'
```


Peer Evaluation Form

CS157A: Introduction to Databases

(The information you submit here can be used to differentiate the project grades among team members.)

Team Name: KAQ

Your Name: Kyle Tham

Your Partner's Names: Kyuhak Yuk, Ayesha Khan

PROJECT

- **How much did YOUR PARTNERS contribute to complete the project ? Scale 1-10: 1 is the minimum contribution 10 is the maximum contribution.**
 - **Partner 1's name and the scale: Kyuhak Yuk - 10**
 - **Partner 2's name and the scale: Ayesha Khan - 8**
- **How much did YOU contribute to complete the project ? Scale 1-10: 1 is the minimum contribution 10 is the maximum contribution. 9 - I did functional requirements and tested code through JDBC and checking if relations were updated in mysql db. Also worked on reports as well and turned in last two.**
- **Comment on your partner's involvement or contribution to the completion of the project.**
 - **Partner 1's name and your comment:**
Kyuhak Yuk - Contributed a lot - did a lot of the testing on with JDBC and the relations in sql, provided a lot of the screenshot. Did his part on the functional requirements as well since we split it all up. Created test data as well.
 - **Partner 2's name and your comment:**
ayesha Khan - Also did her functional requirements and created test data to use for the relations. Contributed to first report and turned in for the team.

CS157A: Introduction to Databases

(The information you submit here can be used to differentiate the project grades among team members.)

Team Name: KAQ

Your Name:Ayesha Khan

Your Partner's Names:Kyuhak Yuk, Kyle Tham

PROJECT

How much did YOUR PARTNERS contribute to complete the project ? Scale 1-10: 1 is the minimum contribution 10 is the maximum contribution.

Partner 1's name and the scale:Kyuhak Yuk 10

Partner 2's name and the scale:Kyle Tham 10

How much did YOU contribute to complete the project ? Scale 1-10: 7

Comment on your partner's involvement or contribution to the completion of the project.

Partner 1's name and your comment: Kyuhak Yuk contributed a lot. He lead the team and finished majority of the SQL statements and helped everyone out in debuggin the program or code.

He was a good partner and also figured out how to work the triggers.

Partner 2's name and your comment: Kyle Tham also contributed and he came up with the idea and got us all together as well. Helped out in creating the schema and his input on the way we organized the data and sql statements were important.