PROJECT: RAILWAY MANAGEMENT SYSTEM

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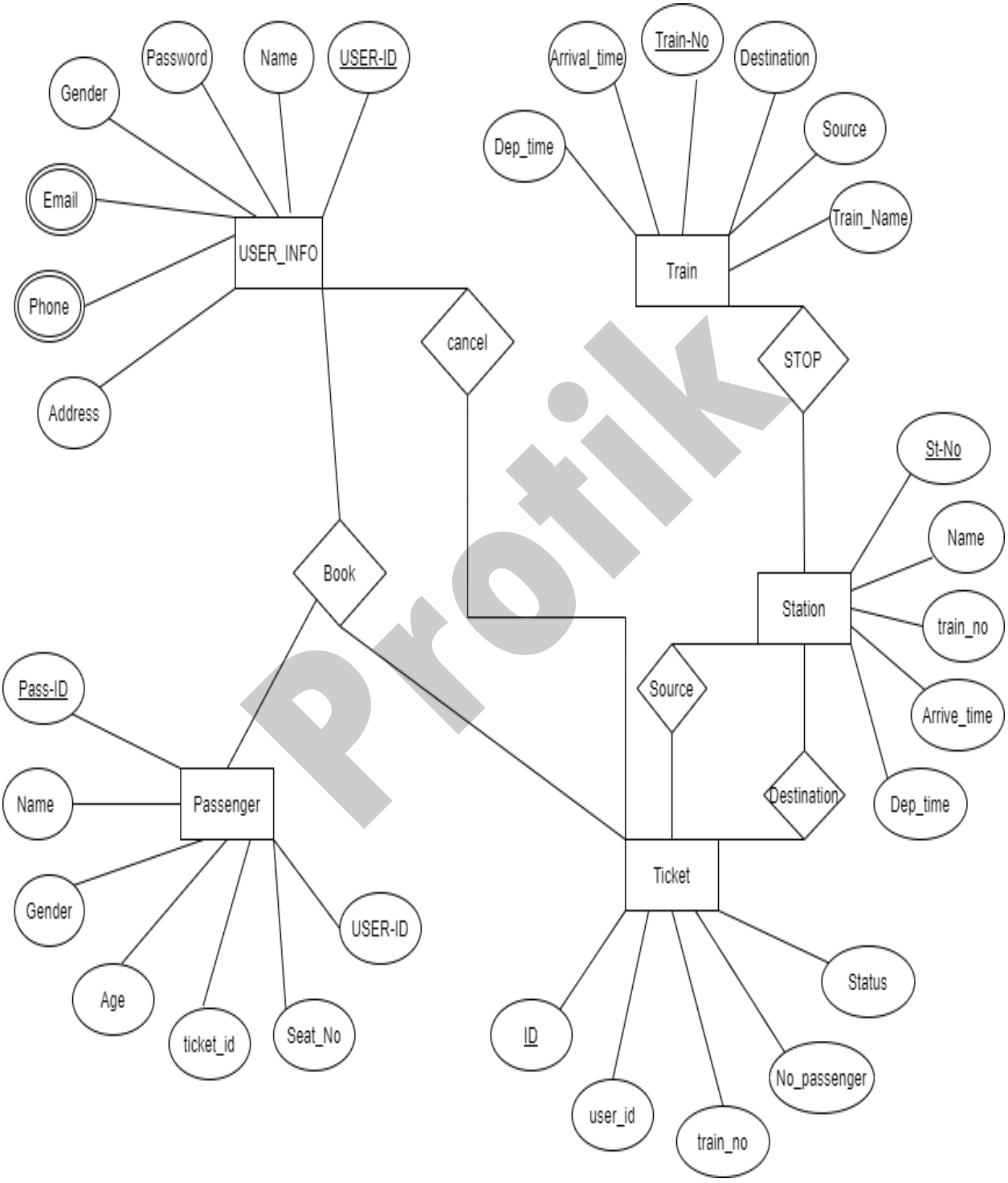
Introduction : This is a Simple project of Railway management system. Where we have used several entities set to achieve our ultimate goal to represent a railway management system.

Objective with specific aim :

- Maintain the history of all the users of the railway using USER_INFO table.
- Maintain the passenger info of day-to-day services of railway using Passenger table.
- Manage the train schedule using Train table.
- Mange the ticket shop management using Ticket table.
- Maintain all the information about trains using Station table.

Scenario description : We will work with a project including some features like Er diagram, table creation, insertion and implementation of some queries of database management system. We will create all about five tables such as USER_INFO, Passenger,
Train, Ticket and Station. These tables will work with all the primary level information we will insert in the tables. These tables are about to manage all the works of a railway management.

ER Diagram :



Normalization :

BOOK :

UNF :

BOOK (USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS,PASS-ID,NAME,AGE,GENDER,SEAT_NO,ID,TRAIN_NO, NO_PASSENGER,STATUS)

1NF :

Phone and Email are multivalued attribute.

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS,PASS-ID,NAME,AGE,GENDER,SEAT_NO,TICKET_ID, USER_ID,ID,TRAIN_NO, USER_ID,NO_PASSENGER,STATUS .

2NF

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. PASS-ID,NAME,AGE,GENDER,SEAT_NO,USER_ID,TICKET_ID, ID,TRAIN_NO, NO_PASSENGER,STATUS ,USER_ID.

3NF

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. PASS-ID,NAME,AGE,GENDER,SEAT_NO,**USER_ID**,**TICKET_ID**

3. ID, TRAIN_NO, NO_PASSENGER, STATUS,**USER_ID**

Table Creation:

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. PASS-ID,NAME,AGE,GENDER,SEAT_NO, **USER_ID**,**TICKET_ID**

3. ID, TRAIN_NO, NO_PASSENGER,STATUS , **USER_ID**.

CANCEL :

UNF :

CANCEL (USER-ID,NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS, ID,TRAIN_NO, NO_PASSENGER,STATUS ,USER_ID)

1NF :

Phone and Email are multivalued attribute.

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS, ID,TRAIN_NO, NO_PASSENGER,STATUS,USER_ID .

2NF

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. ID,TRAIN_NO, NO_PASSENGER,STATUS,USER_ID

3NF

There is no transitive dependency.Relation already in 3NF

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. ID,TRAIN_NO, NO_PASSENGER,STATUS,**USER_ID**

Table Creation:

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. ID,TRAIN_NO, NO_PASSENGER,STATUS,**USER_ID**

STOP :

UNF:

STOP(TRAIN-NO,TRAIN_NAME ,SOURCE ,DESTINATION , ARRIVAL_TIME, DEP_TIME,ST-NO,NAME,ARRIVE_TIME ,DEP_TIME,TRAIN_NO)

1NF:

1. TRAIN-NO,TRAIN_NAME ,SOURCE ,DESTINATION , ARRIVAL_TIME , DEP_TIME,ST-NO,NAME,ARRIVE_TIME ,DEP_TIME,TRAIN_NO

2NF :

1. TRAIN-NO,TRAIN_NAME ,SOURCE ,DESTINATION , ARRIVAL_TIME , DEP_TIME

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME,TRAIN_NO

3NF :

There is no transitive dependency. Relation already in 3NF

1. TRAIN-NO,TRAIN_NAME ,SOURCE ,DESTINATION , ARRIVAL_TIME , DEP_TIME

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

Table Creation:

1. TRAIN-NO,TRAIN_NAME ,SOURCE ,DESTINATION , ARRIVAL_TIME , DEP_TIME

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

SOURCE :

UNF :

SOURCE (ID,NO_PASSENGER ,USER_ID,TRAIN_NO,STATUS, ST-NO, NAME, ARRIVE_TIME, DEP_TIME,TRAIN_NO)

1NF :

1. ID,NO_PASSENGER ,STATUS,USER_ID,TRAIN_NO, ST-NO, NAME, ARRIVE_TIME, DEP_TIME, TRAIN_NO

2NF :

1. ID,NO_PASSENGER ,STATUS,USER_ID,TRAIN_NO

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, TRAIN_NO

3NF:

There is no transitive dependency. Relation already in 3NF

1. ID,NO_PASSENGER ,STATUS,USER_ID,**TRAIN_NO**

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

Table Creation:

1. ID,NO_PASSENGER ,STATUS, USER_ID,**TRAIN_NO**

2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

DESTINATION :

UNF :

SOURCE (ID,NO_PASSENGER ,USER_ID,TRAIN_NO,STATUS, ST-NO, NAME, ARRIVE_TIME, DEP_TIME,TRAIN_NO)

1NF :

1. ID,NO_PASSENGER ,USER_ID,TRAIN_NO,STATUS, ST-NO, NAME, ARRIVE_TIME, DEP_TIME,TRAIN_NO

2NF :

1. ID,NO_PASSENGER ,STATUS,USER_ID,TRAIN_NO
2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, TRAIN_NO

3NF:

There is no transitive dependency. Relation already in 3NF

1. ID,NO_PASSENGER ,STATUS,USER_ID,**TRAIN_NO**
2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

Table Creation:

1. ID,NO_PASSENGER ,STATUS,USER_ID,**TRAIN_NO**
2. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

Temporary Tables:

1. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

2. PASS-ID,NAME,AGE,GENDER,SEAT_NO, **USER_ID**,**TICKET_ID**

3. ID, TRAIN_NO, NO_PASSENGER,STATUS , **USER_ID**.

4. USER-ID, NAME ,PASSWORD,GENDER,EMAIL,PHONE , ADDRESS

5. ID,TRAIN_NO, NO_PASSENGER,STATUS, **USER_ID** .

6. TRAIN-NO, TRAIN_NAME, SOURCE, DESTINATION, ARRIVAL_TIME, DEP_TIME

7. ST-NO, NAME, ARRIVE_TIME, DEP_TIME **,TRAIN_NO**

8. ID,NO_PASSENGER ,STATUS,USER_ID,**TRAIN_NO**

9. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

10. ID,NO_PASSENGER ,STATUS,USER_ID,**TRAIN_NO**

11. ST-NO, NAME, ARRIVE_TIME, DEP_TIME, **TRAIN_NO**

Final Table :

1.USER-ID, NAME,PASSWORD,GENDER, EMAIL,PHONE,ADDRESS

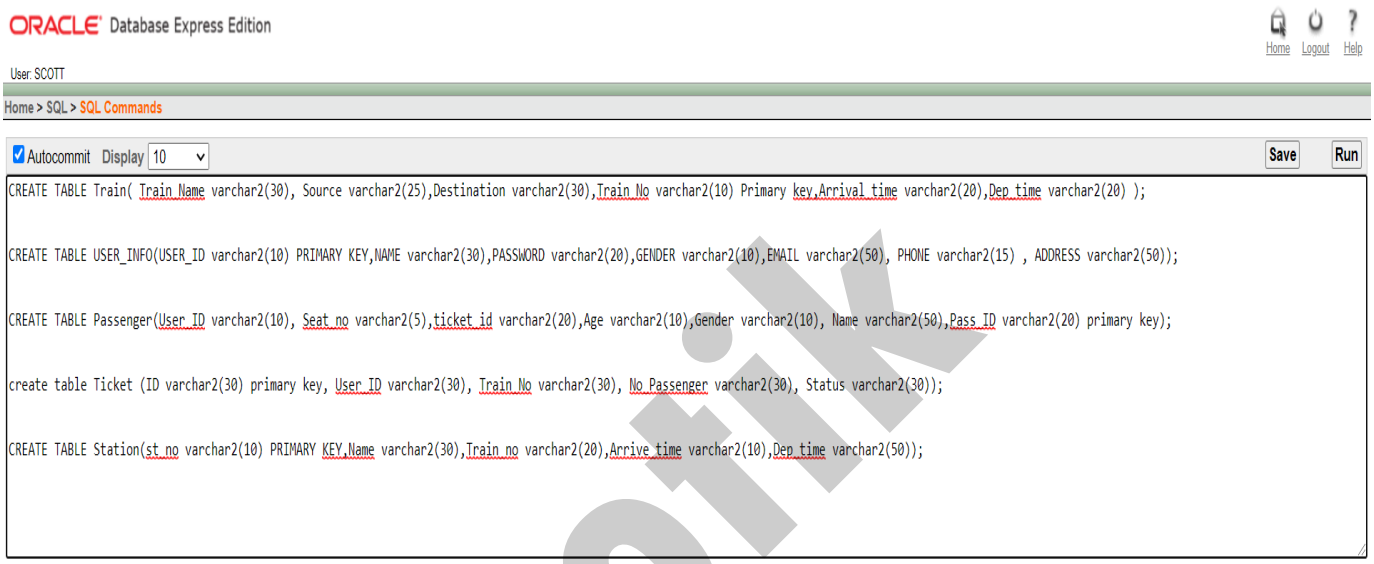
2.PASS-ID,NAME,GENDER,AGE,SEAT_NO,**TICKET-ID**,**USER-ID**

3.ID, NUMBER_PASSENGER, STATUS, **USER_ID**, **TRAIN_NO**

4.ST-NO, NAME, DEP_TIME, ARRIVE_TIME, **TRAIN_NO**

5.TRAIN-NO, SOURCE, DESTINATION, TRAIN_NAME, ARRIVAL_TIME, DEP_TIME

Query for table creation :



1. CREATE TABLE Train(Train_Name varchar2(30), Source varchar2(25),Destination varchar2(30),Train_No varchar2(10) Primary key,Arrival_time varchar2(20),Dep_time varchar2(20));

TRAIN

Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL

Add Column | Modify Column | Rename Column | Drop Column | Rename | Copy | Drop | Truncate | Create Lookup Table

Column Name	Data Type	Nullable	Default	Primary Key
TRAIN_NO	VARCHAR2(10)	No	-	1
TRAIN_NAME	VARCHAR2(30)	Yes	-	-
SOURCE	VARCHAR2(25)	Yes	-	-
DESTINATION	VARCHAR2(30)	Yes	-	-
ARRIVAL_TIME	VARCHAR2(20)	Yes	-	-
DEP_TIME	VARCHAR2(20)	Yes	-	-

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2. CREATE TABLE USER_INFO(USER_ID varchar2(10) PRIMARY KEY,NAME varchar2(30),PASSWORD varchar2(20),GENDER varchar2(10),EMAIL varchar2(50), PHONE varchar2(15) , ADDRESS varchar2(50));

USER_INFO

Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL

Add Column | Modify Column | Rename Column | Drop Column | Rename | Copy | Drop | Truncate | Create Lookup Table

Column Name	Data Type	Nullable	Default	Primary Key
USER_ID	VARCHAR2(10)	No	-	1
NAME	VARCHAR2(30)	Yes	-	-
PASSWORD	VARCHAR2(20)	Yes	-	-
GENDER	VARCHAR2(10)	Yes	-	-
EMAIL	VARCHAR2(50)	Yes	-	-
PHONE	VARCHAR2(15)	Yes	-	-
ADDRESS	VARCHAR2(50)	Yes	-	-

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3. CREATE TABLE Passenger(User_ID varchar2(10), Seat_no varchar2(5),ticket_id varchar2(20),Age varchar2(10),Gender varchar2(10), Name varchar2(50),Pass_ID varchar2(20) primary key);

PASSENGER

Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL

Add Column | Modify Column | Rename Column | Drop Column | Rename | Copy | Drop | Truncate | Create Lookup Table

Column Name	Data Type	Nullable	Default	Primary Key
PASS_ID	VARCHAR2(20)	No	-	1
USER_ID	VARCHAR2(10)	Yes	-	-
SEAT_NO	VARCHAR2(5)	Yes	-	-
TICKET_ID	VARCHAR2(20)	Yes	-	-
AGE	VARCHAR2(10)	Yes	-	-
GENDER	VARCHAR2(10)	Yes	-	-
NAME	VARCHAR2(50)	Yes	-	-

1 - 7

4. create table Ticket (ID varchar2(30) primary key, User_ID varchar2(30), Train_No varchar2(30), No_Passenger varchar2(30), Status varchar2(30));

TICKET

Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL

Add Column | Modify Column | Rename Column | Drop Column | Rename | Copy | Drop | Truncate | Create Lookup Table

Column Name	Data Type	Nullable	Default	Primary Key
ID	VARCHAR2(30)	No	-	1
USER_ID	VARCHAR2(30)	Yes	-	-
TRAIN_NO	VARCHAR2(30)	Yes	-	-
NO_PASSENGER	VARCHAR2(30)	Yes	-	-
STATUS	VARCHAR2(30)	Yes	-	-

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5. CREATE TABLE Station(st_no varchar2(10) PRIMARY KEY,Name varchar2(30),Train_no varchar2(20),Arrive_time varchar2(10),Dep_time varchar2(50));

STATION

Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL

Add Column | Modify Column | Rename Column | Drop Column | Rename | Copy | Drop | Truncate | Create Lookup Table

Column Name	Data Type	Nullable	Default	Primary Key
ST_NO	VARCHAR2(10)	No	-	1
NAME	VARCHAR2(30)	Yes	-	-
TRAIN_NO	VARCHAR2(20)	Yes	-	-
ARRIVE_TIME	VARCHAR2(10)	Yes	-	-
DEP_TIME	VARCHAR2(50)	Yes	-	-

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Data Insertion :

1. For Train Table :

insert into Train values ('Turna_Nisita', 'Chattogram','Dhaka','18','6.00-am','11.00-pm');

insert into Train values ('Mohanogor_provati', 'Chattogram','Dhaka','19','8.00-pm','2.00-pm');

insert into Train values ('Bonolota', 'Rajshahi','Dhaka','20','8.00-pm','1.00-pm');

insert into Train values ('Dhumketu', 'Rajshahi','Dhaka','21','10.00-pm','4.00-pm');

insert into Train values ('Silk_City', 'Rajshahi','Dhaka','22','11.00-pm','5.00-pm');

insert into Train values ('Upakul', 'Noakhali','Dhaka','23','11.00-pm','5.00-pm');

insert into Train values ('Sundarban', 'Khulna','Dhaka','24','8.00-pm','3.00-pm');

insert into Train values ('Udayan', 'Comilla','Sylhet','25','12.10-pm','7.00-am');

insert into Train values ('Rangpur_Express', 'Rangpur','Dhaka','26','8.00-pm','3.00-pm');

insert into Train values ('Sylhet_Express', 'Sylhet','Dhaka','27','12.20-pm','6.00-am');

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```
insert into Train values ('Turna_Nisita', 'Chattogram','Dhaka','18','6.00-am','11.00-pm');
insert into Train values ('Mohanogor_provati', 'Chattogram','Dhaka','19','8.00-pm','2.00-pm');
insert into Train values ('Bonolota', 'Rajshahi','Dhaka','20','8.00-pm','1.00-pm');
insert into Train values ('Dhumketu', 'Rajshahi','Dhaka','21','10.00-pm','4.00-pm');
insert into Train values ('Silk_City', 'Rajshahi','Dhaka','22','11.00-pm','5.00-pm');
insert into Train values ('Upakul', 'Noakhali','Dhaka','23','11.00-pm','5.00-pm');
insert into Train values ('Sundarban', 'Khulna','Dhaka','24','8.00-pm','3.00-pm');
insert into Train values ('Udayan', 'Comilla','Sylhet','25','12.10-pm','7.00-am');
insert into Train values ('Rangpur_Express', 'Rangpur','Dhaka','26','8.00-pm','3.00-pm');
insert into Train values ('Sylhet_Express', 'Sylhet','Dhaka','27','12.20-pm','6.00-am');

SELECT * FROM TRAIN;
```

Results Explain Describe Saved SQL History

TRAIN_NAME	SOURCE	DESTINATION	TRAIN_NO	ARRIVAL_TIME	DEP_TIME
Turna_Nisita	Chattogram	Dhaka	18	6.00-am	11.00-pm
Mohanogor_provati	Chattogram	Dhaka	19	8.00-pm	2.00-pm
Bonolota	Rajshahi	Dhaka	20	8.00-pm	1.00-pm
Dhumketu	Rajshahi	Dhaka	21	10.00-pm	4.00-pm
Silk_City	Rajshahi	Dhaka	22	11.00-pm	5.00-pm
Upakul	Noakhali	Dhaka	23	11.00-pm	5.00-pm
Sundarban	Khulna	Dhaka	24	8.00-pm	3.00-pm
Udayan	Comilla	Sylhet	25	12.10-pm	7.00-am
Rangpur_Express	Rangpur	Dhaka	26	8.00-pm	3.00-pm
Sylhet_Express	Sylhet	Dhaka	27	12.20-pm	6.00-am

10 rows returned in 0.08 seconds CSV Export

2.For USER_INFO Table :

insert into USER_INFO values ('101', 'Protik', 'pro777', 'Male','protik123@gmail.com','01799999999','Rajshahi');

insert into USER_INFO values ('102', 'Mehedi', 'mehedi12', 'Male','mehedi23@gmail.com','01795444149','Dhaka');

insert into USER_INFO values ('103', 'Nafi', 'Nafi55', 'Male','nafi33@gmail.com','01732312429','Dinajpur');

insert into USER_INFO values ('104', 'Tawhid', 'Tawhid454', 'Male','tawhid55@gmail.com','01712435537','Rangpur');

insert into USER_INFO values ('105', 'Audty', 'Audty546', 'Famale','audty12@gmail.com','01823494549','Chittagong');

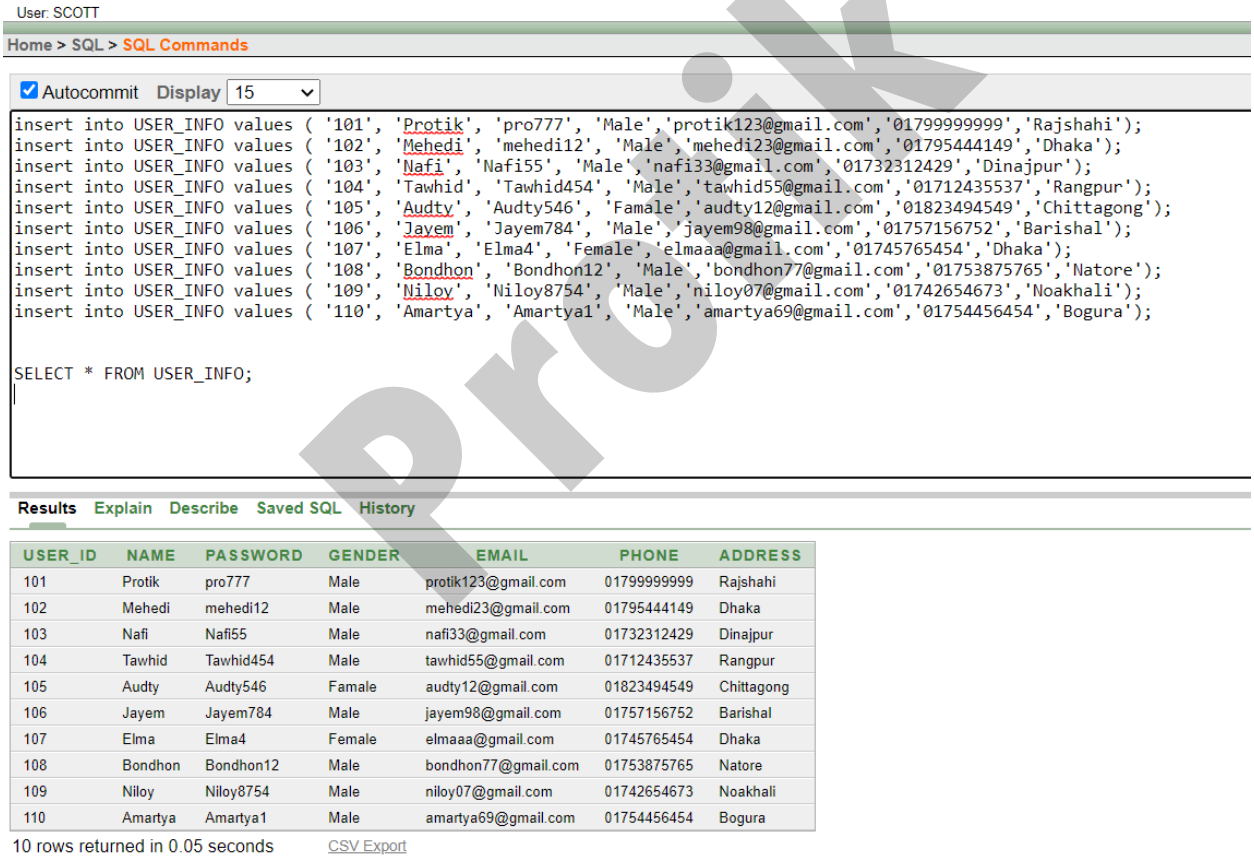
insert into USER_INFO values ('106', 'Jayem', 'Jayem784',
'Male','jayem98@gmail.com','01757156752','Barishal');

insert into USER_INFO values ('107', 'Elma', 'Elma4',
'Female','elmaaa@gmail.com','01745765454','Dhaka');

insert into USER_INFO values ('108', 'Bondhon', 'Bondhon12',
'Male','bondhon77@gmail.com','01753875765','Natore');

insert into USER_INFO values ('109', 'Niloy', 'Niloy8754',
'Male','niloy07@gmail.com','01742654673','Noakhali');

insert into USER_INFO values ('110', 'Amartya', 'Amartya1',
'Male','amartya69@gmail.com','01754456454','Bogura');



3. For Passenger Table :

```
insert into Passenger values ( '101', '12', '22202', '22','Male','Protik','201');
insert into Passenger values ( '102', '50', '22203', '18','Male','Mehedi','202');
insert into Passenger values ( '103', '70', '22204', '23','Male','Nafi','203');
insert into Passenger values ( '104', '46', '22205', '33','Male','Tawhid','204');
insert into Passenger values ( '105', '95', '22206', '17','Female','Audty','205');
insert into Passenger values ( '106', '11', '22207', '25','Male','Jayem','206');
insert into Passenger values ( '107', '80', '22208', '35','Female','Elma','207');
insert into Passenger values ( '108', '69', '22209', '19','Male','Bondhon','208');
insert into Passenger values ( '109', '66', '22210', '21','Male','Niloy','209');
insert into Passenger values ( '110', '33', '22211', '21','Male','Amartya','210');
```

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```
insert into Passenger values ( '101', '12', '22202', '22','Male','Protik','201');
insert into Passenger values ( '102', '50', '22203', '18','Male','Mehedi','202');
insert into Passenger values ( '103', '70', '22204', '23','Male','Nafi','203');
insert into Passenger values ( '104', '46', '22205', '33','Male','Tawhid','204');
insert into Passenger values ( '105', '95', '22206', '17','Female','Audty','205');
insert into Passenger values ( '106', '11', '22207', '25','Male','Jayem','206');
insert into Passenger values ( '107', '80', '22208', '35','Female','Elma','207');
insert into Passenger values ( '108', '69', '22209', '19','Male','Bondhon','208');
insert into Passenger values ( '109', '66', '22210', '21','Male','Niloy','209');
insert into Passenger values ( '110', '33', '22211', '21','Male','Amartya','210');


SELECT * FROM PASSENGER;
```

Results Explain Describe Saved SQL History

USER_ID	SEAT_NO	TICKET_ID	AGE	GENDER	NAME	PASS_ID
101	12	22202	22	Male	Protik	201
102	50	22203	18	Male	Mehedi	202
103	70	22204	23	Male	Nafi	203
104	46	22205	33	Male	Tawhid	204
105	95	22206	17	Female	Audty	205
106	11	22207	25	Male	Jayem	206
107	80	22208	35	Female	Elma	207
108	69	22209	19	Male	Bondhon	208
109	66	22210	21	Male	Niloy	209
110	33	22211	21	Male	Amartya	210

10 rows returned in 0.00 seconds CSV Export

4. For Ticket Table :

insert into Ticket values ('22202','101','18','01','Valid');

insert into Ticket values ('22203','102','19','01','Valid');

insert into Ticket values ('22204','103','20','01','Valid');

insert into Ticket values ('22205','104','21','01','Valid');

insert into Ticket values ('22206','105','22','01','Valid');

insert into Ticket values ('22207','106','23','01','Valid');

insert into Ticket values ('22208','107','24','01','Valid');

insert into Ticket values ('22209','108','25','01','Valid');

insert into Ticket values ('22210','109','26','01','Valid');

insert into Ticket values ('22211','110','27','01','Valid');

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```
insert into Ticket values ( '22202','101','18','01','Valid');
insert into Ticket values ( '22203','102','19','01','Valid');
insert into Ticket values ( '22204','103','20','01','Valid');
insert into Ticket values ( '22205','104','21','01','Valid');
insert into Ticket values ( '22206','105','22','01','Valid');
insert into Ticket values ( '22207','106','23','01','Valid');
insert into Ticket values ( '22208','107','24','01','Valid');
insert into Ticket values ( '22209','108','25','01','Valid');
insert into Ticket values ( '22210','109','26','01','Valid');
insert into Ticket values ( '22211','110','27','01','Valid');



SELECT * FROM TICKET;
```

Results Explain Describe Saved SQL History

ID	USER_ID	TRAIN_NO	NO_PASSENGER	STATUS
22202	101	18	01	Valid
22203	102	19	01	Valid
22204	103	20	01	Valid
22205	104	21	01	Valid
22206	105	22	01	Valid
22207	106	23	01	Valid
22208	107	24	01	Valid
22209	108	25	01	Valid
22210	109	26	01	Valid
22211	110	27	01	Valid

10 rows returned in 0.02 seconds CSV Export

5. For Station Table :

```
insert into station values ('3', 'Chattogram','18','9.00-pm','11.00-pm');
insert into station values ('4', 'Dhaka','19','11.00-am','2.00-pm');
insert into station values ('5', 'Rajshahi','20','11.00-am','1.00-pm');
insert into station values ('6', 'Abdulpur','21','5.00-pm','5.30-pm');
insert into station values ('7', 'tongi','22','10.00-pm','10.15-pm');
insert into station values ('8', 'Noakhali','23','3.00-pm','5.00-pm');
insert into station values ('9', 'Khulna','24','1.00-pm','3.00-pm');
insert into station values ('10', 'Comilla','25','6.00-am','7.00-am');
insert into station values ('11', 'Rangpur','26','1.00-pm','3.00-pm');
insert into station values ('12', 'Sylhet','27','5.00-am','6.00-am');
```

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```
insert into station values ('3', 'Chattogram','18','9.00-pm','11.00-pm');
insert into station values ('4', 'Dhaka','19','11.00-am','2.00-pm');
insert into station values ('5', 'Rajshahi','20','11.00-am','1.00-pm');
insert into station values ('6', 'Abdulpur','21','5.00-pm','5.30-pm');
insert into station values ('7', 'tongi','22','10.00-pm','10.15-pm');
insert into station values ('8', 'Noakhali','23','3.00-pm','5.00-pm');
insert into station values ('9', 'Khulna','24','1.00-pm','3.00-pm');
insert into station values ('10', 'Comilla','25','6.00-am','7.00-am');
insert into station values ('11', 'Rangpur','26','1.00-pm','3.00-pm');
insert into station values ('12', 'Sylhet','27','5.00-am','6.00-am');



SELECT * FROM STATION;
```

Results Explain Describe Saved SQL History

ST_NO	NAME	TRAIN_NO	ARRIVE_TIME	DEP_TIME
3	Chattogram	18	9.00-pm	11.00-pm
4	Dhaka	19	11.00-am	2.00-pm
5	Rajshahi	20	11.00-am	1.00-pm
6	Abdulpur	21	5.00-pm	5.30-pm
7	tongi	22	10.00-pm	10.15-pm
8	Noakhali	23	3.00-pm	5.00-pm
9	Khulna	24	1.00-pm	3.00-pm
10	Comilla	25	6.00-am	7.00-am
11	Rangpur	26	1.00-pm	3.00-pm
12	Sylhet	27	5.00-am	6.00-am

10 rows returned in 0.05 seconds CSV Export

QUERY Writing :

1. Single row function :

- Write a query to display the Passenger Name in lowercase letter

Ans : SELECT LOWER (NAME) FROM PASSENGER ;

```
SELECT LOWER (NAME) FROM PASSENGER ;
```

Results | Explain | Describe | Saved SQL | History

LOWER(NAME)
protik
mehedi
nafi
tawhid
audty
jayem
elma
bondhon
niloy
amartya

10 rows returned in 0.00 seconds CSV Export

- Display the Passenger Name and ID by joining the columns using concatenation function and show the length size of Passenger Name.

Ans : SELECT CONCAT(NAME,PASS_ID),LENGTH(NAME)FROM PASSENGER

```
SELECT CONCAT(NAME,PASS_ID),LENGTH(NAME)FROM PASSENGER;
```

Results | Explain | Describe | Saved SQL | History

CONCAT(NAME,PASS_ID)	LENGTH(NAME)
Protik201	6
Mehedi202	6
Nafi203	4
Tawhid204	6
Audty205	5
Jayem206	5
Elma207	4
Bondhon208	7
Niloy209	5
Amartya210	7

10 rows returned in 0.01 seconds CSV Export

2.**Group Function :**

* Find the average,minimum and maximum AGE according to Passenger ID .

ANS : SELECT PASS_ID,AVG(AGE), MAX(AGE), MIN(AGE) from PASSENGER Group by PASS_ID ;

```
SELECT PASS_ID,AVG(AGE), MAX(AGE), MIN(AGE) from PASSENGER Group by PASS_ID ;
```

Results Explain Describe Saved SQL History

PASS_ID	AVG(AGE)	MAX(AGE)	MIN(AGE)
201	22	22	22
202	18	18	18
203	23	23	23
204	33	33	33
205	17	17	17
206	25	25	25
207	35	35	35
208	19	19	19
209	21	21	21
210	21	21	21

10 rows returned in 0.03 seconds CSV Export

- Display the number of passenger ID whose AGE =’21’

Ans : Select Count(PASS_ID) from PASSENGER Where AGE='21';

```
Select Count(PASS_ID) from PASSENGER Where AGE='21';
```

Results Explain Describe Saved SQL History

COUNT(PASS_ID)
2

1 rows returned in 0.00 seconds CSV Export

3. Sub-query :

- Display the Passenger ID whose age is maximum using subquery in a group function.

Ans : SELECT PASS_ID , NAME FROM PASSENGER WHERE AGE= (SELECT MAX(AGE)FROM PASSENGER);

```
SELECT PASS_ID , NAME FROM PASSENGER WHERE  AGE= (SELECT MAX(AGE)FROM PASSENGER);
```

Results Explain Describe Saved SQL History

PASS_ID	NAME
207	Elma

1 rows returned in 0.01 seconds CSV Export

- Display the USER Name whose Email_address is mehedi23@gmail.com using subquery

Ans : SELECT NAME ,ADDRESS FROM USER_INFO WHERE USER_ID=ANY(SELECT USER_ID FROM USER_INFO WHERE EMAIL= 'mehedi23@gmail.com');

```
SELECT NAME ,ADDRESS  FROM  USER_INFO WHERE USER_ID=ANY(SELECT USER_ID FROM USER_INFO WHERE EMAIL= 'mehedi23@gmail.com');
```

Results Explain Describe Saved SQL History

NAME	ADDRESS
Mehedi	Dhaka

1 rows returned in 0.00 seconds CSV Export

Joining :

- Write a query the user name, user id, address and passenger name, passenger id for all user and passenger

Ans : SELECT U. NAME, U.USER_ID ,U.ADDRESS ,P. NAME, P.PASS_ID FROM USER_INFO U,PASSENGER P WHERE U.USER_ID=P.USER_ID;

```
SELECT U. NAME, U.USER_ID ,U.ADDRESS ,P. NAME, P.PASS_ID FROM USER_INFO U,PASSENGER P WHERE U.USER_ID=P.USER_ID;
```

Results Explain Describe Saved SQL History

NAME	USER_ID	ADDRESS	NAME	PASS_ID
Protik	101	Rajshahi	Protik	201
Mehedi	102	Dhaka	Mehedi	202
Nafi	103	Dinajpur	Nafi	203
Tawhid	104	Rangpur	Tawhid	204
Audty	105	Chittagong	Audty	205
Jayem	106	Barishal	Jayem	206
Elma	107	Dhaka	Elma	207
Bondhon	108	Natore	Bondhon	208
Niloy	109	Noakhali	Niloy	209
Amartya	110	Bogura	Amartya	210

10 rows returned in 0.02 seconds CSV Export

Conclusion: This is a small application of management of Railway management system. The limitation of this application is that we couldn't add many features because of our primary level knowledge of database management system. We can use this prototype as a small railway management system. It will provide somewhat every information of a railway. So, the project is just an instance of the original railway management system.