



# **American International University- Bangladesh**

## **CSC 4181: Advanced Database Management Systems**

### **Midterm Report Fall 22-23**

**Project Title:** Renting-Borrowing Service  
**Section:** A

Student Name	Student Id
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## **System Summary:**

People occasionally want different items in day-to-day life to fulfill their temporary needs. These items can be a camera, cycle, book, or any kind of item. Since the need is temporal, a person decides to buy the item it will not be beneficial in long term. Thus, it can be counted as waste. Therefore, what the person can do instead of buying, he/she can borrow from others who already own those items.

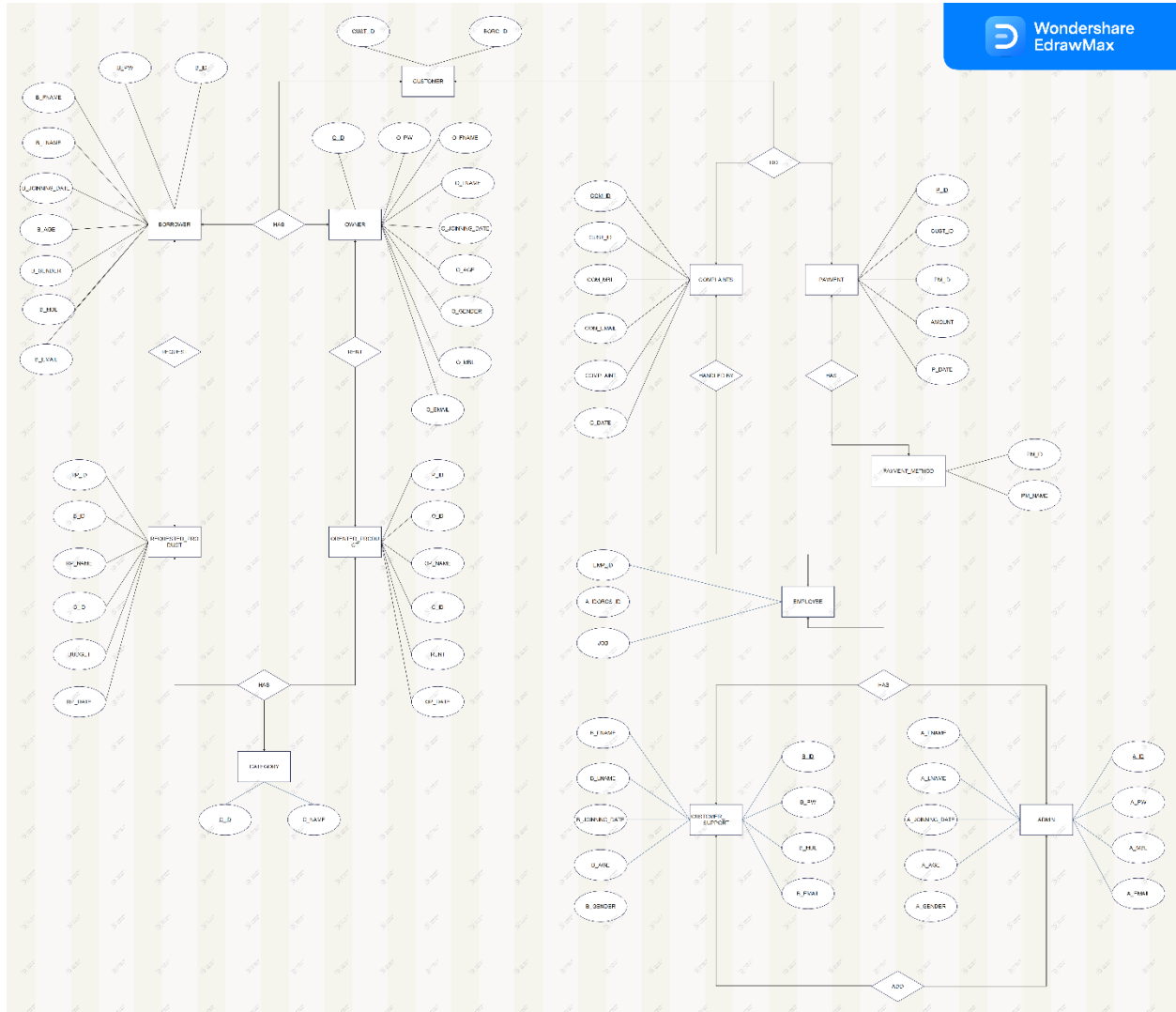
There are four types of user categories –

- i. Admin
- ii. Customer Support
- iii. Owner
- iv. Borrower

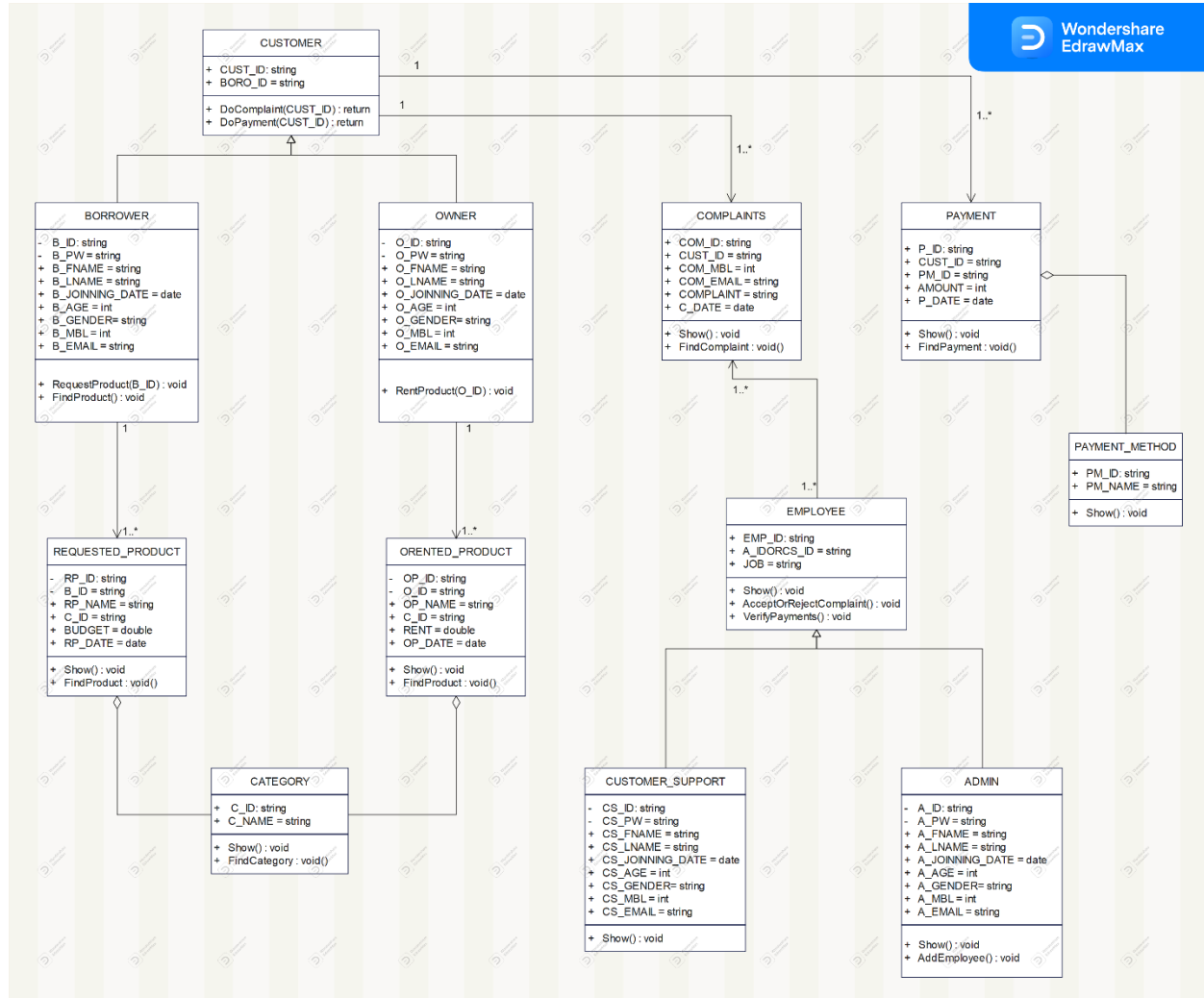
Admin and Customer Support entities are very important to this system. They are responsible to maintain the platform properly.

Like any modern system, any user can create an account, sign into the system, and use different functionalities. There is also the option to update your account information and password. Users can also have their unique username. The user interface is easy to navigate.

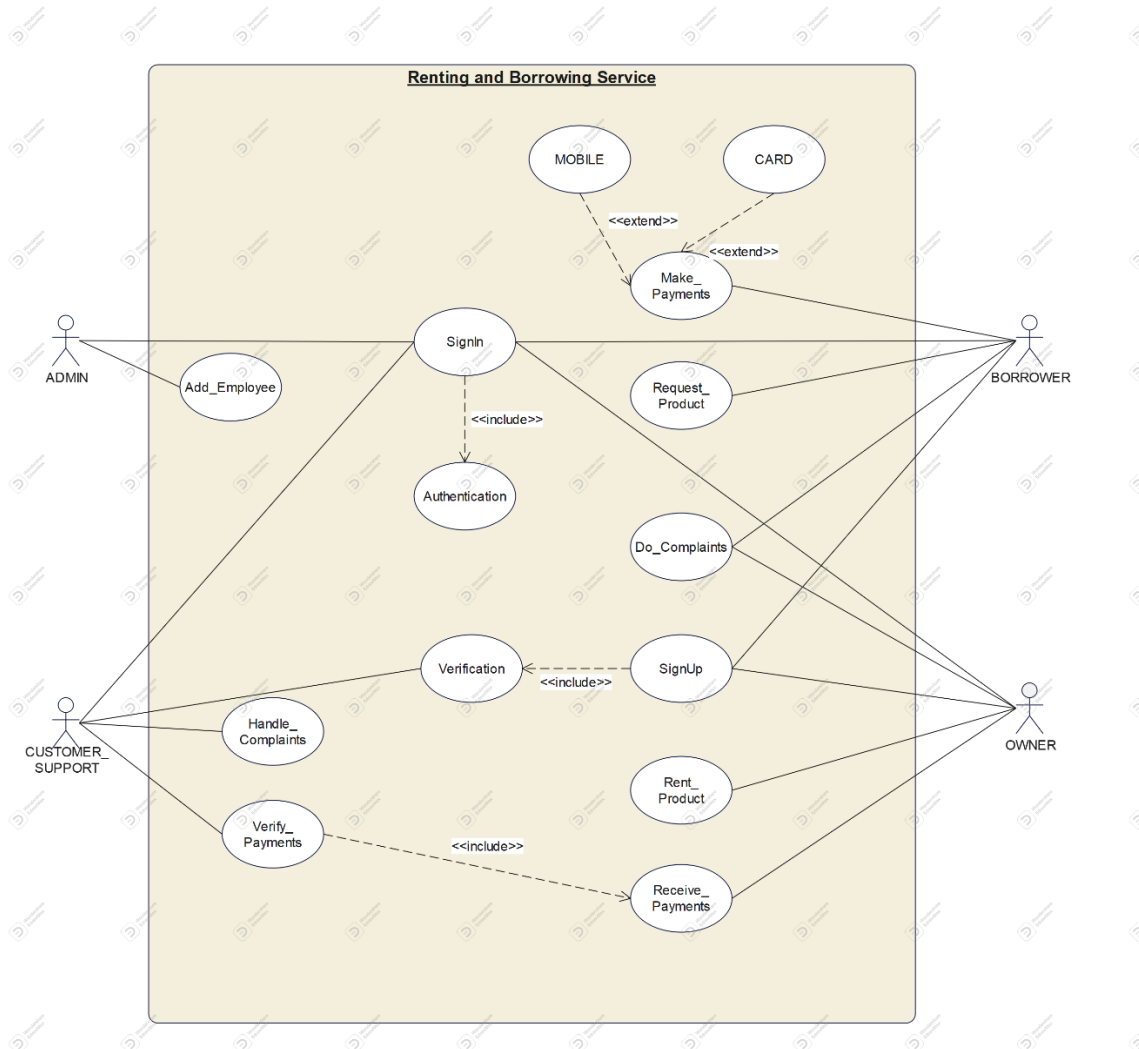
## ERD Diagram:



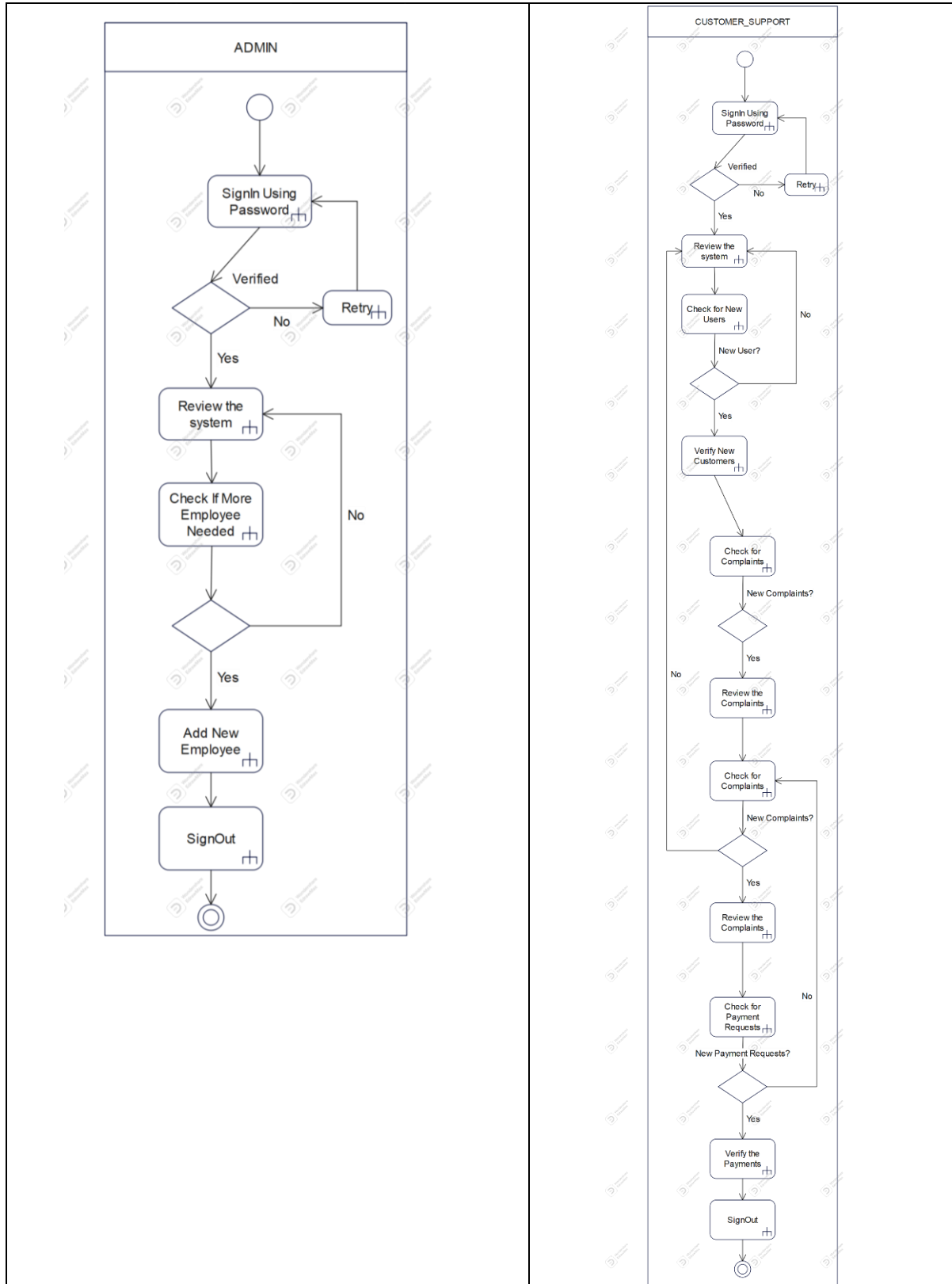
# Class Diagram:

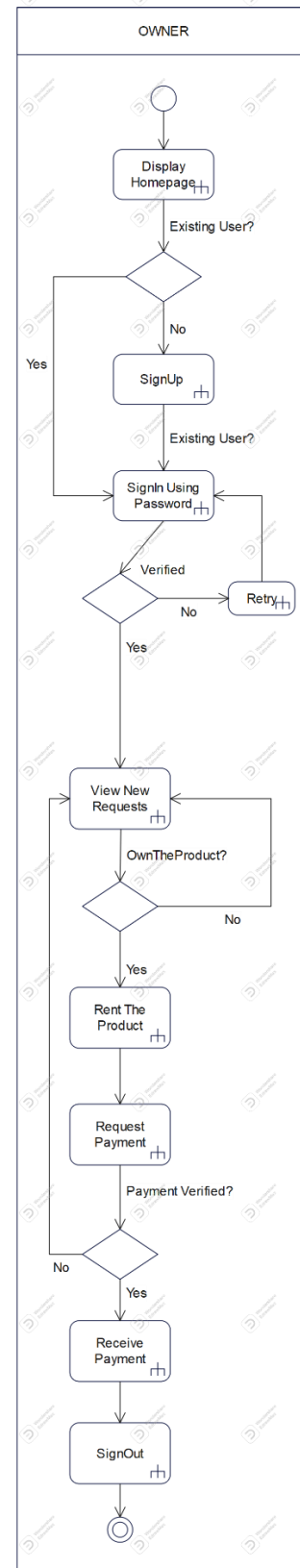
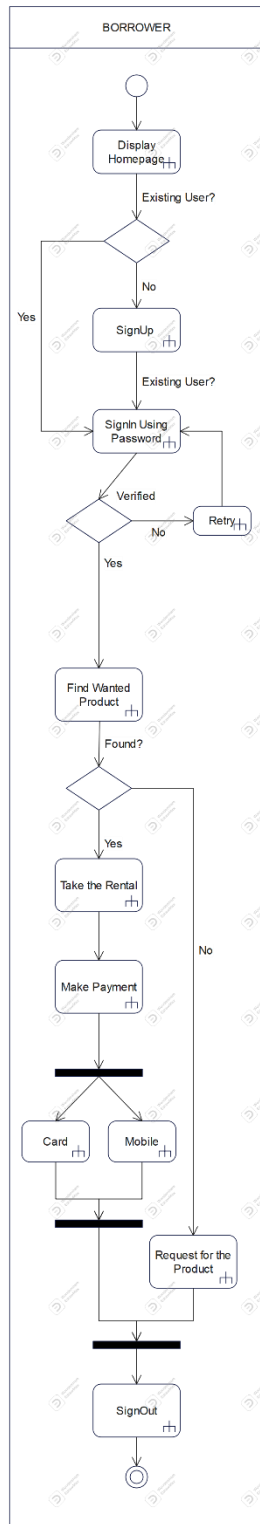


## Use Case Diagram:

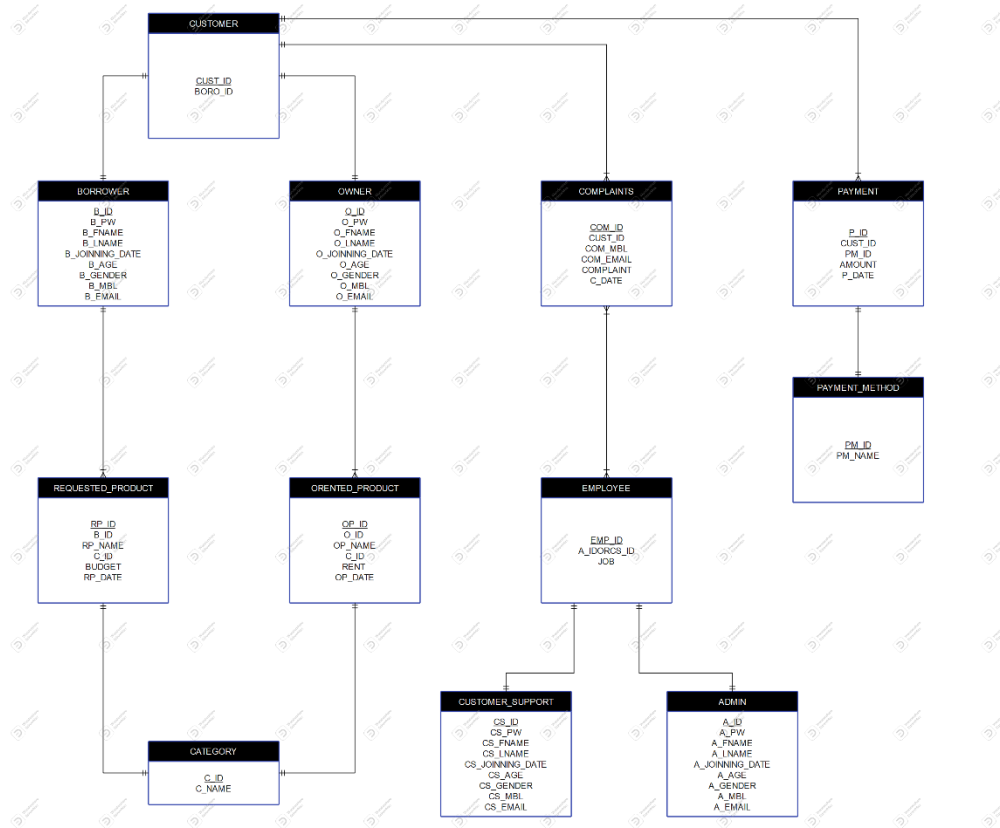


## Activity Diagram:





## Schema Diagram:



## Creating Tables:

### ADMIN-

```
CREATE TABLE ADMIN(  
A_ID varchar(30) not null,  
A_PW varchar(20) not null,  
A_FNAME varchar(40) not null,  
A_LNAME varchar(40) not null,  
A_JOINNING_DATE date not null,  
A_AGE number(3) not null,  
A_GENDER varchar(10) not null,  
A_MBL varchar(15) not null,  
A_EMAIL varchar(30) not null,  
PRIMARY KEY (A_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ADMIN	A_ID	Varchar2	30	-	-	1	-	-	-
	A_PW	Varchar2	20	-	-	-	-	-	-
	A_FNAME	Varchar2	40	-	-	-	-	-	-
	A_LNAME	Varchar2	40	-	-	-	-	-	-
	A_JOINNING_DATE	Date	7	-	-	-	-	-	-
	A_AGE	Number	-	3	0	-	-	-	-
	A_GENDER	Varchar2	10	-	-	-	-	-	-
	A_MBL	Varchar2	15	-	-	-	-	-	-
	A_EMAIL	Varchar2	30	-	-	-	-	-	-
1 - 9									

### CUSTOMER\_SUPPORT-

```
CREATE TABLE CUSTOMER_SUPPORT(  
  
CS_ID varchar(30) not null,  
CS_PW varchar(20) not null,  
CS_FNAME varchar(40) not null,  
CS_LNAME varchar(40) not null,  
CS_JOINNING_DATE date not null,  
CS_AGE number(3) not null,  
CS_GENDER varchar(10) not null,  
CS_MBL varchar(15) not null,  
CS_EMAIL varchar(30) not null,  
PRIMARY KEY (CS_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_SUPPORT	CS_ID	Varchar2	30	-	-	1	-	-	-
	CS_PW	Varchar2	20	-	-	-	-	-	-
	CS_FNAME	Varchar2	40	-	-	-	-	-	-
	CS_LNAME	Varchar2	40	-	-	-	-	-	-
	CS_JOINNING_DATE	Date	7	-	-	-	-	-	-
	CS_AGE	Number	-	3	0	-	-	-	-
	CS_GENDER	Varchar2	10	-	-	-	-	-	-
	CS_MBL	Varchar2	15	-	-	-	-	-	-
	CS_EMAIL	Varchar2	30	-	-	-	-	-	-
1 - 9									

## BORROWER-

```
CREATE TABLE BORROWER(  
  B_ID varchar(30) not null,  
  B_PW varchar(20) not null,  
  B_FNAME varchar(40) not null,  
  B_LNAME varchar(40) not null,  
  B_JOINING_DATE date not null,  
  B_AGE number(3) not null,  
  B_GENDER varchar(10) not null,  
  B_MBL varchar(15) not null,  
  B_EMAIL varchar(30) not null,  
  PRIMARY KEY (B_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BORROWER	B_ID	Varchar2	30	-	-	1	-	-	-
	B_PW	Varchar2	20	-	-	-	-	-	-
	B_FNAME	Varchar2	40	-	-	-	-	-	-
	B_LNAME	Varchar2	40	-	-	-	-	-	-
	B_JOINING_DATE	Date	7	-	-	-	-	-	-
	B_AGE	Number	-	3	0	-	-	-	-
	B_GENDER	Varchar2	10	-	-	-	-	-	-
	B_MBL	Varchar2	15	-	-	-	-	-	-
	B_EMAIL	Varchar2	30	-	-	-	-	-	-
1 - 9									

## OWNER-

```
CREATE TABLE OWNER(  
  O_ID varchar(30) not null,  
  O_PW varchar(20) not null,  
  O_FNAME varchar(40) not null,  
  O_LNAME varchar(40) not null,  
  O_JOINING_DATE date not null,  
  O_AGE number(3) not null,  
  O_GENDER varchar(10) not null,  
  O_MBL varchar(15) not null,  
  O_EMAIL varchar(30) not null,  
  PRIMARY KEY (O_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
OWNER	O_ID	Varchar2	30	-	-	1	-	-	-
	O_PW	Varchar2	20	-	-	-	-	-	-
	O_FNAME	Varchar2	40	-	-	-	-	-	-
	O_LNAME	Varchar2	40	-	-	-	-	-	-
	O_JOINING_DATE	Date	7	-	-	-	-	-	-
	O_AGE	Number	-	3	0	-	-	-	-
	O_GENDER	Varchar2	10	-	-	-	-	-	-
	O_MBL	Varchar2	15	-	-	-	-	-	-
	O_EMAIL	Varchar2	30	-	-	-	-	-	-
1 - 9									

## CATEGORY-

```
CREATE TABLE CATEGORY(  
C_ID varchar(20) not null,  
C_NAME varchar(30) not null,  
PRIMARY KEY (C_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CATEGORY	C_ID	Varchar2	20	-	-	1	-	-	-
	C_NAME	Varchar2	30	-	-	-	-	-	-
									1 - 2

## CUSTOMER-

```
CREATE TABLE CUSTOMER(  
CUST_ID varchar(20) not null,  
BORO_ID varchar(30) not null,  
PRIMARY KEY (CUST_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	CUST_ID	Varchar2	20	-	-	1	-	-	-
	BORO_ID	Varchar2	30	-	-	-	-	-	-
									1 - 2

## PAYMENT\_METHOD-

```
CREATE TABLE PAYMENT_METHOD(  
PM_ID varchar(20) not null,  
PM_NAME varchar(30) not null,  
PRIMARY KEY (PM_ID )  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PAYMENT_METHOD	PM_ID	Varchar2	20	-	-	1	-	-	-
	PM_NAME	Varchar2	30	-	-	-	-	-	-
									1 - 2

## EMPLOYEE -

```
CREATE TABLE EMPLOYEE (
EMP_ID varchar(20) not null,
AD_OR_CS_ID varchar(30) not null,
JOB varchar(20) not null,
PRIMARY KEY (EMP_ID )
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMP_ID	Varchar2	20	-	-	1	-	-	-
	AD_OR_CS_ID	Varchar2	30	-	-	-	-	-	-
	JOB	Varchar2	20	-	-	-	-	-	-
									1 - 3

## COMPLAINTS -

```
CREATE TABLE COMPLAINTS (
COM_ID varchar(20) not null,
CUST_ID varchar(20) not null,
COM_MBL varchar(15) not null,
COM_EMAIL varchar(30) not null,
COMPLAINT long not null,
C_DATE date not null,
PRIMARY KEY (COM_ID ),
FOREIGN KEY(CUST_ID) REFERENCES CUSTOMER(CUST_ID)
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COMPLAINTS	COM_ID	Varchar2	20	-	-	1	-	-	-
	CUST_ID	Varchar2	20	-	-	-	-	-	-
	COM_MBL	Varchar2	15	-	-	-	-	-	-
	COM_EMAIL	Varchar2	30	-	-	-	-	-	-
	COMPLAINT	Long	0	-	-	-	-	-	-
	C_DATE	Date	7	-	-	-	-	-	-
									1 - 6

## REQUESTED\_PRODUCT -

```
CREATE TABLE REQUESTED_PRODUCT(
RP_ID varchar(20) not null,
B_ID varchar(30) not null,
RP_NAME varchar(50) not null,
C_ID varchar(20) not null,
BUDGET float(10) not null,
RP_DATE date not null,
PRIMARY KEY (RP_ID),
FOREIGN KEY(B_ID) REFERENCES BORROWER(B_ID),
FOREIGN KEY(C_ID) REFERENCES CATEGORY(C_ID)
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
REQUESTED_PRODUCT	RP_ID	Varchar2	20	-	-	1	-	-	-
	B_ID	Varchar2	30	-	-	-	-	-	-
	RP_NAME	Varchar2	50	-	-	-	-	-	-
	C_ID	Varchar2	20	-	-	-	-	-	-
	BUDGET	Float	22	10	-	-	-	-	-
	RP_DATE	Date	7	-	-	-	-	-	-
									1 - 6

## ORENTED\_PRODUCT -

```
CREATE TABLE ORENTED_PRODUCT(
OP_ID varchar(20) not null,
O_ID varchar(30) not null,
OP_NAME varchar(50) not null,
C_ID varchar(20) not null,
RENT float(10) not null,
OP_DATE date not null,
PRIMARY KEY (OP_ID),
FOREIGN KEY(O_ID) REFERENCES OWNER(O_ID),
FOREIGN KEY(C_ID) REFERENCES CATEGORY(C_ID)
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORENTED_PRODUCT	OP_ID	Varchar2	20	-	-	1	-	-	-
	O_ID	Varchar2	30	-	-	-	-	-	-
	OP_NAME	Varchar2	50	-	-	-	-	-	-
	C_ID	Varchar2	20	-	-	-	-	-	-
	RENT	Float	22	10	-	-	-	-	-
	OP_DATE	Date	7	-	-	-	-	-	-
									1 - 6

## PAYMENT -

```
CREATE TABLE PAYMENT(  
P_ID varchar(20) not null,  
CUST_ID varchar(20) not null,  
PM_ID varchar(20) not null,  
AMOUNT float(10) not null,  
P_DATE date not null,  
PRIMARY KEY (P_ID ),  
FOREIGN KEY(CUST_ID) REFERENCES CUSTOMER(CUST_ID),  
FOREIGN KEY(PM_ID) REFERENCES PAYMENT_METHOD(PM_ID)  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>PAYMENT</u>	<u>P_ID</u>	Varchar2	20	-	-	1	-	-	-
	<u>CUST_ID</u>	Varchar2	20	-	-	-	-	-	-
	<u>PM_ID</u>	Varchar2	20	-	-	-	-	-	-
	<u>AMOUNT</u>	Float	22	10	-	-	-	-	-
	<u>P_DATE</u>	Date	7	-	-	-	-	-	-
									1 - 5

# Tables with Data:

## 1. ADMIN-

```
INSERT INTO ADMIN
(A_ID, A_PW, A_FNAME, A_LNAME, A_JOINING_DATE, A_AGE, A_GENDER, A_MBL, A_EMAIL)
VALUES('AD001','AD001','BRUCE','WAYNE', TO_DATE('2020/01/01', 'yyyy/mm/dd'), 32, 'M',
'01451254120', 'brucewayne@gmail.com');

INSERT INTO ADMIN
(A_ID, A_PW, A_FNAME, A_LNAME, A_JOINING_DATE, A_AGE, A_GENDER, A_MBL, A_EMAIL)
VALUES('AD002','AD002','CLARK','KENT', TO_DATE('2020/01/03', 'yyyy/mm/dd'), 30, 'M',
'01230232011', 'clarkkent@gmail.com');

INSERT INTO ADMIN
(A_ID, A_PW, A_FNAME, A_LNAME, A_JOINING_DATE, A_AGE, A_GENDER, A_MBL, A_EMAIL)
VALUES('AD003','AD003','ARTHUR','MORGAN', TO_DATE('2020/02/01', 'yyyy/mm/dd'), 36, 'M',
'01230254632', 'arthurm@gmail.com');

INSERT INTO ADMIN
(A_ID, A_PW, A_FNAME, A_LNAME, A_JOINING_DATE, A_AGE, A_GENDER, A_MBL, A_EMAIL)
VALUES('AD004','AD004','JAMES','WAYNE', TO_DATE('2020/01/05', 'yyyy/mm/dd'), 33, 'M',
'01236521456', 'jameswayne@gmail.com');

INSERT INTO ADMIN
(A_ID, A_PW, A_FNAME, A_LNAME, A_JOINING_DATE, A_AGE, A_GENDER, A_MBL, A_EMAIL)
VALUES('AD005','AD005','GERALT','RIVIA', TO_DATE('2020/01/03', 'yyyy/mm/dd'), 37, 'M',
'01232021256', 'geraltrivia@gmail.com');
```

A_ID	A_PW	A_FNAME	A_LNAME	A_JOINING_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-

```
INSERT INTO CUSTOMER_SUPPORT(CS_ID, CS_PW, CS_FNAME, CS_LNAME, CS_JOINING_DATE, CS_AGE,
CS_GENDER, CS_MBL, CS_EMAIL) VALUES('CS001','CS001','ALFRED','PENNYWORTH', TO_DATE('2020/04/01',
'yyyy/mm/dd'), 25, 'M', '01230232549', 'alfredpenny@gmail.com');

INSERT INTO CUSTOMER_SUPPORT(CS_ID, CS_PW, CS_FNAME, CS_LNAME, CS_JOINING_DATE, CS_AGE,
CS_GENDER, CS_MBL, CS_EMAIL) VALUES('CS002','CS002','JACK','SPRING', TO_DATE('2021/01/01',
'yyyy/mm/dd'), 24, 'M', '01232125478', 'jacks@gmail.com');

INSERT INTO CUSTOMER_SUPPORT(CS_ID, CS_PW, CS_FNAME, CS_LNAME, CS_JOINING_DATE, CS_AGE,
CS_GENDER, CS_MBL, CS_EMAIL) VALUES('CS003','CS003','JOHN','HALO', TO_DATE('2021/03/04',
'yyyy/mm/dd'), 26, 'M', '01232125469', 'johnhalo002@gmail.com');

INSERT INTO CUSTOMER_SUPPORT(CS_ID, CS_PW, CS_FNAME, CS_LNAME, CS_JOINING_DATE, CS_AGE,
CS_GENDER, CS_MBL, CS_EMAIL) VALUES('CS004','CS004','EDWARD','KENWAY', TO_DATE('2021/03/04',
'yyyy/mm/dd'), 26, 'M', '02312547896', 'kenwayed23@gmail.com');
```

```
INSERT INTO CUSTOMER_SUPPORT(CS_ID, CS_PW, CS_FNAME, CS_LNAME, CS_JOINING_DATE, CS_AGE,
CS_GENDER, CS_MBL, CS_EMAIL) VALUES('CS005','CS005','HOLY LANG','PENNYWORTH',
TO_DATE('2022/01/01', 'yyyy/mm/dd'), 24, 'F', '01546321203', 'langholy456@yahoo.com');
```

CS_ID	CS_PW	CS_FNAME	CS_LNAME	CS_JOINING_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-

```
INSERT INTO BORROWER(B_ID, B_PW, B_FNAME, B_LNAME, B_JOINING_DATE, B_AGE, B_GENDER, B_MBL,
B_EMAIL) VALUES('BO001','BO001','KEN','KANEKI', TO_DATE('2020/06/03', 'yyyy/mm/dd'), 19, 'M',
'01236545897', 'kaneki887@gmail.com');
```

```
INSERT INTO BORROWER(B_ID, B_PW, B_FNAME, B_LNAME, B_JOINING_DATE, B_AGE, B_GENDER, B_MBL,
B_EMAIL) VALUES('BO002','BO002','SAUL','GOODMAN', TO_DATE('2020/06/04', 'yyyy/mm/dd'), 31, 'M',
'01456321564', 'sgoodman002@gmail.com');
```

```
INSERT INTO BORROWER(B_ID, B_PW, B_FNAME, B_LNAME, B_JOINING_DATE, B_AGE, B_GENDER, B_MBL,
B_EMAIL) VALUES('BO003','BO003','JIMMY','MCGIL', TO_DATE('2020/06/04', 'yyyy/mm/dd'), 31, 'M',
'01325648563', 'jimc002@gmail.com');
```

```
INSERT INTO BORROWER(B_ID, B_PW, B_FNAME, B_LNAME, B_JOINING_DATE, B_AGE, B_GENDER, B_MBL,
B_EMAIL) VALUES('BO004','BO004','CHUCK','MCGIL', TO_DATE('2020/08/26', 'yyyy/mm/dd'), 39, 'M',
'01230254789', 'chuckmcgil2135@gmail.com');
```

```
INSERT INTO BORROWER(B_ID, B_PW, B_FNAME, B_LNAME, B_JOINING_DATE, B_AGE, B_GENDER, B_MBL,
B_EMAIL) VALUES('BO005','BO005','MIKE','ERHMENTRAUT', TO_DATE('2020/06/03', 'yyyy/mm/dd'), 48,
'M', '01459875462', 'mikey@gmail.com');
```

B_ID	B_PW	B_FNAME	B_LNAME	B_JOINING_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-

```
INSERT INTO OWNER(O_ID, O_PW, O_FNAME, O_LNAME, O_JOINING_DATE, O_AGE, O_GENDER, O_MBL, O_EMAIL)
VALUES('OW001','OW001','BRIAN','KRANSTON', TO_DATE('2020/06/01', 'yyyy/mm/dd'), 48, 'M',
'01325463215', 'bkrans236@gmail.com');
```

```
INSERT INTO OWNER(O_ID, O_PW, O_FNAME, O_LNAME, O_JOINING_DATE, O_AGE, O_GENDER, O_MBL, O_EMAIL)
VALUES('OW002','OW002','ANNA','GUNN', TO_DATE('2020/06/02', 'yyyy/mm/dd'), 39, 'F',
'01326547896', 'gunnanna47896@gmail.com');
```

```
INSERT INTO OWNER(O_ID, O_PW, O_FNAME, O_LNAME, O_JOINING_DATE, O_AGE, O_GENDER, O_MBL, O_EMAIL)
VALUES('OW003','OW003','GUSTAVO','FRING', TO_DATE('2020/07/03', 'yyyy/mm/dd'), 52, 'M',
'01854632102', 'gusfring@gmail.com');
```

```
INSERT INTO OWNER(O_ID, O_PW, O_FNAME, O_LNAME, O_JOINING_DATE, O_AGE, O_GENDER, O_MBL, O_EMAIL)
VALUES('OW004','OW004','JESSE','PINKMAN', TO_DATE('2020/07/03', 'yyyy/mm/dd'), 27, 'M',
'01654123065', 'jessepink00000@gmail.com');
```

```
INSERT INTO OWNER(O_ID, O_PW, O_FNAME, O_LNAME, O_JOINING_DATE, O_AGE, O_GENDER, O_MBL, O_EMAIL)
VALUES('OW005','OW005','BOB','ODENKIRK', TO_DATE('2020/06/01', 'yyyy/mm/dd'), 36, 'M',
'01878965425', 'bobbyod879@gmail.com');
```

O_ID	O_PW	O_FNAME	O_LNAME	O_JOINING_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-

```
INSERT INTO CATEGORY(C_ID, C_NAME) VALUES('CA001','FURNITURES');
INSERT INTO CATEGORY(C_ID, C_NAME) VALUES('CA002','CLOTHING');
INSERT INTO CATEGORY(C_ID, C_NAME) VALUES('CA003','SPORTS');
INSERT INTO CATEGORY(C_ID, C_NAME) VALUES('CA004','ELECTRONICS');
INSERT INTO CATEGORY(C_ID, C_NAME) VALUES('CA005','KITCHEN');
```

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

## 6. CUSTOMER-

```
INSERT INTO CUSTOMER(CUST_ID, BORO_ID) VALUES('CUST001','BO002');
INSERT INTO CUSTOMER(CUST_ID, BORO_ID) VALUES('CUST002','OW001');
INSERT INTO CUSTOMER(CUST_ID, BORO_ID) VALUES('CUST003','BO005');
INSERT INTO CUSTOMER(CUST_ID, BORO_ID) VALUES('CUST004','OW002');
INSERT INTO CUSTOMER(CUST_ID, BORO_ID) VALUES('CUST005','OW004');
```

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

## 7. PAYMENT\_METHOD-

```
INSERT INTO PAYMENT_METHOD(PM_ID, PM_NAME) VALUES('PM001','BKASH');
INSERT INTO PAYMENT_METHOD(PM_ID, PM_NAME) VALUES('PM002','NAGAD');
INSERT INTO PAYMENT_METHOD(PM_ID, PM_NAME) VALUES('PM003','ROCKET');
INSERT INTO PAYMENT_METHOD(PM_ID, PM_NAME) VALUES('PM004','VISA');
INSERT INTO PAYMENT_METHOD(PM_ID, PM_NAME) VALUES('PM005','AMERICAN EXPRESS');
```

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

## 8. EMPLOYEE-

```
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP001','AD001','ADMIN');
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP002','AD003','ADMIN');
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP003','AD004','ADMIN');
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP004','CS002','CUSTOMER SUPPORT');
INSERT INTO EMPLOYEE(EMP_ID, AD_OR_CS_ID, JOB) VALUES('EMP005','CS005','CUSTOMER SUPPORT');
```

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-

```
INSERT INTO COMPLAINTS(COM_ID, CUST_ID, COM_MBL, COM_EMAIL, COMPLAINT, C_DATE)
VALUES('COM001', 'CUST002', '01325463215', 'bkrans236@gmail.com', 'I did not get the
requested product.', TO_DATE('2020-06-08', 'yyyy/mm/dd'));
INSERT INTO COMPLAINTS(COM_ID, CUST_ID, COM_MBL, COM_EMAIL, COMPLAINT, C_DATE)
VALUES('COM002', 'CUST002', '01325463215', 'bkrans236@gmail.com', 'The customer support
was not able to help.', TO_DATE('2020-06-09', 'yyyy/mm/dd'));
INSERT INTO COMPLAINTS(COM_ID, CUST_ID, COM_MBL, COM_EMAIL, COMPLAINT, C_DATE)
VALUES('COM003', 'CUST001', '01456321564', 'sgoodman002@gmail.com', 'I was charged more
than the shown amount.', TO_DATE('2020-07-10', 'yyyy/mm/dd'));
INSERT INTO COMPLAINTS(COM_ID, CUST_ID, COM_MBL, COM_EMAIL, COMPLAINT, C_DATE)
VALUES('COM004', 'CUST003', '01459875462', 'mikey@gmail.com', 'I received a faulty
product.', TO_DATE('2020-07-11', 'yyyy/mm/dd'));
INSERT INTO COMPLAINTS(COM_ID, CUST_ID, COM_MBL, COM_EMAIL, COMPLAINT, C_DATE)
VALUES('COM005', 'CUST005', '01654123065', 'jessepink00000@gmail.com', 'I was charged
more than the shown amount.', TO_DATE('2020-07-11', 'yyyy/mm/dd'));
```

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 -

```
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE) VALUES('RP001',
'BO002', 'SONY CYBER-SHOT W800 20MP', 'CA004', 2500, TO_DATE('2020-11-06', 'yyyy/mm/dd'));
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE) VALUES('RP002',
'BO001', 'WOODEN ARM CHAIR', 'CA001', 150, TO_DATE('2020-11-06', 'yyyy/mm/dd'));
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE) VALUES('RP003',
'BO002', 'Apple MacBook Air 13.3-Inch', 'CA004', 4000, TO_DATE('2020-11-07', 'yyyy/mm/dd'));
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE) VALUES('RP004',
'BO005', '5 Way Manual Treadmill', 'CA003', 1000, TO_DATE('2020-11-08', 'yyyy/mm/dd'));
INSERT INTO REQUESTED_PRODUCT(RP_ID, B_ID, RP_NAME, C_ID, BUDGET, RP_DATE) VALUES('RP005',
'BO003', 'Apple Studio Display 27"', 'CA004', 2500, TO_DATE('2020-11-10', 'yyyy/mm/dd'));
```

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 -

```
INSERT INTO ORENTED_PRODUCT (OP_ID, O_ID, OP_NAME, C_ID, RENT, OP_DATE) VALUES('OP001', 'OW003',
'SONY CYBER-SHOT W800 20MP', 'CA004', 2500, TO_DATE('2020-11-06', 'yyyy/mm/dd'));
INSERT INTO ORENTED_PRODUCT (OP_ID, O_ID, OP_NAME, C_ID, RENT, OP_DATE) VALUES('OP002', 'OW005',
'Curren 9065 Quartz Watch ', 'CA002', 500, TO_DATE('2020-11-07', 'yyyy/mm/dd'));
INSERT INTO ORENTED_PRODUCT (OP_ID, O_ID, OP_NAME, C_ID, RENT, OP_DATE) VALUES('OP003', 'OW001',
'WOODEN ARM CHAIR', 'CA001', 150, TO_DATE('2020-11-08', 'yyyy/mm/dd'));
INSERT INTO ORENTED_PRODUCT (OP_ID, O_ID, OP_NAME, C_ID, RENT, OP_DATE) VALUES('OP004', 'OW002',
'SONY CYBER-SHOT W800 20MP', 'CA004', 2000, TO_DATE('2020-11-08', 'yyyy/mm/dd'));
INSERT INTO ORENTED_PRODUCT (OP_ID, O_ID, OP_NAME, C_ID, RENT, OP_DATE) VALUES('OP005', 'OW004',
'NVIDIA Quadro P1000 4GB', 'CA004', 800, TO_DATE('2020-11-09', 'yyyy/mm/dd'));
```

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 -

```
INSERT INTO PAYMENT(P_ID, CUST_ID, PM_ID, AMOUNT, P_DATE) VALUES('PA001', 'CUST005', 'PM001',  
2000, TO_DATE('2020-11-06', 'yyyy/mm/dd'));  
INSERT INTO PAYMENT(P_ID, CUST_ID, PM_ID, AMOUNT, P_DATE) VALUES('PA002', 'CUST002', 'PM004',  
150, TO_DATE('2020-11-07', 'yyyy/mm/dd'));  
INSERT INTO PAYMENT(P_ID, CUST_ID, PM_ID, AMOUNT, P_DATE) VALUES('PA003', 'CUST005', 'PM005',  
800, TO_DATE('2020-11-08', 'yyyy/mm/dd'));  
INSERT INTO PAYMENT(P_ID, CUST_ID, PM_ID, AMOUNT, P_DATE) VALUES('PA004', 'CUST001', 'PM001',  
1200, TO_DATE('2020-11-09', 'yyyy/mm/dd'));  
INSERT INTO PAYMENT(P_ID, CUST_ID, PM_ID, AMOUNT, P_DATE) VALUES('PA005', 'CUST003', 'PM002',  
200, TO_DATE('2020-11-09', 'yyyy/mm/dd'));
```

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

## Tasks:

1. Find employees who joined after year 2019.
  - `SELECT EMP_ID, JOB FROM EMPLOYEE WHERE AD_OR_CS_ID IN (SELECT A_ID FROM ADMIN WHERE A_JOINNING_DATE > to_date('31 Dec 2019','DD MON YYYY')) OR AD_OR_CS_ID IN (SELECT CS_ID FROM CUSTOMER_SUPPORT WHERE CS_JOINNING_DATE > to_date('31 Dec 2019','DD MON YYYY'))`
2. Find the requested and rented products which have same budget.
  - `select requested_product.*, orented_product.* from requested_product, orented_product where BUDGET=RENT`
3. Find the borrowers who paid with BKASH.
  - `SELECT * FROM BORROWER WHERE B_ID IN (SELECT BORO_ID FROM CUSTOMER WHERE CUST_ID IN (SELECT CUST_ID FROM PAYMENT WHERE PM_ID=(SELECT PM_ID FROM PAYMENT_METHOD WHERE PM_NAME='BKASH')))`
4. Find the product category that are requested most.
  - `SELECT C_NAME FROM CATEGORY WHERE C_ID=(SELECT C_ID FROM requested_product GROUP BY C_ID HAVING COUNT(C_ID)=(select MAX(COUNT(C_ID)) from requested_product GROUP BY C_ID))`
5. Find out the product of second highest price.
  - `select p.* from requested_product p where p.BUDGET in(select max(BUDGET) from requested_product where BUDGET<(select max(BUDGET) from requested_product ));`
6. Find out the month in which maximum number of admin joined.
  - `SELECT to_char(A_JOINNING_DATE, 'YYYY-MM') FROM ADMIN GROUP BY to_char(A_JOINNING_DATE, 'YYYY-MM') HAVING COUNT(to_char(A_JOINNING_DATE, 'YYYY-MM')) = (select MAX(COUNT(to_char(A_JOINNING_DATE, 'YYYY-MM')) from ADMIN group by to_char(A_JOINNING_DATE, 'YYYY-MM'))`
7. Find out the category and the requested date of requested product 4.
  - `SELECT C_NAME, RP_DATE FROM requested_product, CATEGORY WHERE requested_product.C_ID=CATEGORY.C_ID AND RP_ID='RP004'`

8. Find out the joinning date of most junior customer support executive.
  - SELECT CS\_JOINNING\_DATE, CS\_AGE FROM CUSTOMER\_SUPPORT  
WHERE CS\_AGE=(SELECT MIN(CS\_AGE) FROM CUSTOMER\_SUPPORT)
9. Find out the rented product and its category with the highest price.
  - select orented\_product.\*, CATEGORY.C\_NAME from orented\_product,  
CATEGORY where orented\_product.C\_ID=(select C\_ID from orented\_product  
where RENT=(select MAX(MAX(RENT)) from orented\_product group by C\_ID))  
AND CATEGORY.C\_ID=(select C\_ID from orented\_product where RENT=(select  
MAX(MAX(RENT)) from orented\_product group by C\_ID))
10. Find out the customer with oldest complaint.
  - select customer.BORO\_ID, complaints.C\_DATE from complaints, customer where  
complaints.CUST\_ID=customer.CUST\_ID and C\_DATE=(select min(C\_DATE)  
from complaints)

## User Interface:

Registration-

### SIGNUP

First Name:	<input type="text" value="Enter your first name"/>
Last Name:	<input type="text" value="Enter your last name"/>
Username:	<input type="text" value="Choose unique username"/>
Password:	<input type="password" value="Enter password"/>
Confirm Password:	<input type="password" value="Enter password again"/>
Age:	<input type="text" value="Enter your age"/>
Gender:	<input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Others
Mobile No:	<input type="text" value="Enter your mobile"/>
E-mail:	<input type="text" value="Enter your e-mail"/>
	<input type="button" value="Signup"/> <input type="button" value="Reset"/>

[Back](#)

LOGIN-

### ADMIN

Username:	<input type="text" value="Enter username"/>
Password:	<input type="password" value="Enter password"/>
	<input type="checkbox"/> Remember me
	<input type="button" value="Signin"/> <input type="button" value="Reset"/>
	<input type="button" value="SignUp"/>