American International University- Bangladesh

CSC 4181: Advanced Database Management Systems

Final Term Report
Fall 22-23

Project Title: Renting-Borrowing Service
Section: A

Student Name	Student Id
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Tables:

1. ADMIN-

A_ID	A_PW	A_FNAME	A_LNAME	A_JOINNING_DATE	A_AGE	A_GENDER	A_MBL	A_EMAIL
AD001	AD001	BRUCE	WAYNE	01-JAN-20	32	M	01451254120	brucewayne@gmail.com
AD002	AD002	CLARK	KENT	03-JAN-20	30	M	01230232011	clarkkent@gmail.com
AD003	AD003	ARTHUR	MORGAN	01-FEB-20	36	M	01230254632	arthurm@gmail.com
AD004	AD004	JAMES	WAYNE	05-JAN-20	33	M	01236521456	jameswayne@gmail.com
AD005	AD005	GERALT	RIVIA	03-JAN-20	37	M	01232021256	geraltrivia@gmail.com

5 rows returned in 0.00 seconds CSV Export

2. CUSTOMER_SUPPORT-

CS_ID	CS_PW	CS_FNAME	CS_LNAME	CS_JOINNING_DATE	CS_AGE	CS_GENDER	CS_MBL	CS_EMAIL
CS001	CS001	ALFRED	PENNYWORTH	01-APR-20	25	M	01230232549	alfredpenny@gmail.com
CS002	CS002	JACK	SPRING	01-JAN-21	24	M	01232125478	jacks@gmail.com
CS003	CS003	JOHN	HALO	04-MAR-21	26	M	01230212325	johnhalo002@gmail.com
CS004	CS004	EDWARD	KENWAY	04-MAR-21	26	M	02312547896	kenwayed23@gmail.com
CS005	CS005	HOLY LANG	PENNYWORTH	01-JAN-22	24	F	01546321203	langholy456@yahoo.com

5 rows returned in 0.00 seconds CSV Export

3. BORROWER-

B_ID	B_PW	B_FNAME	B_LNAME	B_JOINNING_DATE	B_AGE	B_GENDER	B_MBL	B_EMAIL
BO001	BO001	KEN	KANEKI	03-JUN-20	19	M	01236545897	kaneki887@gmail.com
BO002	BO002	SAUL	GOODMAN	04-JUN-20	31	M	01456321564	sgoodman002@gmail.com
BO003	BO003	JIMMY	MCGIL	04-JUN-20	31	M	01325648563	jimc002@gmail.com
BO004	BO004	CHUCK	MCGIL	26-AUG-20	39	M	01230254789	chuckmcgil2135@gmail.com
BO005	BO005	MIKE	ERHMENTRAUT	03-JUN-20	48	M	01459875462	mikey@gmail.com

4. OWNER-

O_ID	O_PW	O_FNAME	O_LNAME	O_JOINNING_DATE	O_AGE	O_GENDER	O_MBL	O_EMAIL
OW001	OW001	BRIAN	KRANSTON	01-JUN-20	48	M	01325463215	bkrans236@gmail.com
OW002	OW002	ANNA	GUNN	02-JUN-20	39	F	01326547896	gunnanna47896@gmail.com
OW003	OW003	GUSTAVO	FRING	03-JUL-20	52	M	01854632102	gusfring@gmail.com
OW004	OW004	JESSE	PINKMAN	03-JUL-20	27	M	01654123065	jessepink00000@gmail.com
OW005	OW005	BOB	ODENKIRK	01-JUN-20	36	M	01878965425	bobbyod879@gmail.com

5. CATEGORY-

C_ID	C_NAME
CA001	FURNITURES
CA002	CLOTHING
CA003	SPORTS
CA004	ELECTRONICS
CA005	KITCHEN

6. CUSTOMER-

CUST_ID	BORO_ID
CUST001	BO002
CUST002	OW001
CUST003	BO005
CUST004	OW002
CUST005	OW004

7. PAYMENT_METHOD-

PM_ID	PM_NAME
PM001	BKASH
PM002	NAGAD
PM003	ROCKET
PM004	VISA
PM005	AMERICAN EXPRESS

8. EMPLOYEE-

EMP_ID	AD_OR_CS_ID	JOB
EMP001	AD001	ADMIN
EMP002	AD003	ADMIN
EMP003	AD004	ADMIN
EMP004	CS002	CUSTOMER SUPPORT
EMP005	CS005	CUSTOMER SUPPORT

9. COMPLAINTS-

COM_ID	CUST_ID	COM_MBL	COM_EMAIL	COMPLAINT	C_DATE
COM001	CUST002	01325463215	bkrans236@gmail.com	I did not get the requested product.	08-JUN-20
COM002	CUST002	01325463215	bkrans236@gmail.com	The customer support was not able to help.	09-JUN-20
COM003	CUST001	01456321564	sgoodman002@gmail.com	I was charged more than the shown amount.	10-JUL-20
COM004	CUST003	01459875462	mikey@gmail.com	I received a faulty product.	11-JUL-20
COM005	CUST005	01654123065	jessepink00000@gmail.com	I was charged more than the shown amount.	11-JUL-20

10. REQUESTED_PRODUCT -

RP_ID	B_ID	RP_NAME	C_ID	BUDGET	RP_DATE
RP001	BO002	SONY CYBER-SHOT W800 20MP	CA004	2500	06-NOV-20
RP002	BO001	WOODEN ARM CHAIR	CA001	150	06-NOV-20
RP003	BO002	Apple MacBook Air 13.3-Inch	CA004	4000	07-NOV-20
RP004	BO005	5 Way Manual Treadmill	CA003	1000	08-NOV-20
RP005	BO003	Apple Studio Display 27"	CA004	2500	10-NOV-20

11. ORENTED_PRODUCT -

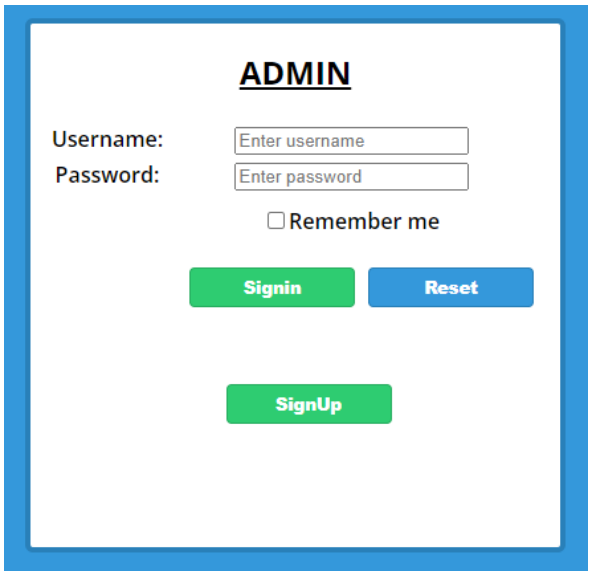
OP_ID	O_ID	OP_NAME	C_ID	RENT	OP_DATE
OP002	OW005	Curren 9065 Quartz Watch	CA002	500	07-NOV-20
OP001	OW003	SONY CYBER-SHOT W800 20MP	CA004	2500	06-NOV-20
OP003	OW001	WOODEN ARM CHAIR	CA001	150	08-NOV-20
OP004	OW002	SONY CYBER-SHOT W800 20MP	CA004	2000	08-NOV-20
OP005	OW004	NVIDIA Quadro P1000 4GB	CA004	800	09-NOV-20

12. PAYMENT -

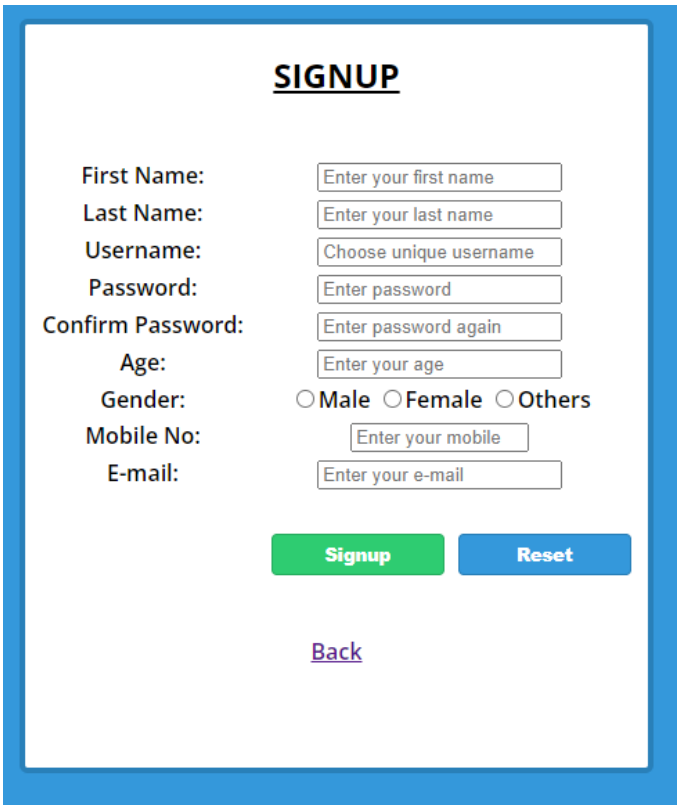
P_ID	CUST_ID	PM_ID	AMOUNT	P_DATE
PA002	CUST002	PM004	150	07-NOV-20
PA003	CUST005	PM005	800	08-NOV-20
PA004	CUST001	PM001	1200	09-NOV-20
PA005	CUST003	PM002	200	09-NOV-20

Admin Panel:

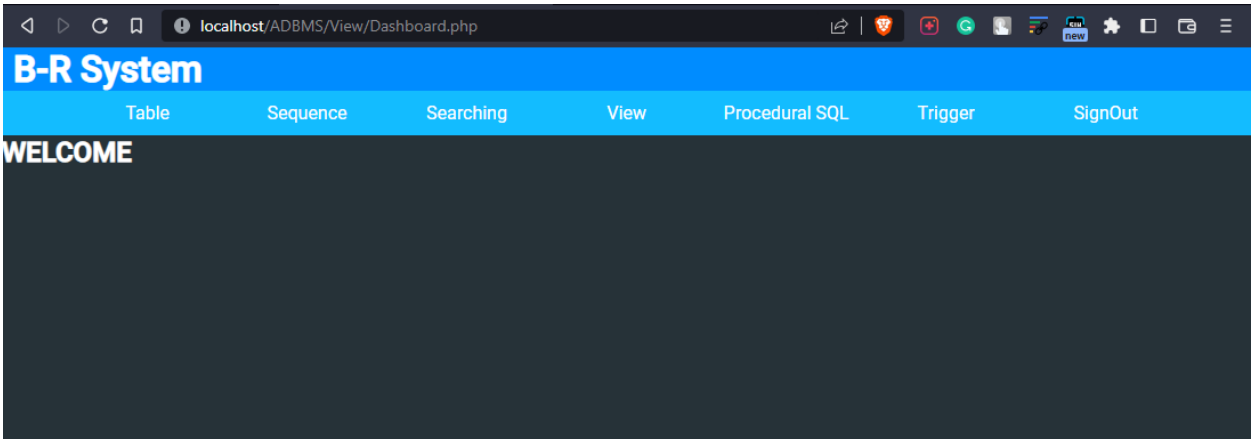
SignIn Page-



SignUp Page-



Admin Dashboard-



User Interface:

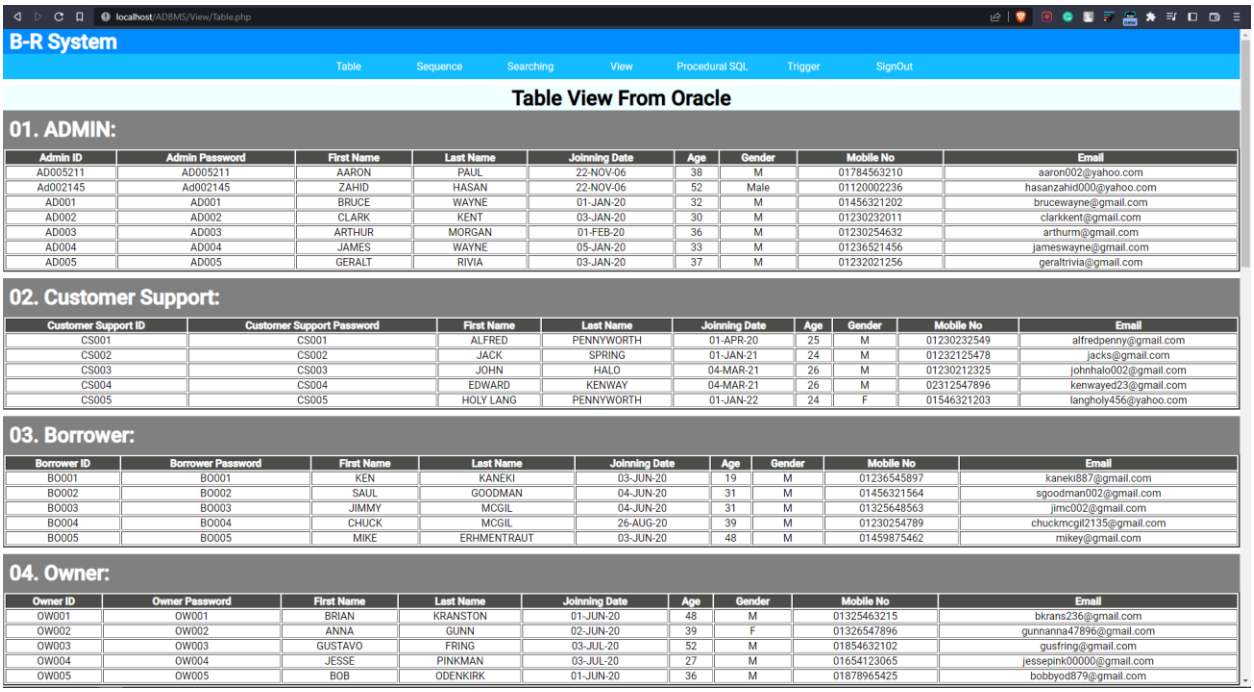


Table View From Oracle

01. ADMIN:

Admin ID	Admin Password	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	Email
AD005211	AD005211	AARON	PAUL	22-NOV-06	38	M	01784563210	aaron002@yahoo.com
Ad002145	Ad002145	ZAHID	HASAN	22-NOV-06	52	Male	01120002236	hasanzahid000@yahoo.com
AD001	AD001	BRUCE	WAYNE	01-JAN-20	32	M	01456321202	brucewayne@gmail.com
AD002	AD002	CLARK	KENT	03-JAN-20	30	M	01230232011	clarkkent@gmail.com
AD003	AD003	ARTHUR	MORGAN	01-FEB-20	36	M	01230254632	arthurm@gmail.com
AD004	AD004	JAMES	WAYNE	05-JAN-20	33	M	01236521456	jameswayne@gmail.com
AD005	AD005	GERALT	RIVIA	03-JAN-20	37	M	01232021256	geraltrivia@gmail.com

02. Customer Support:

Customer Support ID	Customer Support Password	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	Email
CS001	CS001	ALFRED	PENNYWORTH	01-APR-20	25	M	01230232549	alfredpenny@gmail.com
CS002	CS002	JACK	SPRING	01-JAN-21	24	M	01232125478	jacks@gmail.com
CS003	CS003	JOHN	HALO	04-MAR-21	26	M	01230212325	johnhalo002@gmail.com
CS004	CS004	EDWARD	KENWAY	04-MAR-21	26	M	02312547896	kenwayed23@gmail.com
CS005	CS005	HOLY LANG	PENNYWORTH	01-JAN-22	24	F	01546321203	langholy456@yahoo.com

03. Borrower:

Borrower ID	Borrower Password	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	Email
BO001	BO001	KEN	KANEKI	03-JUN-20	19	M	01236545897	kaneki887@gmail.com
BO002	BO002	SAUL	GOODMAN	04-JUN-20	31	M	01456321564	sgoodman002@gmail.com
BO003	BO003	JIMMY	MCGIL	04-JUN-20	31	M	01325648563	jimc002@gmail.com
BO004	BO004	CHUCK	MCGIL	26-AUG-20	39	M	01230254789	chuckmcgil2135@gmail.com
BO005	BO005	MIKE	ERHMENTRAUT	03-JUN-20	48	M	01459875462	mikey@gmail.com

04. Owner:

Owner ID	Owner Password	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	Email
OW001	OW001	BRIAN	KRANSTON	01-JUN-20	48	M	01325463215	bkrans236@gmail.com
OW002	OW002	ANNA	GUNN	02-JUN-20	39	F	01326547896	gunnanna47896@gmail.com
OW003	OW003	GUSTAVO	FRING	03-JUL-20	52	M	01854632102	gusfring@gmail.com
OW004	OW004	JESSE	PINKMAN	03-JUL-20	27	M	01654123065	jessepink00000@gmail.com
OW005	OW005	BOB	ODENKIRK	01-JUN-20	36	M	01878965425	bobbyod879@gmail.com

04. Owner:

Owner ID	Owner Password	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	Email
OW001	OW001	BRIAN	KRANSTON	01-JUN-20	48	M	01325463215	bkrans236@gmail.com
OW002	OW002	ANNA	GUNN	02-JUN-20	39	F	01326547896	gunnanna47896@gmail.com
OW003	OW003	GUSTAVO	FRING	03-JUL-20	52	M	01854632102	gusfring@gmail.com
OW004	OW004	JESSE	PINKMAN	03-JUL-20	27	M	01654123065	jessepink00000@gmail.com
OW005	OW005	BOB	ODENKIRK	01-JUN-20	36	M	01878965425	bobbyod879@gmail.com

05. Category:

Category ID	Category Name
CA001	FURNITURES
CA002	CLOTHING
CA003	SPORTS
CA004	ELECTRONICS
CA005	KITCHEN
CA116	yc g

06. Customer:

Customer ID	Borrower-Owner ID
CUST001	BO002
CUST002	OW001
CUST003	BO005
CUST004	OW002
CUST005	OW004

07. Payment Methods:

Payment Method ID	Payment Method Name
PM001	BKASH
PM002	NAGAD
PM003	ROCKET
PM004	VISA
PM005	AMERICAN EXPRESS

08. Employees:

Employee ID	Admin-CustomerSupport ID	Job
EMP112	AD002	ADMIN
EMP001	AD001	ADMIN
EMP004	CS002	CUSTOMER SUPPORT
EMP005	CS005	CUSTOMER SUPPORT
EMP113	AD005	ADMIN

09. Complaints:

Complaint ID	Customer ID	Mobile No	E-mail	Complaints Details	Date
COM001	CUST002	01325463215	bkrans236@gmail.com	I did not get the requested product.	08-JUN-20
COM002	CUST002	01325463215	bkrans236@gmail.com	The customer support was not able to help.	09-JUN-20
COM003	CUST001	01456321564	sgoodman002@gmail.com	I was charged more than the shown amount.	10-JUL-20
COM004	CUST003	01459875462	mikey@gmail.com	I received a faulty product.	11-JUL-20
COM005	CUST005	01654123065	jessepink00000@gmail.com	I was charged more than the shown amount.	11-JUL-20

10. Requested Products:

Requested Product ID	Borrower ID	Requested Product Name	Customer ID	Budget	Date
RP201	BO002	Action Cam	CA004	3000	22-DEC-27
RP202	BO002	Action Cam	CA004	500	22-DEC-27
RP001	BO002	SONY CYBER-SHOT W800 20MP	CA004	2000	06-NOV-20
RP002	BO001	WOODEN ARM CHAIR	CA001	150	06-NOV-20
RP003	BO002	Apple MacBook Air 13.3-Inch	CA004	4000	07-NOV-20
RP004	BO005	5 Way Manual Treadmill	CA003	1000	08-NOV-20
RP005	BO003	Apple Studio Display 27"	CA004	2500	10-NOV-20
RP203	BO003	22' Monitor	CA004	1600	22-DEC-27

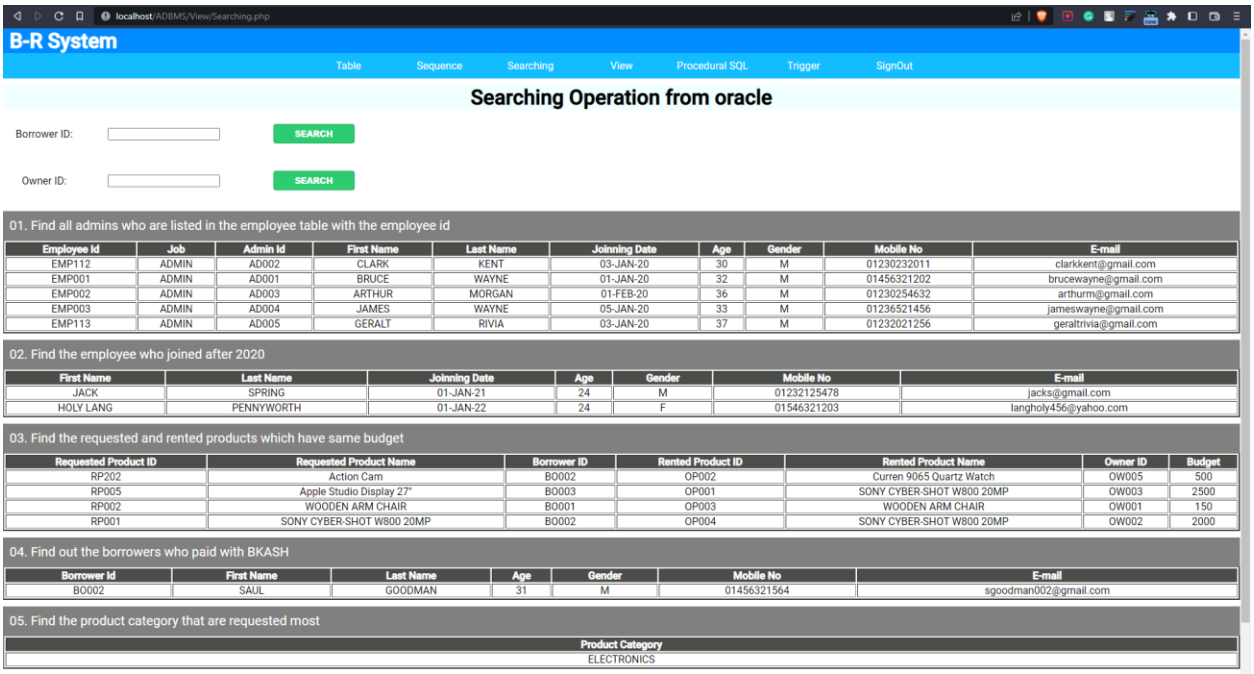
11. Rented Products:

Rented Product ID	Owner ID	REnted Product Name	Customer ID	Rent	Date
OP002	OW005	Curren 9065 Quartz Watch	CA002	500	07-NOV-20
OP001	OW003	SONY CYBER-SHOT W800 20MP	CA004	2500	06-NOV-20
OP003	OW001	WOODEN ARM CHAIR	CA001	150	08-NOV-20
OP004	OW002	SONY CYBER-SHOT W800 20MP	CA004	2000	08-NOV-20
OP005	OW004	NVIDIA Quadro P1000 4GB	CA004	800	09-NOV-20

12. Payment Details:

Payment ID	Customer ID	Payment Method ID	Amount	Date
PA001	CUST004	PM001	3000	06-NOV-22
PA005	CUST003	PM002	200	09-NOV-20
PA002	CUST002	PM004	150	07-NOV-20
PA003	CUST005	PM005	800	08-NOV-20
PA004	CUST001	PM001	1200	09-NOV-20

Searching & Advance Searching:



localhost/ADBMS/View/Searching.php

B-R System

Table | Sequence | Searching | View | Procedural SQL | Trigger | SignOut

Searching Operation from oracle

Borrower ID: SEARCH

Owner ID: SEARCH

01. Find all admins who are listed in the employee table with the employee id

Employee Id	Job	Admin Id	First Name	Last Name	Joinning Date	Age	Gender	Mobile No	E-mail
EMP112	ADMIN	AD002	CLARK	KENT	03-JAN-20	30	M	01230232011	clarkkent@gmail.com
EMP001	ADMIN	AD001	BRUCE	WAYNE	01-JAN-20	32	M	01456321202	brucewayne@gmail.com
EMP002	ADMIN	AD003	ARTHUR	MORGAN	01-FEB-20	36	M	01230254632	arthurm@gmail.com
EMP003	ADMIN	AD004	JAMES	WAYNE	05-JAN-20	33	M	01236521456	jameswayne@gmail.com
EMP113	ADMIN	AD005	GERALT	RIVIA	03-JAN-20	37	M	01232021256	geraltrivia@gmail.com

02. Find the employee who joined after 2020

First Name	Last Name	Joinning Date	Age	Gender	Mobile No	E-mail
JACK	SPRING	01-JAN-21	24	M	01232125478	jacks@gmail.com
HOLY LANG	PENNYWORTH	01-JAN-22	24	F	01546321203	langholy456@yahoo.com

03. Find the requested and rented products which have same budget

Requested Product ID	Requested Product Name	Borrower ID	Rented Product ID	Rented Product Name	Owner ID	Budget
RP202	Action Cam	B0002	OP002	Curren 9065 Quartz Watch	OW005	500
RP005	Apple Studio Display 27"	B0003	OP001	SONY CYBER-SHOT W800 20MP	OW003	2500
RP002	WOODEN ARM CHAIR	B0001	OP003	WOODEN ARM CHAIR	OW001	150
RP001	SONY CYBER-SHOT W800 20MP	B0002	OP004	SONY CYBER-SHOT W800 20MP	OW002	2000

04. Find out the borrowers who paid with BKASH

Borrower Id	First Name	Last Name	Age	Gender	Mobile No	E-mail
B0002	SAUL	GOODMAN	31	M	01456321564	sgoodman002@gmail.com

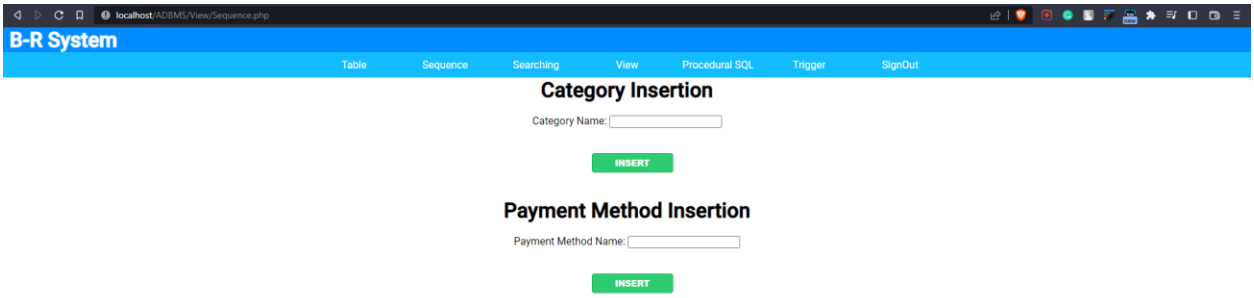
05. Find the product category that are requested most

Product Category
ELECTRONICS

Sequence:

```
CREATE SEQUENCE seq_category
MINVALUE 100
MAXVALUE 999999999999999999
START WITH 111
INCREMENT BY 1
CACHE 10;

CREATE SEQUENCE seq_pMethod
MINVALUE 100
MAXVALUE 999999999999999999
START WITH 555
INCREMENT BY 2
CACHE 10;
```



View:

1. Requested Products with the category name:
   CREATE VIEW view_requestedProductCat AS select REQUESTED_PRODUCT.RP_ID, REQUESTED_PRODUCT.RP_NAME, CATEGORY.C_NAME, REQUESTED_PRODUCT.BUDGET from REQUESTED_PRODUCT, CATEGORY where REQUESTED_PRODUCT.C_ID=CATEGORY.C_ID

   select * from view_requestedProductCat

2. Owner who rented products amount of more than 500:
   CREATE VIEW view_ownerPaymentGreater500 AS
   select CUSTOMER.BORO_ID, OWNER.O_FNAME, OWNER.O_LNAME, OWNER.O_AGE, OWNER.O_GENDER, OWNER.O_MBL, OWNER.O_EMAIL, PAYMENT.AMOUNT, PAYMENT.P_DATE FROM PAYMENT, CUSTOMER, OWNER WHERE AMOUNT>500 AND CUSTOMER.CUST_ID=PAYMENT.CUST_ID AND OWNER.O_ID=CUSTOMER.BORO_ID

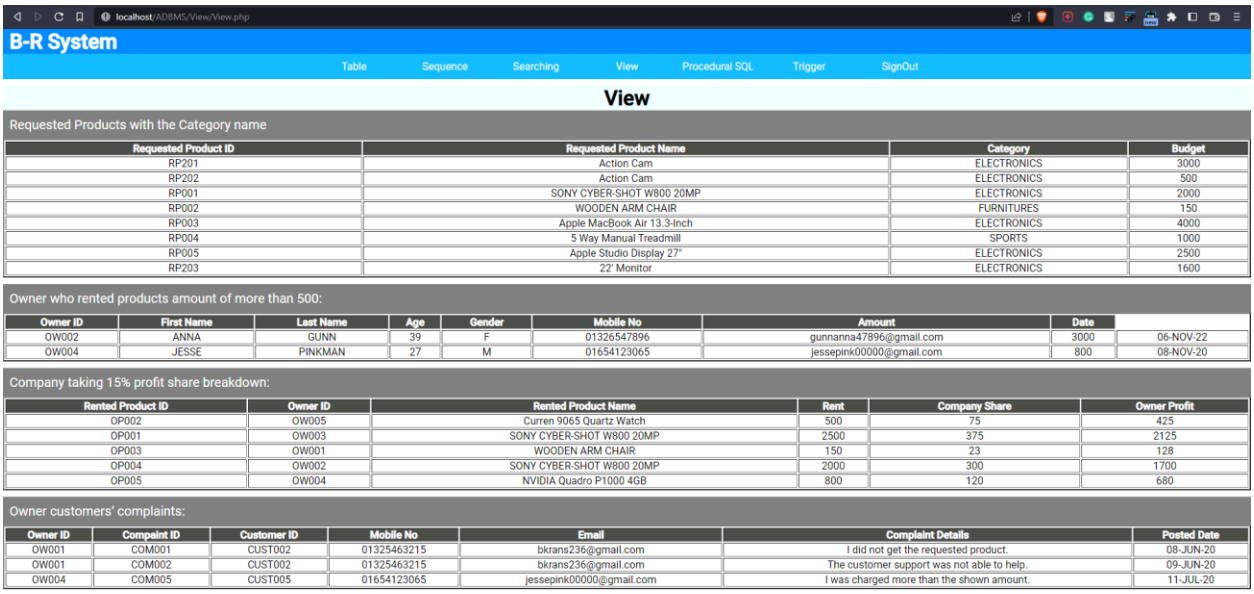
   select * from view_ownerPaymentGreater500

3. Company taking 15% profit share breakdown:
   CREATE VIEW view_shareBreakdown AS
   select ORENTED_PRODUCT.OP_ID, ORENTED_PRODUCT.O_ID, ORENTED_PRODUCT.OP_NAME, ORENTED_PRODUCT.RENT, ROUND(ORENTED_PRODUCT.RENT*0.15) AS COMPANY_SHARE, ROUND(ORENTED_PRODUCT.RENT-(ORENTED_PRODUCT.RENT*0.15)) AS CUSTOMER_PROFIT from ORENTED_PRODUCT

   select * from view_shareBreakdown

4. View only owner customers' complaints
   CREATE VIEW view_ownerComplaints AS
   select customer.boro_id ,complaints.* from complaints, customer where complaints.cust_id=customer.cust_id and customer.boro_id like 'OW%'

   select * from view_ownerComplaints



B-R System

Table | Sequence | Searching | View | Procedural SQL | Trigger | SignOut

View

Requested Products with the Category name

Requested Product ID	Requested Product Name	Category	Budget
RP201	Action Cam	ELECTRONICS	3000
RP202	Action Cam	ELECTRONICS	500
RP001	SONY CYBER-SHOT W800 20MP	ELECTRONICS	2000
RP002	WOODEN ARM CHAIR	FURNITURES	150
RP003	Apple MacBook Air 13.3-Inch	ELECTRONICS	4000
RP004	5 Way Manual Treadmill	SPORTS	1000
RP005	Apple Studio Display 27"	ELECTRONICS	2500
RP203	22' Monitor	ELECTRONICS	1600

Owner who rented products amount of more than 500:

Owner ID	First Name	Last Name	Age	Gender	Mobile No	Amount	Date	
OW002	ANNA	GUNN	39	F	01326547896	gunnanna47896@gmail.com	3000	06-NOV-22
OW004	JESSE	PINKMAN	27	M	01654123065	jessepink00000@gmail.com	800	08-NOV-20

Company taking 15% profit share breakdown:

Rented Product ID	Owner ID	Rented Product Name	Rent	Company Share	Owner Profit
OP002	OW005	Curren 9065 Quartz Watch	500	75	425
OP001	OW003	SONY CYBER-SHOT W800 20MP	2500	375	2125
OP003	OW001	WOODEN ARM CHAIR	150	23	128
OP004	OW002	SONY CYBER-SHOT W800 20MP	2000	300	1700
OP005	OW004	NVIDIA Quadro P1000 4GB	800	120	680

Owner customers' complaints:

Owner ID	Compaint ID	Customer ID	Mobile No	Email	Complaint Details	Posted Date
OW001	COM001	CUST002	01325463215	bkrans236@gmail.com	I did not get the requested product.	08-JUN-20
OW001	COM002	CUST002	01325463215	bkrans236@gmail.com	The customer support was not able to help.	09-JUN-20
OW004	COM005	CUST005	01654123065	jessepink00000@gmail.com	I was charged more than the shown amount.	11-JUL-20

Procedures and Functions:

Porcedure-01: Adding existing admin or customer support into employee table

```
create or replace package addIntoEmployeeTable as
procedure add_emp(acs_no employee.AD_OR_CS_ID%type, job_title employee.job%type);
end addIntoEmployeeTable;


create or replace package body addIntoEmployeeTable as
function validAcsId(acs_no employee.AD_OR_CS_ID%type)
return boolean
is
acsno_count number(3);
begin
select count(*) into acsno_count from employee where AD_OR_CS_ID=acs_no;
if acsno_count=0 then
return true;
else return false;
end if;
end validAcsId;
```

```
procedure add_emp(acs_no employee.AD_OR_CS_ID%type, job_title employee.job%type)
is
inval_emp exception;
begin
if validAcsId(acs_no) then
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP'||seq_employee.nextval,
acs_no, job_title);
else
raise inval_emp;
end if;
exception
when inval_emp then
raise_application_error(-42915,'Employee already exists!');
when others then
raise_application_error(-42915,'Something went wrong');
end add_emp;
end addIntoEmployeeTable;
```

Porcedure-02: Delete a payment detail entering the payment id

```
create or replace package deleteFromPaymentTable as
procedure del_payment(pno payment.P_ID%type);
end deleteFromPaymentTable ;


create or replace package body deleteFromPaymentTable as
function validPayment(pno payment.P_ID%type)
return boolean
is
payment_count number(3);
begin
select count(*) into payment_count from payment where P_ID=pno;
if payment_count=0 then
return false;
else return true;
end if;
end validPayment;

procedure del_payment(pno payment.P_ID%type)
is
inval_del exception;
begin
if validPayment(pno) then
```

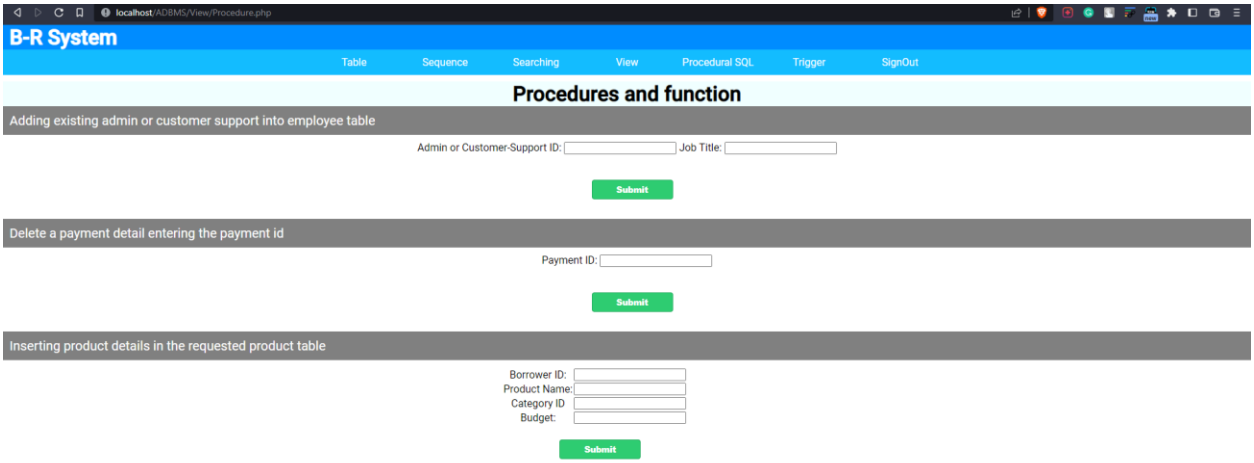
```
delete from payment where p_id=pno;
else
raise inval_del ;
end if;
exception
when inval_del then
raise_application_error(-42916,'Payment does not exist!');
when others then
raise_application_error(-42920,'Something went wrong');
end del_payment;
end deleteFromPaymentTable;
```

Porcedure-03: Inserting product details in the requested product table

```
CREATE OR REPLACE FUNCTION CheckValidCategory(cat_id CATEGORY.C_ID%type)
return varchar2 IS
c number(3);
BEGIN
select count(*) into c from CATEGORY where C_ID=cat_id;
if c=1 then
return 'TRUE';
else
return 'FALSE';
end if;
END;

CREATE OR REPLACE FUNCTION CheckValidBorrower(bno
REQUESTED_PRODUCT.B_ID%type)
return varchar2 IS
c number(3);
BEGIN
select count(*) into c from BORROWER where B_ID=bno;
if c=1 then
return 'TRUE';
else
return 'FALSE';
end if;
END;
```

```
CREATE OR REPLACE PROCEDURE Insert_ReqProduct(bno REQUESTED_PRODUCT.B_ID%type,
pname REQUESTED_PRODUCT.RP_NAME%type, cat_id CATEGORY.C_ID%type, budg
REQUESTED_PRODUCT.BUDGET%type)
IS
ret_ValidBorrower varchar2(10);
ret_ValidCategory varchar2(10);
inval_request exception;
BEGIN
if budg>=10 then
ret_ValidBorrower := CheckValidBorrower(bno);
if ret_ValidBorrower = 'TRUE' then
ret_ValidCategory := CheckValidCategory(cat_id);
if ret_ValidCategory='TRUE' then
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE)
VALUES('RP'||seq_requestedProduct.nextval,
bno, pname, cat_id, budg, TO_DATE(sysdate, 'yyyy/mm/dd'));
else
raise inval_request;
end if;
else
raise inval_request;
end if;
else
raise inval_request;
end if;
exception
when inval_request then
raise_application_error(-42914,'Not a valid category OR invalid user OR does not meet minimum
budget!');
when others then
raise_application_error(-42917,'Something went wrong');
END;
```



Triggers:

Trigger-01: Inserting a negative value in the budget column will call this trigger

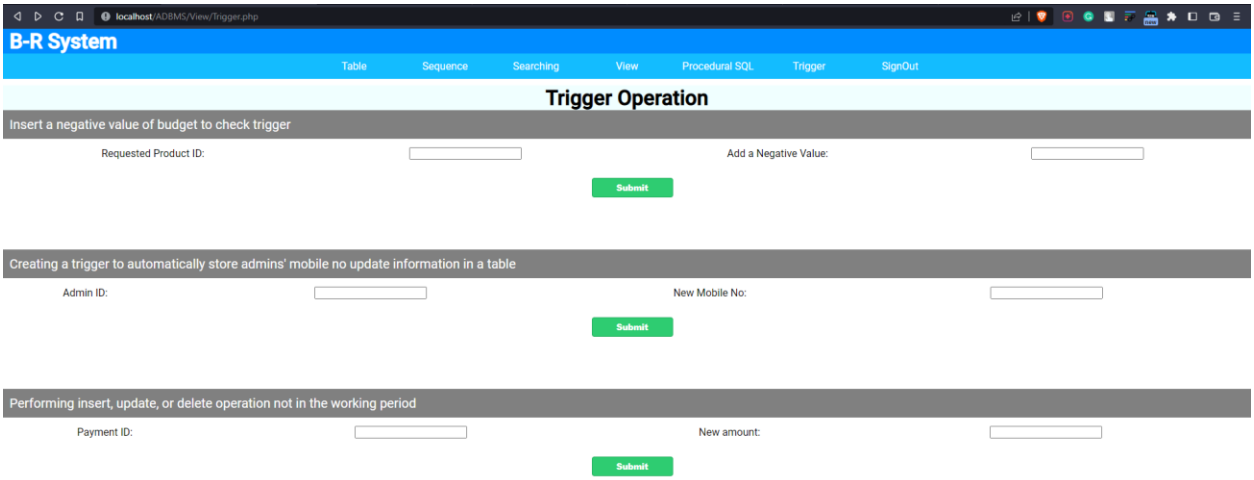
```
create or replace trigger trigger_rpBudget
before insert or update of BUDGET on REQUESTED_PRODUCT
for each row
begin
if :new.BUDGET<0
then raise_application_error(-2056321,'Budget cannot be a negative value');
end if;
end;
```

Trigger-02: Updating admins' mobile no will be kept in a log table by this trigger

```
CREATE SEQUENCE seq_log
MINVALUE 100
MAXVALUE 9999999999999999999999999999
START WITH 100
INCREMENT BY 1
CACHE 10;

create table adminMBL_log(
adno number not null,
old_mbl varchar(20) not null,
new_mbl varchar(20) not null,
u_date date not null);
create or replace trigger adminMBL_update
after update of A_MBL on admin
for each row
Begin
insert into adminMBL_log values(seq_log.nextval,:old.A_MBL ,:new.A_MBL ,sysdate);
end;
```

Trigger-03: Performing insert, update, or delete operation not in the working period

```
create or replace trigger trigger_payment
before insert or update or delete on payment
begin
if to_char(sysdate,'DY') in ('SAT','FRI')
or to_char(sysdate,'HH24') not between '08' and '21' then
```

```
raise_application_error(-42587, 'Try later!');
end if;
end;
```