American International University-Bangladesh (AIUB)
Department of Computer Science
Faculty of Science & Technology (FST)
Summer 21_22

Section: B
Group Name: NION

PROJECT TITLE: TICKET MANAGEMENT SYSTEM

An Advance Database Management System project submitted by

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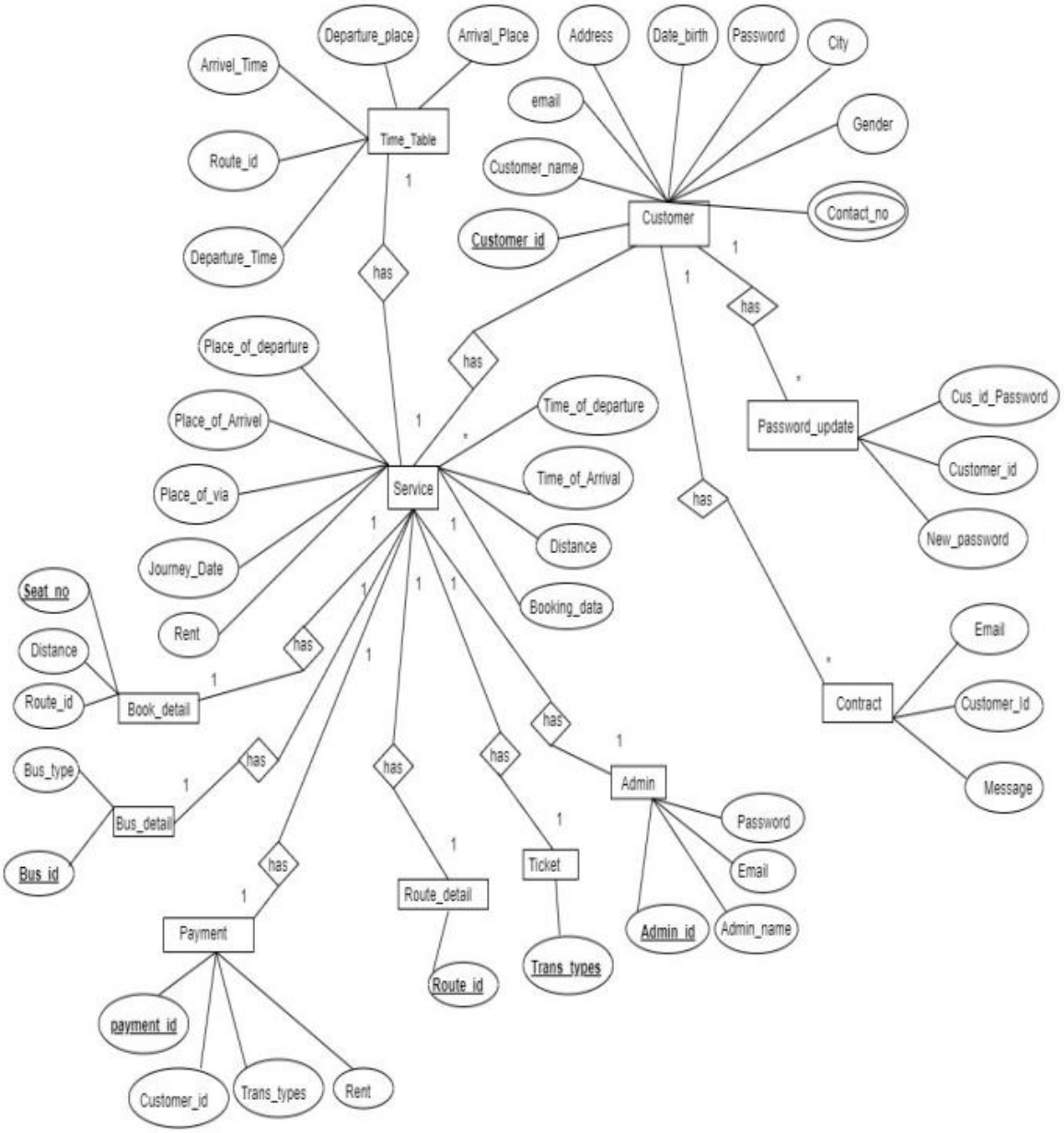
1.SYSTEM SUMMARY:

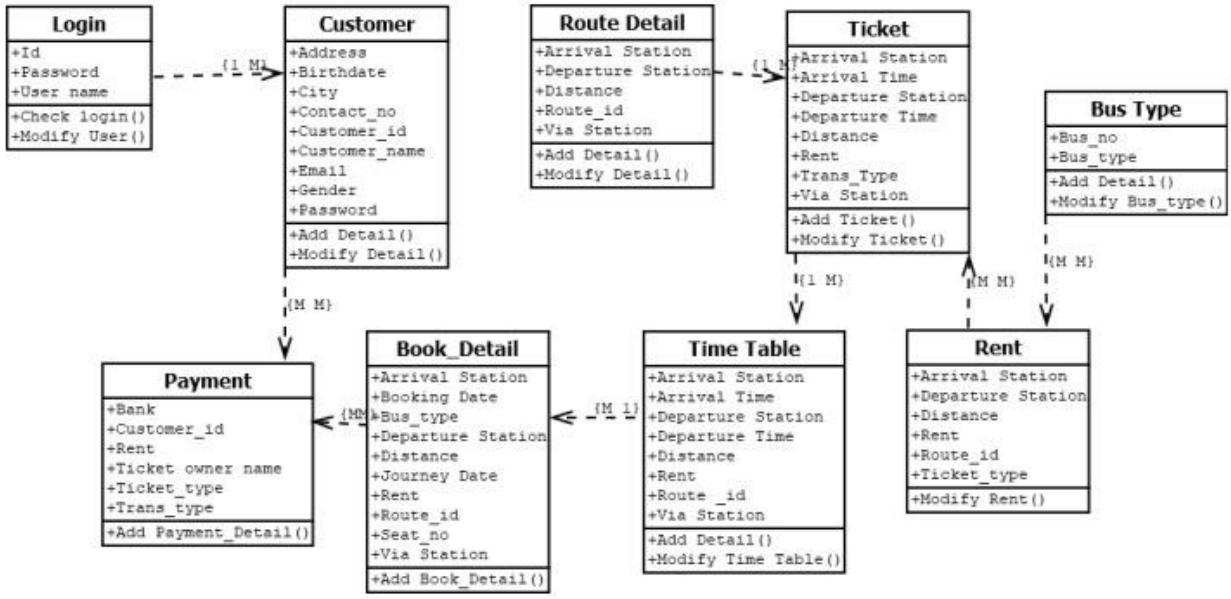
In this project we are working on to create the database of Ticket Management, where a customer can buy advance departure ticket of a bus and can select bus type like Ac and Non Ac bus. A customer can make his/her payment through different payment method. They can also see the bus route before the departure of the bus.

This is a ticket management system where a customer has a unique customer Id, name, email, Address, Date Of birth, password, city name, gender and contact no who get service of bus. The bus service has place of departure, place of arrival, via place, journey date, rent, Time of departure, time of arrival, distance and booking data. A customer can update his/her password and to update the password it requires customer id password, customer id and new password. A customer's email, customer id and message are stored as contact in the database. The service has time table and book details where time table has arrival time, departure time, departure place, route id and arrival place and book details have seat no, distance, result id. The bus on service has bus type and its unique id. The service's payment methods are also stored in the database where payment has payment id, customer id as the customer pay, transection type and rent. The service has route details and ticket info where route details have route id and ticket has transection type. The service has also an admin who maintain the whole process and the admin has a unique admin id, email, password and name.

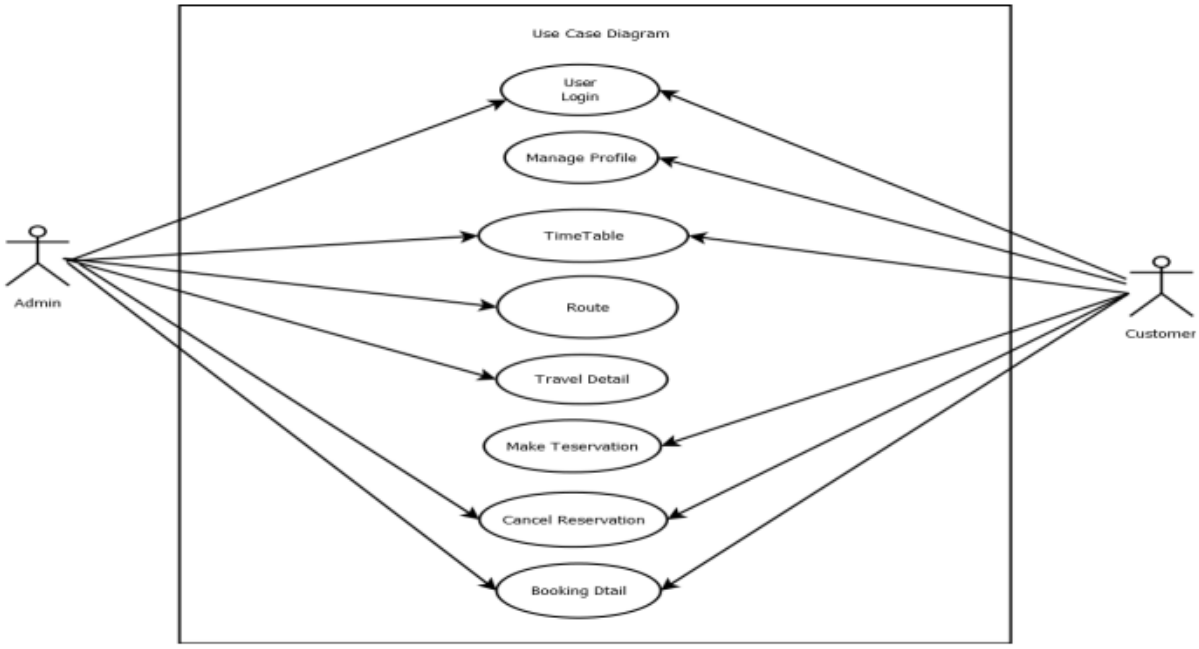
2.AN ERD DIAGRAM:



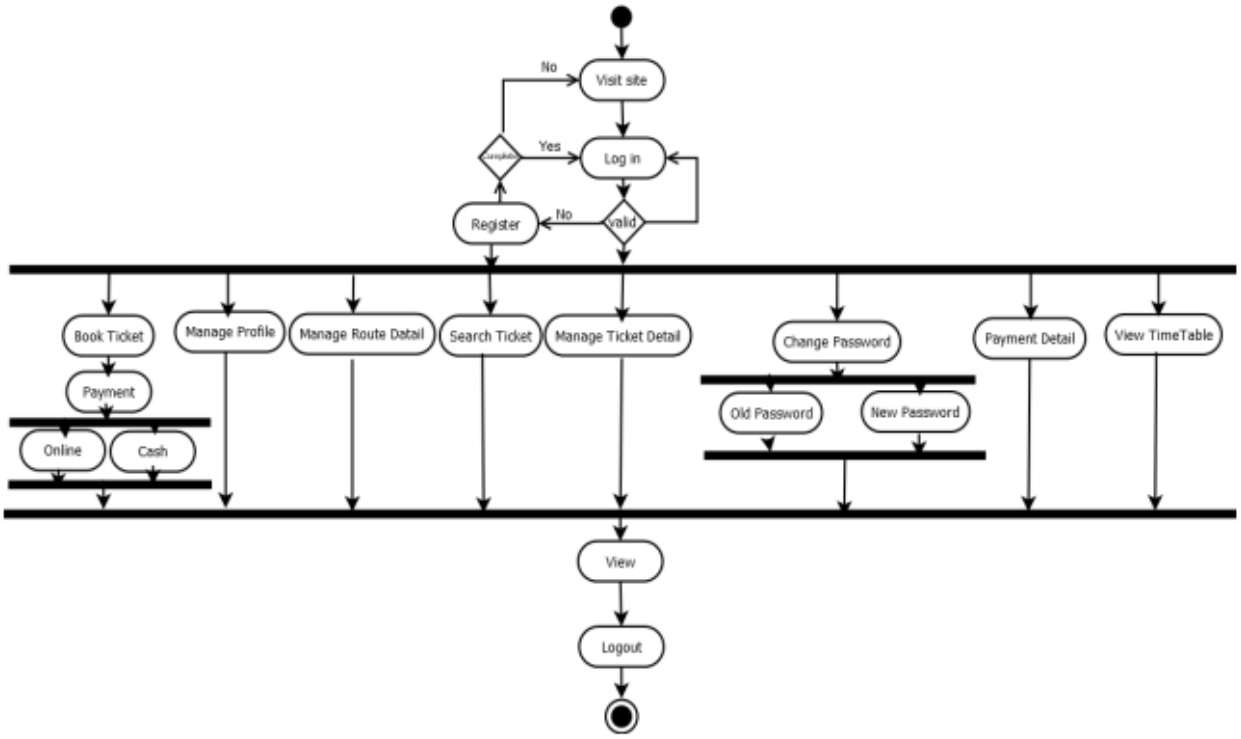
3.CLASS DIAGRAM OF THE SYSTEM:



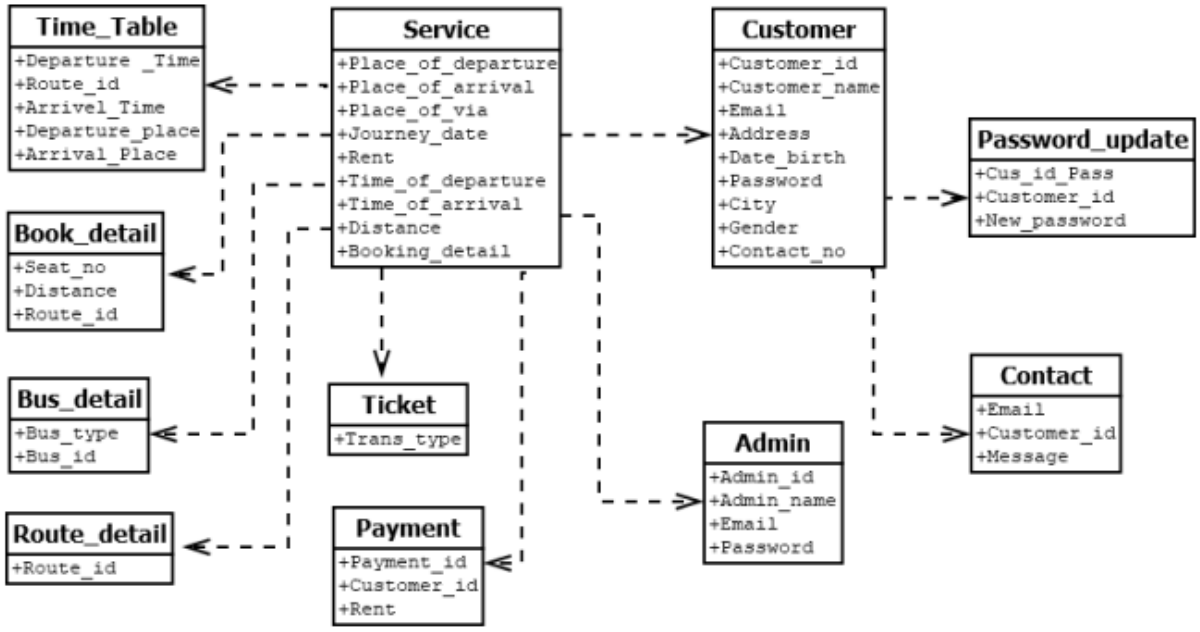
4.USE CASE DIAGRAM OF THE SYSTEM:



5.ACTIVITY DIAGRAM OF THE SYSTEM:



6.DATABASE SCHEMA DIAGRAM:



7.TABLE CREATION AND SCREEN SHOTS:

Admin-

Create table Admin

(Admin_id number(10) CONSTRAINT Admin_pk PRIMARY KEY,
Username varchar2(20) NOT NULL,
Password varchar2(30) NOT NULL,
Email varchar2(30) NOT NULL
);

Results Explain **Describe** Saved SQL History

Object Type **TABLE** Object **ADMIN**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ADMIN	ADMIN_ID	Number	-	10	0	1	-	-	-
	USERNAME	Varchar2	20	-	-	-	-	-	-
	PASSWORD	Varchar2	30	-	-	-	-	-	-
	EMAIL	Varchar2	30	-	-	-	-	-	-

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Customer-

Create table Customer

(Customer_id number(10) CONSTRAINT Customer_pk PRIMARY KEY,
Username varchar2(20) NOT NULL,
Password varchar2(30) NOT NULL,
Address varchar2(60) NOT NULL,
City varchar2(20) NOT NULL,
Gender varchar2(6) NOT NULL,
Date_birth varchar2(20) NOT NULL,
Contact_No varchar2(30) NOT NULL,
Email varchar2(30) NOT NULL
);

Results Explain **Describe** Saved SQL History

Object Type **TABLE** Object **CUSTOMER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	CUSTOMER_ID	Number	-	10	0	1	-	-	-
	USERNAME	Varchar2	20	-	-	-	-	-	-
	PASSWORD	Varchar2	30	-	-	-	-	-	-
	ADDRESS	Varchar2	60	-	-	-	-	-	-
	CITY	Varchar2	20	-	-	-	-	-	-
	GENDER	Varchar2	6	-	-	-	-	-	-
	DATE_BIRTH	Varchar2	20	-	-	-	-	-	-
	CONTACT_NO	Varchar2	30	-	-	-	-	-	-
	EMAIL	Varchar2	30	-	-	-	-	-	-

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RouteDetails-

Create table RouteDetails
(routeId number(10) CONSTRAINT RouteDetails_pk PRIMARY KEY,
departureStation varchar2(30) NOT NULL ,
arrivalStation varchar2(30) NOT NULL,
viaStation varchar2(30) NOT NULL,
distance varchar2(20) NOT NULL,
Rent number(10) CONSTRAINT FK_rent REFERENCES Rent
);

Results Explain **Describe** Saved SQL History

Object Type **TABLE** Object **ROUTEDETAILS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ROUTEDETAILS	ROUTEID	Number	-	10	0	1	-	-	-
	DEPARTURESTATION	Varchar2	30	-	-	-	-	-	-
	ARRIVALSTATION	Varchar2	30	-	-	-	-	-	-
	VIASTATION	Varchar2	30	-	-	-	-	-	-
	DISTANCE	Varchar2	20	-	-	-	-	-	-
	RENT	Number	-	10	0	-	✓	-	-

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Tickets-

Create table Tickets

(TransType varchar2(20) CONSTRAINT PK_Tickets PRIMARY KEY,
departureTime varchar2(30) NOT NULL,
arrivalTime varchar2(30) NOT NULL,
routeId number(10) CONSTRAINT FK_departureStation REFERENCES RouteDetails,
departureStation varchar2(30) NOT NULL,
arrivalStation varchar2(30) NOT NULL,
viaStation varchar2(30) NOT NULL,
distance varchar2(5) NOT NULL,
Rent number(10) NOT NULL
);

Results Explain **Describe** Saved SQL History

Object Type **TABLE** Object **TICKETS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TICKETS	TRANSTYPE	Varchar2	20	-	-	1	-	-	-
	DEPARTURETIME	Varchar2	30	-	-	-	-	-	-
	ARRIVALTIME	Varchar2	30	-	-	-	-	-	-
	ROUTEID	Number	-	10	0	-	✓	-	-
	DEPARTURESTATION	Varchar2	30	-	-	-	-	-	-
	ARRIVALSTATION	Varchar2	30	-	-	-	-	-	-
	VIASTATION	Varchar2	30	-	-	-	-	-	-
	DISTANCE	Varchar2	5	-	-	-	-	-	-
	RENT	Number	-	10	0	-	-	-	-

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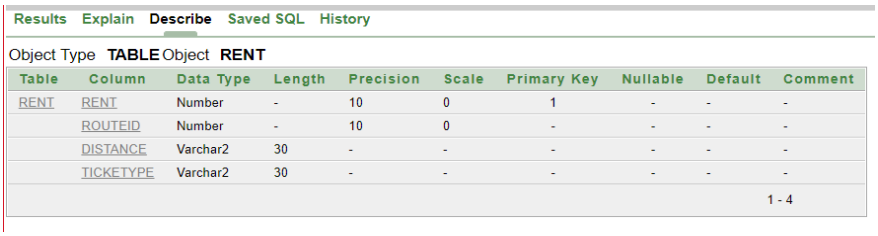
Language: en-us

Rent-

Create table Rent

(Rent number(10) CONSTRAINT Rent_pk PRIMARY KEY,
RouteId number(10) NOT NULL,
Distance varchar2(30) NOT NULL,
TickeType varchar2(30) NOT NULL
);



Results Explain Describe Saved SQL History

Object Type TABLE Object RENT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RENT	RENT	Number	-	10	0	1	-	-	-
	ROUTEID	Number	-	10	0	-	-	-	-
	DISTANCE	Varchar2	30	-	-	-	-	-	-
	TICKETYPE	Varchar2	30	-	-	-	-	-	-

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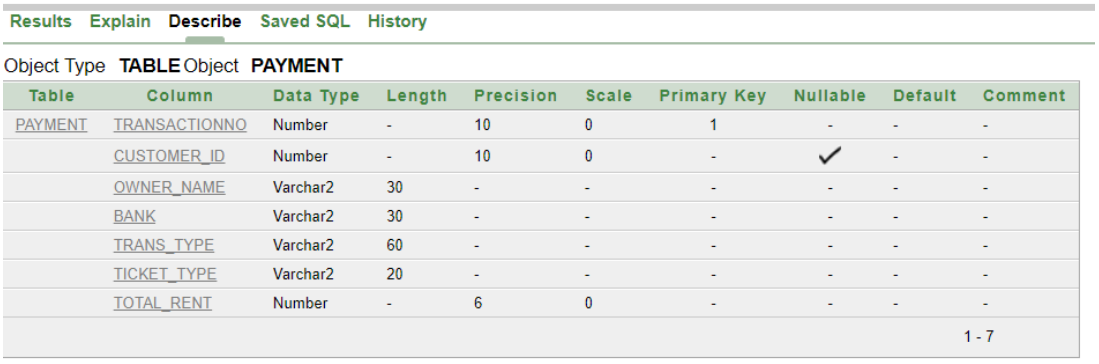
Payment-

Create table Payment

(transactionNO number(10) CONSTRAINT Payment_pk PRIMARY KEY,
Customer_id number(10) CONSTRAINT FK_Customer_id REFERENCES Customer,
owner_Name varchar2(30) NOT NULL,
Bank varchar2(30) NOT NULL,
trans_type varchar2(60) NOT NULL,
ticket_type varchar2(20) NOT NULL,
Total_Rent number(6) NOT NULL
);



Results Explain Describe Saved SQL History

Object Type TABLE Object PAYMENT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PAYMENT	TRANSACTIONNO	Number	-	10	0	1	-	-	-
	CUSTOMER_ID	Number	-	10	0	-	✓	-	-
	OWNER_NAME	Varchar2	30	-	-	-	-	-	-
	BANK	Varchar2	30	-	-	-	-	-	-
	TRANS_TYPE	Varchar2	60	-	-	-	-	-	-
	TICKET_TYPE	Varchar2	20	-	-	-	-	-	-
	TOTAL_RENT	Number	-	6	0	-	-	-	-

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BookDetail-

Create table BookDetail

(Seat_No varchar2(3) CONSTRAINT BookDetail_pk PRIMARY KEY,
RouteId number(10) ,
Journey_Date varchar2(30) NOT NULL,
Booking_Date varchar2(30) NOT NULL,
Distance varchar2(30) NOT NULL,
Rent number(30) NOT NULL,
Bus_type varchar2(5) NOT NULL
);

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **BOOKDETAIL**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BOOKDETAIL	SEAT_NO	Varchar2	3	-	-	1	-	-	-
	ROUTEID	Number	-	10	0	-	✓	-	-
	JOURNEY_DATE	Varchar2	30	-	-	-	-	-	-
	BOOKING_DATE	Varchar2	30	-	-	-	-	-	-
	DISTANCE	Varchar2	30	-	-	-	-	-	-
	RENT	Number	-	30	0	-	-	-	-
	BUS_TYPE	Varchar2	5	-	-	-	-	-	-

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TimeTable-

Create table TimeTable

(TimeTableId number(10) CONSTRAINT TimeTable_pk PRIMARY KEY,
routeid number(10)Not NULL,
departureStation varchar2(30) NOT NULL,
arrivalStation varchar2(30) NOT NULL,
viaStation varchar2(30) NOT NULL,
distance varchar2(20) NOT NULL,
departureTime varchar2(30) NOT NULL,
arrivalTime varchar2(30) NOT NULL,
rent number(10) NOT NULL
);

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **TIMETABLE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TIMETABLE	TIMETABLEID	Number	-	10	0	1	-	-	-
	ROUTEID	Number	-	10	0	-	-	-	-
	DEPARTURESTATION	Varchar2	30	-	-	-	-	-	-
	ARRIVALSTATION	Varchar2	30	-	-	-	-	-	-
	VIASTATION	Varchar2	30	-	-	-	-	-	-
	DISTANCE	Varchar2	20	-	-	-	-	-	-
	DEPARTURETIME	Varchar2	30	-	-	-	-	-	-
	ARRIVALTIME	Varchar2	30	-	-	-	-	-	-
	RENT	Number	-	10	0	-	-	-	-

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8.DATA INSERTION AND SCREEN SHOTS:

Admin-

Insert into Admin values ('1111','RAHIM','ABCD','rahim@gmail.com')
Insert into Admin values ('2222','KARIM','DEFG','karim@gmail.com')
Insert into Admin values ('3333','RAFIQUE','HIJK','rafique@gmail.com')
Insert into Admin values ('4444','ZABBAR','KLMN','zabbar@gmail.com')
Insert into Admin values ('5555','SALAM','OPQR','salam@gmail.com');

Results Explain Describe Saved SQL History

ADMIN_ID	USERNAME	PASSWORD	EMAIL
1111	ANIK	ABCD	anik.deb93@gmail.com
2222	OISHI	DEFG	oishi.singh980@gmail.com
3333	RAFIQUE	HIJK	rafique@gmail.com
4444	ZABBAR	KLMN	zabbar@gmail.com
5555	SALAM	OPQR	salam@gmail.com

5 rows returned in 0.02 seconds CSV Export

Customer-

Insert into Customer values
('1111','Anis','A12BCD','Bashudhara','Dhaka','Male','01/01/1996','01712345678','Anis@gmail.com')
Insert into Customer values
('2222','Fahad','D23EFG','Uttara','Dhaka','Male','02/03/1996','01512345612','Fahad@gmail.com')
Insert into Customer values
('3333','Sumaiya','H34IJK','Gulshan','Dhaka','Female','13/07/1996','01612345634','Sumaiya@gmail.com')
Insert into Customer values
('4444','Tamim','K45LMN','Badda','Dhaka','Male','01/01/1999','01812345656','Tamim@gmail.com')
Insert into Customer values
('5555','Arif','O56PQR','Banani','Dhaka','Male','05/05/1999','017123456778','Arif@gmail.com');

CUSTOMER_ID	USERNAME	PASSWORD	ADDRESS	CITY	GENDER	DATE_BIRTH	CONTACT_NO	EMAIL
111	Anis	A12BCD	Bashudhara	Dhaka	Male	01/01/1996	01712345678	Anis@gmail.co m
2222	Fahad	D23EFG	Uttara	Dhaka	Male	02/03/1996	01512345612	Fahad@gmail.com
3333	Sumaiya	H34IJK	Gulshan	Dhaka	Female	13/07/1996	01612345634	Sumaiya@gm ail.com
4444	Tamim	K45LMN	Badda	Dhaka	Male	01/01/1999	01812345656	Tamim@gmail.co m
5555	Arif	O56PQR	Banani	Dhaka	Male	05/05/1999	017123456778	Arif@gmail.com

5 rows returned in 0.03 seconds CSV Export

RouteDetails-

Insert into RouteDetails values ('10','Gabtoli','Bandarban','Chittagong','305km','100')
Insert into RouteDetails values ('20','Dhaka','Chittagong','Feni','244km','200')
Insert into RouteDetails values ('30','Saydabad','Noakhali','Comilla','195km','300')
Insert into RouteDetails values ('40','Mohakhali','Saint Martin','Chittagong','405km','400')
Insert into RouteDetails values ('50','Gabtoli','Kolkata','Benapol','400km','500');

Results Explain Describe Saved SQL History

ROUTEID	DEPARTURESTATION	ARRIVALSTATION	VIASTATION	DISTANCE	RENT
10	Gabtoli	Bandarban	Chittagong	305km	100
20	Dhaka	Chittagong	Feni	244km	200
30	Saydabad	Noakhali	Comilla	195km	300
40	Mohakhali	Saint Martin	Chittagong	405km	400
50	Gabtoli	Kolkata	Benapol	400km	500

5 rows returned in 0.00 seconds CSV Export

Tickets-

Insert into Tickets values ('Ac Bus No
1','8.00AM','9.00PM','10','Gabtoli','Bandarban','Chittagong','305km','1200')
Insert into Tickets values ('Non-Ac Bus No
1','9.00AM','9.00PM','20','Dhaka','Chittagong','Feni','244km','1000')
Insert into Tickets values ('Ac Bus No
2','10.00AM','1.00PM','30','Saydabad','Noakhali','Comilla','195km','600')
Insert into Tickets values ('Ac Bus No 3','11.00AM','9.00PM','40','Mohakhali','Saint
Martin','Chittagong','405km','2000')
Insert into Tickets values ('Ac Bus No
4','11.30PM','9.00AM','50','Gabtoli','Kolkata','Benapol','400km','1000');

Results Explain Describe Saved SQL History

TRANSTYPE	DEPARTURETIME	ARRIVALTIME	ROUTEID	DEPARTURESTATION	ARRIVALSTATION	VIASTATION	DISTANCE	RENT
Ac Bus No 1	8.00AM	9.00PM	10	Gabtoli	Bandarban	Chittagong	305km	1200
Non-Ac Bus No 1	9.00AM	9.00PM	20	Dhaka	Chittagong	Feni	244km	1000
Ac Bus No 2	10.00AM	1.00PM	30	Saydabad	Noakhali	Comilla	195km	600
Ac Bus No 3	11.00AM	9.00PM	40	Mohakhali	Saint Martin	Chittagong	405km	2000
Ac Bus No 4	11.30PM	9.00AM	50	Gabtoli	Kolkata	Benapol	400km	1000

5 rows returned in 0.00 seconds CSV Export

Rent-

Insert into Rent values ('100','001','100Km','Ac')
Insert into Rent values ('200','002','200Km','Ac')
Insert into Rent values ('300','003','300Km','Non-Ac')
Insert into Rent values ('400','004','400km','Ac')
Insert into Rent values ('500','005','500km','Non-Ac');

Results Explain Describe Saved SQL History

RENT	ROUTEID	DISTANCE	TICKETYPE
100	1	100Km	Ac
200	2	200Km	Ac
300	3	300Km	Non-Ac
400	4	400km	Ac
500	5	500km	Non-Ac

5 rows returned in 0.03 seconds CSV Export

Payment-

Insert into Payment values ('100001','111','Anis','Dhaka Bank','Card','Non-Ac','1200')
Insert into Payment values ('200002','2222','Fahad','NCC Bank','Card','Ac','1000')
Insert into Payment values ('300003','3333','Sumiya','Dhaka Bank','Card','Non-Ac','600')
Insert into Payment values ('400004','4444','Tamim','NCC Bank','Card','NON-Ac','2000')
Insert into Payment values ('500005','5555','Arif','National Bank','Card','Ac','1000');

Results Explain Describe Saved SQL History

TRANSACTIONNO	CUSTOMER_ID	OWNER_NAME	BANK	TRANS_TYPE	TICKET_TYPE	TOTAL_RENT
100001	111	Anis	Dhaka Bank	Card	Non-Ac	1200
200002	2222	Fahad	NCC Bank	Card	Ac	1000
300003	3333	Sumiya	Dhaka Bank	Card	Non-Ac	600
400004	4444	Tamim	NCC Bank	Card	NON-Ac	2000
500005	5555	Arif	National Bank	Card	Ac	1000

5 rows returned in 0.02 seconds CSV Export

BookDetail-

Insert into BookDetail values ('A4','001','03/04/2022','07/03/2022','305km','1200','AC')
Insert into BookDetail values ('E1','001','03/04/2022','07/03/2022','305km','1200','AC')
Insert into BookDetail values ('B2','001','03/04/2022','07/03/2022','305km','1200','AC')
Insert into BookDetail values ('C4','001','03/04/2022','07/03/2022','305km','1200','AC')
Insert into BookDetail values ('F1','001','03/04/2022','07/03/2022','305km','1200','AC');

Results Explain Describe Saved SQL History

ROUTEID	DEPARTURESTATION	ARRIVALSTATION	VIASTATION	DISTANCE	RENT
10	Gabtoli	Bandarban	Chittagong	305km	100
20	Dhaka	Chittagong	Feni	244km	200
30	Saydabad	Noakhali	Comilla	195km	300
40	Mohakhali	Saint Martin	Chittagong	405km	400
50	Gabtoli	Kolkata	Benapol	400km	500

5 rows returned in 0.00 seconds CSV Export

TimeTable-

Insert into TimeTable values
('1001','10','Gabtoli','Bandarban','Chittagong','305km','8.00AM','9.00PM','1200')
Insert into TimeTable values ('1002','20','Dhaka','Chittagong','Feni','244km','9.00AM','9.00PM','1000')
Insert into TimeTable values
('1003','30','Saydabad','Noakhali','Comilla','195km','10.00AM','1.00PM','600')
Insert into TimeTable values ('1004','40','Mohakhali','Saint
Martin','Chittagong','405km','11.00AM','9.00PM','2000')
Insert into TimeTable values
('1005','50','Gabtoli','Kolkata','Benapol','400km','9.00AM','11.30.00PM','1000');

Results Explain Describe Saved SQL History

TIMETABLEID	ROUTEID	DEPARTURESTATION	ARRIVALSTATION	VIASTATION	DISTANCE	DEPARTURETIME	ARRIVALTIME	RENT
1001	10	Gabtoli	Bandarban	Chittagong	305km	8.00AM	9.00PM	1200
1002	20	Dhaka	Chittagong	Feni	244km	9.00AM	9.00PM	1000
1003	30	Saydabad	Noakhali	Comilla	195km	10.00AM	1.00PM	600
1004	40	Mohakhali	Saint Martin	Chittagong	405km	11.00AM	9.00PM	2000
1005	50	Gabtoli	Kolkata	Benapol	400km	9.00AM	11.30.00PM	1000

5 rows returned in 0.02 seconds CSV Export

Sequences-

1. CREATE SEQUENCE SQ_Admin_ID START WITH 1111
INCREMENT BY 1
MAXVALUE 99999
NOCACHE NOCYCLE

2. CREATE SEQUENCE SQ_Customer_ID START WITH 1
INCREMENT BY 1
MAXVALUE 9999
NOCACHE NOCYCLE

3. CREATE SEQUENCE SQ_Route_ID START WITH 10
INCREMENT BY 1
MAXVALUE 9999
NOCACHE NOCYCLE

4. CREATE SEQUENCE SQ_Ticket_ID START WITH 1000
INCREMENT BY 1
MAXVALUE 10000
NOCACHE NOCYCLE

5. CREATE SEQUENCE SQ_Rent START WITH 200
INCREMENT BY 1
MAXVALUE 5000
NOCACHE NOCYCLE

6. CREATE SEQUENCE SQ_ transactionNO START WITH 10000
INCREMENT BY 1
MAXVALUE 9000000
NOCACHE NOCYCLE

7. CREATE SEQUENCE SQ_SeatNo START WITH 1
INCREMENT BY 1
MAXVALUE 60
NOCACHE NOCYCLE

8. CREATE SEQUENCE SQ_TimeTable_ID START WITH 1000
INCREMENT BY 1
MAXVALUE 9999
NOCACHE NOCYCLE

9.QUERY WRITING:

1.Show the username in upper latter, 1st word capital latter of address and city in all small latter from customer table
>>SELECT UPPER (username), INITCAP (address), LOWER (city) FROM Customer

2.Display the user name of customer where customer's birthday come before Arif's birthday from customer table
>>select username from customer
where date_birth<(select date_birth from customer where username ='Arif');

3. Create a function where TimeTable table return the Bus Schedule.
>>CREATE OR REPLACE FUNCTION BusSchedule
RETURN number IS
total number(5) := 0;
BEGIN
SELECT count(*) into total
FROM TimeTable;
RETURN total;
END;

4. Show the total number of of timetable
>> DECLARE
t number(5);
BEGIN
t := BusSchedule ();
dbms_output.put_line('Total no. of TimeTable: ' || t);
END;

5. Display all the the owner who pay more total rent than Arif from payment table
>>select * from payment
where total_rent>(select total_rent from payment where owner_name='Arif');

6. Display the table where total rent is same as the owner Arif
>> select * from payment
where total_rent=(select total_rent from payment where owner_name='Arif');

7. Display TRANSACTIONNO, Username, Bank, Contact_No from the table Payment and Customer
>> SELECT Payment.transactionNO, Customer.Username, Payment.Bank, Customer.Contact_No
FROM Payment
INNER JOIN Customer
ON Payment.Customer_id = Customer.Customer_id;

8. Display routeId, departureStation, arrivalStation, TickeType from the table RouteDetails and Rent

```
>> SELECT RouteDetails.routeId , RouteDetails.departureStation ,
RouteDetails.arrivalStation, Rent.TickeType
FROM RouteDetails
INNER JOIN Rent
ON RouteDetails.Rent = Rent.Rent;
```

9. Display TransType, departureTime, arrivalTime, departureStation, arrivalStation from the table RouteDetails and Tickets

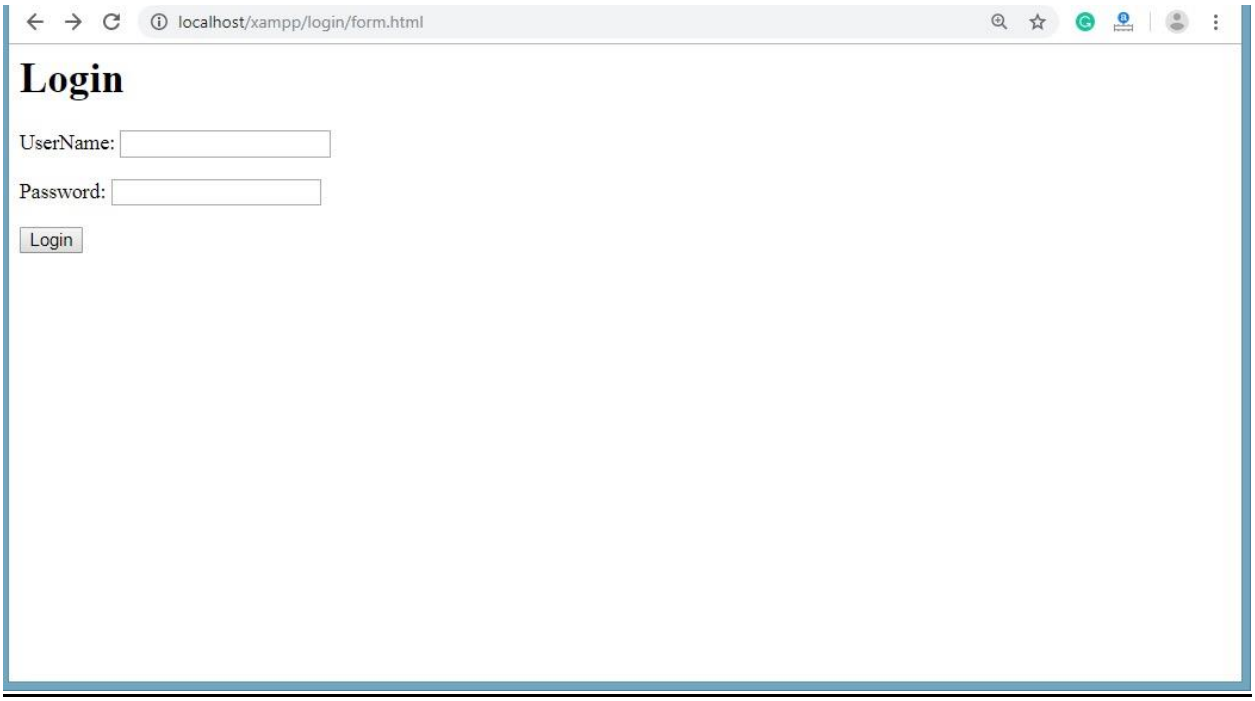
```
>> SELECT Tickets.TransType, Tickets.departureTime, Tickets.arrivalTime,
RouteDetails.departureStation, RouteDetails.arrivalStation
FROM Tickets
INNER JOIN RouteDetails
ON Tickets.routeId = RouteDetails.routeId;
```

10. Display total number rent where total rent is higher than 1000

```
>> SELECT SUM(Total_rent) FROM payment
WHERE Total_rent>1000;
```

10.USER INTERFACE:

LOGIN:



REGISTRATION: