NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A' GRADE

Database Management System

Innovative Assignment

Railway Management System

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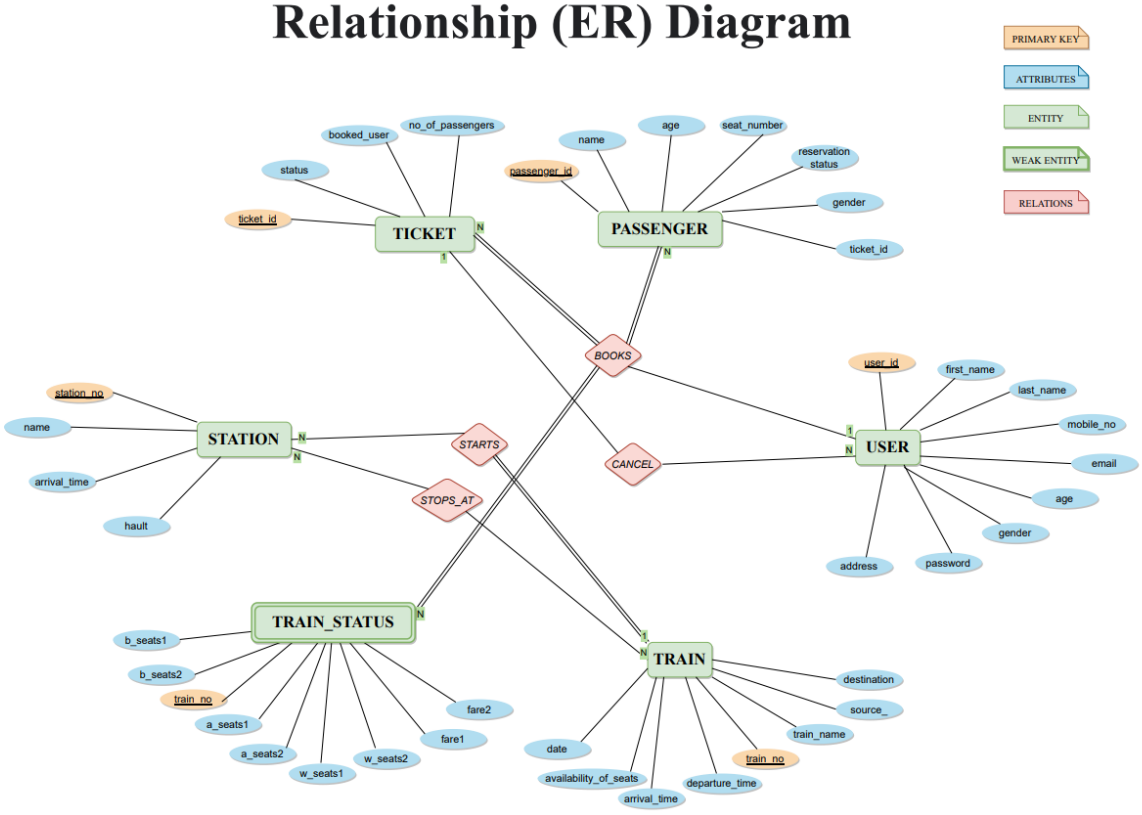
Introduction

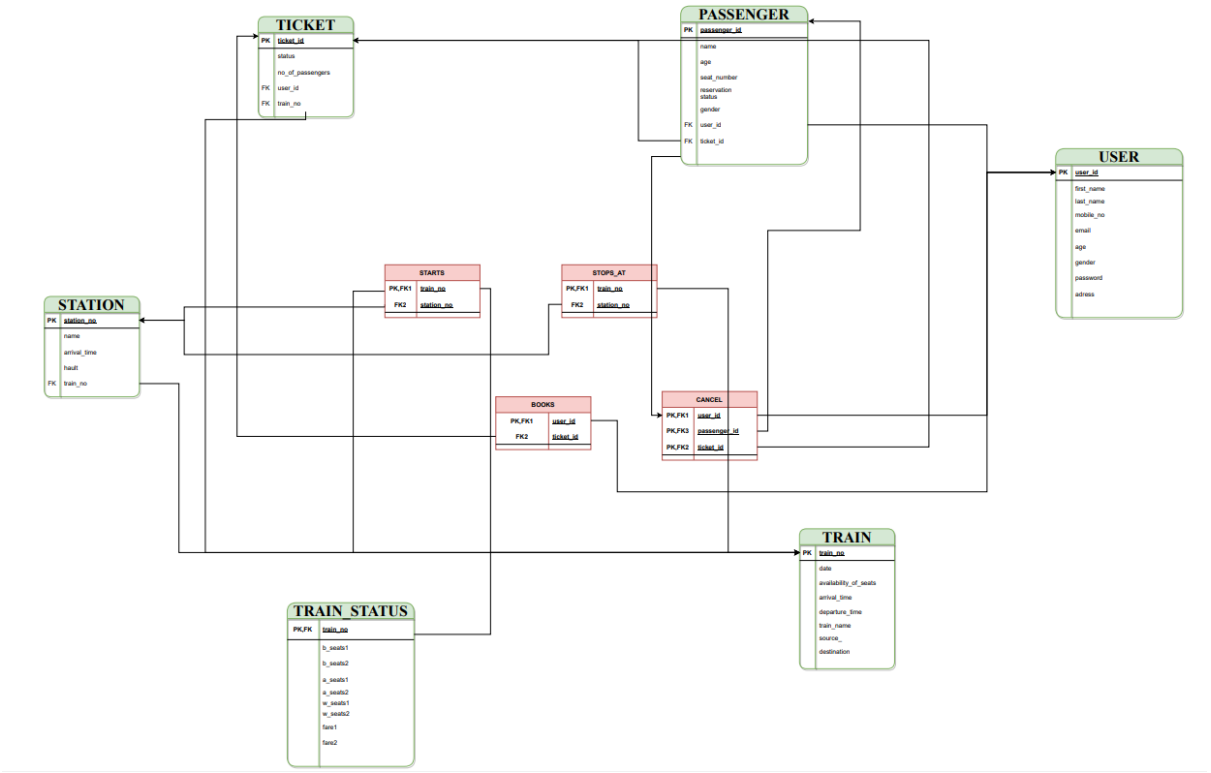
The Railway Management System facilitates the passengers to enquire about the trains available on the basis of source and destination, Booking and Cancellation of tickets, enquire about the status of the booked ticket, etc. The aim of the project is to design and develop a database maintaining the records of different trains, train status, and passengers.

The main purpose of maintaining database for Railway Management System is to reduce the manual errors involved in the booking and cancelling of tickets and make it convenient for the customers and providers to maintain the data about their customers and also about the seats available to them.

Entity
Relationship (ER) Diagram



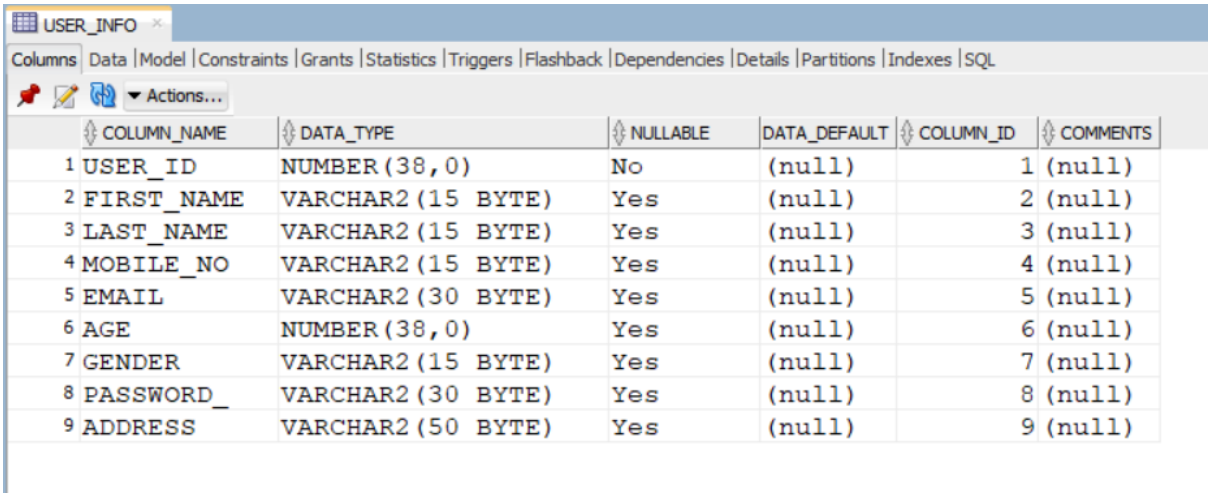
Relational Model



Create tables

1. **USER_INFO**

```
CREATE TABLE USER_INFO
(
user_id int primary key,
first_name varchar(15),
last_name varchar(15),
mobile_no varchar(15),
email varchar(30),
age int,
gender varchar(15),
password_ varchar(30),
address varchar(50)
);
```



USER_INFO

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	USER_ID	NUMBER(38,0)	No	(null)	1	(null)
2	FIRST_NAME	VARCHAR2(15 BYTE)	Yes	(null)	2	(null)
3	LAST_NAME	VARCHAR2(15 BYTE)	Yes	(null)	3	(null)
4	MOBILE_NO	VARCHAR2(15 BYTE)	Yes	(null)	4	(null)
5	EMAIL	VARCHAR2(30 BYTE)	Yes	(null)	5	(null)
6	AGE	NUMBER(38,0)	Yes	(null)	6	(null)
7	GENDER	VARCHAR2(15 BYTE)	Yes	(null)	7	(null)
8	PASSWORD_	VARCHAR2(30 BYTE)	Yes	(null)	8	(null)
9	ADDRESS	VARCHAR2(50 BYTE)	Yes	(null)	9	(null)

2. **TRAIN**

```
CREATE TABLE TRAIN
(
train_no int primary key,
train_name varchar(25),
source_ varchar(25),
destination varchar(25),
```

```
arrival_time timestamp,
departure_time timestamp,
availability_of_seats varchar(5),
date_ date
);
```

TRAIN

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	TRAIN_NO	NUMBER(38,0)	No	(null)	1	(null)
2	TRAIN_NAME	VARCHAR2(25 BYTE)	Yes	(null)	2	(null)
3	SOURCE_	VARCHAR2(25 BYTE)	Yes	(null)	3	(null)
4	DESTINATION	VARCHAR2(25 BYTE)	Yes	(null)	4	(null)
5	ARRIVAL_TIME	TIMESTAMP(6)	Yes	(null)	5	(null)
6	DEPARTURE_TIME	TIMESTAMP(6)	Yes	(null)	6	(null)
7	AVAILABILITY_OF_SEATS	VARCHAR2(5 BYTE)	Yes	(null)	7	(null)
8	DATE_	DATE	Yes	(null)	8	(null)

3. TRAIN_STATUS

```
CREATE TABLE TRAIN_STATUS
(
train_no int primary key,
a_seats1 int,
a_seats2 int,
b_seats1 int,
b_seats2 int,
w_seats1 int,
w_seats2 int,
fare1 float,
fare2 float,
constraint FK_trainno2 foreign key(train_no)
references TRAIN(train_no)
);
```

TRAIN_STATUS

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	TRAIN_NO	NUMBER(38,0)	No	(null)	1	(null)
2	A_SEATS1	NUMBER(38,0)	Yes	(null)	2	(null)
3	A_SEATS2	NUMBER(38,0)	Yes	(null)	3	(null)
4	B_SEATS1	NUMBER(38,0)	Yes	(null)	4	(null)
5	B_SEATS2	NUMBER(38,0)	Yes	(null)	5	(null)
6	W_SEATS1	NUMBER(38,0)	Yes	(null)	6	(null)
7	W_SEATS2	NUMBER(38,0)	Yes	(null)	7	(null)
8	FARE1	FLOAT	Yes	(null)	8	(null)
9	FARE2	FLOAT	Yes	(null)	9	(null)

4. STATION

```
CREATE TABLE STATION
(
station_no int,
station_name varchar(25),
arrival_time timestamp,
hault int,
train_no int,
constraint FK_trainno foreign key(train_no)
references TRAIN(train_no),
primary key(station_no,train_no)
);
```

STATION

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

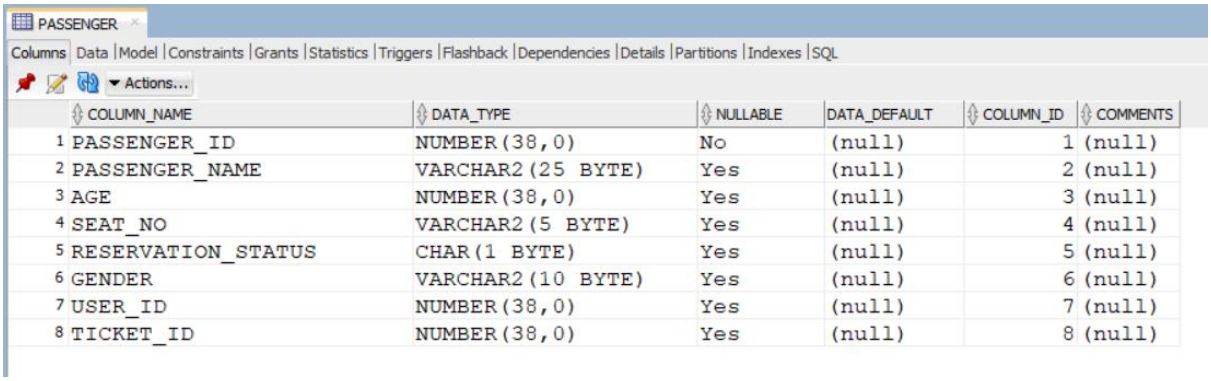
Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	STATION_NO	NUMBER(38,0)	No	(null)	1	(null)
2	STATION_NAME	VARCHAR2(25 BYTE)	Yes	(null)	2	(null)
3	ARRIVAL_TIME	TIMESTAMP(6)	Yes	(null)	3	(null)
4	HAULT	NUMBER(38,0)	Yes	(null)	4	(null)
5	TRAIN_NO	NUMBER(38,0)	No	(null)	5	(null)

5. PASSENGER

```
CREATE TABLE PASSENGER
(
passenger_id int primary key,
passenger_name varchar(25),
age int,
```

```
seat_no varchar(5),
reservation_status char,
gender varchar(10),
user_id int,
ticket_id int,
constraint FK_userid1 foreign key(user_id)
references USER_INFO(user_id),
constraint FK_ticketid foreign key(ticket_id)
references TICKET(ticket_id)
);
```



PASSENGER

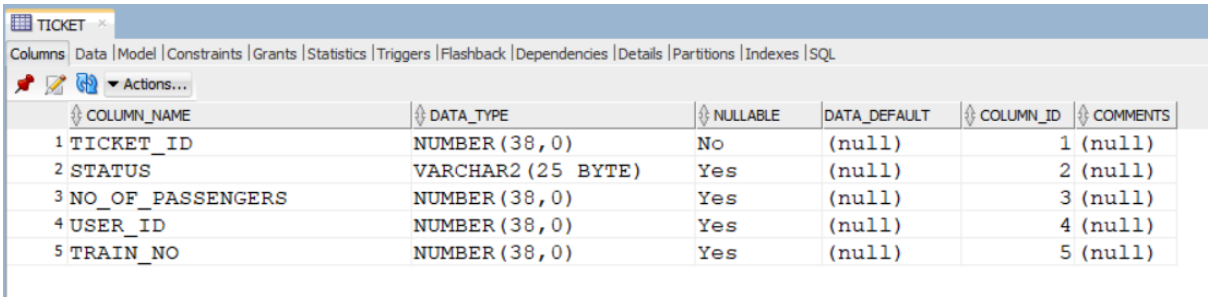
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	PASSENGER_ID	NUMBER(38,0)	No	(null)	1	(null)
2	PASSENGER_NAME	VARCHAR2(25 BYTE)	Yes	(null)	2	(null)
3	AGE	NUMBER(38,0)	Yes	(null)	3	(null)
4	SEAT_NO	VARCHAR2(5 BYTE)	Yes	(null)	4	(null)
5	RESERVATION_STATUS	CHAR(1 BYTE)	Yes	(null)	5	(null)
6	GENDER	VARCHAR2(10 BYTE)	Yes	(null)	6	(null)
7	USER_ID	NUMBER(38,0)	Yes	(null)	7	(null)
8	TICKET_ID	NUMBER(38,0)	Yes	(null)	8	(null)

6. TICKET

```
CREATE TABLE TICKET
(
ticket_id int primary key,
status varchar(25),
no_of_passengers int,
user_id int,
train_no int,
constraint FK_userid foreign key(user_id)
references USER_INFO(user_id),
constraint FK_trainno1 foreign key(train_no)
references TRAIN(train_no)
);
```


TICKET

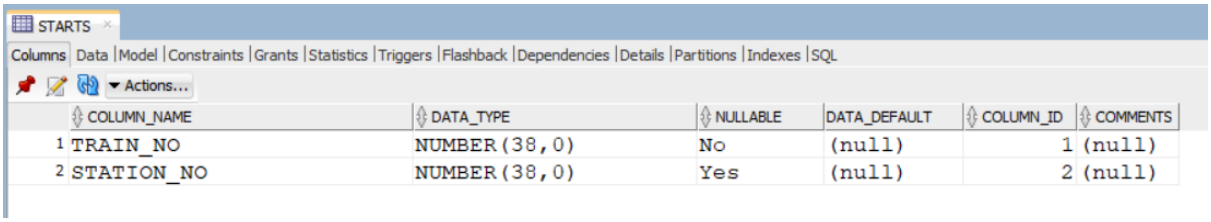
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	TICKET_ID	NUMBER(38,0)	No	(null)	1	(null)
2	STATUS	VARCHAR2(25 BYTE)	Yes	(null)	2	(null)
3	NO_OF_PASSENGERS	NUMBER(38,0)	Yes	(null)	3	(null)
4	USER_ID	NUMBER(38,0)	Yes	(null)	4	(null)
5	TRAIN_NO	NUMBER(38,0)	Yes	(null)	5	(null)

7. STARTS

```
CREATE TABLE STARTS
(
train_no int primary key,
station_no int,
constraint FK_stationno foreign key(station_no,train_no)
references STATION(station_no,train_no)
);
```


STARTS

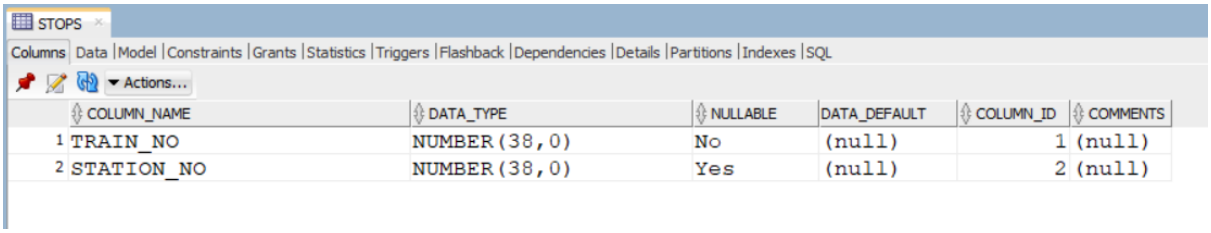
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	TRAIN_NO	NUMBER(38,0)	No	(null)	1	(null)
2	STATION_NO	NUMBER(38,0)	Yes	(null)	2	(null)

8. STOPS

```
CREATE TABLE STOPS
(
train_no int primary key,
station_no int,
constraint FK_stationno1 foreign key(station_no,train_no)
references STATION(station_no,train_no)
);
```


STOPS

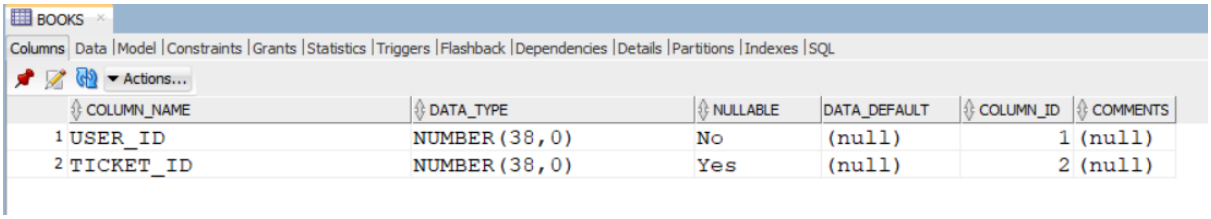
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	TRAIN_NO	NUMBER(38,0)	No	(null)	1	(null)
2	STATION_NO	NUMBER(38,0)	Yes	(null)	2	(null)

9. BOOKS

```
CREATE TABLE BOOKS
(
user_id int primary key,
ticket_id int,
constraint FK_userid2 foreign key(user_id)
references USER_INFO(user_id),
constraint FK_ticketid1 foreign key(ticket_id)
references TICKET(ticket_id)
);
```



BOOKS

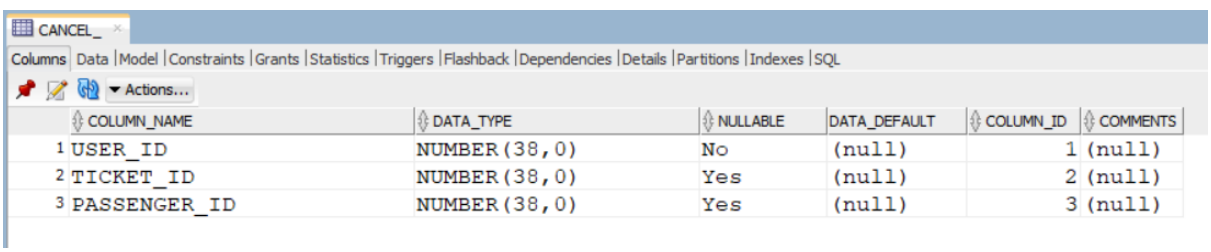
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	USER_ID	NUMBER(38,0)	No	(null)	1	(null)
2	TICKET_ID	NUMBER(38,0)	Yes	(null)	2	(null)

10. CANCEL_

```
CREATE TABLE CANCEL_
(
user_id int primary key,
ticket_id int,
passenger_id int,
constraint FK_userid3 foreign key(user_id)
references USER_INFO(user_id),
constraint FK_ticketid2 foreign key(ticket_id)
references TICKET(ticket_id),
constraint FK_passno foreign key(passenger_id)
references PASSENGER(passenger_id)
);
```



CANCEL_

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

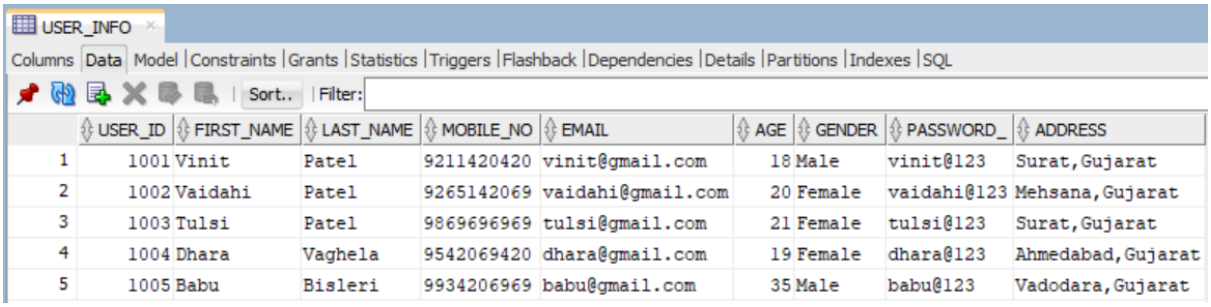
Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	USER_ID	NUMBER(38,0)	No	(null)	1	(null)
2	TICKET_ID	NUMBER(38,0)	Yes	(null)	2	(null)
3	PASSENGER_ID	NUMBER(38,0)	Yes	(null)	3	(null)

Insert Queries

1. **USER_INFO**

```
INSERT INTO USER_INFO
(user_id,first_name,last_name,mobile_no,email,age,gender,password_,
address)
VALUES
(1001,'Vinit','Patel','9211420420','vinit@gmail.com',18,'Male','vinit@123
','Surat,Gujarat');
INSERT INTO USER_INFO
(user_id,first_name,last_name,mobile_no,email,age,gender,password_,
address)
VALUES
(1002,'Vaidahi','Patel','9265142069','vaidahi@gmail.com',20,'Female','va
idahi@123','Mehsana,Gujarat');
INSERT INTO USER_INFO
(user_id,first_name,last_name,mobile_no,email,age,gender,password_,
address)
VALUES
(1003,'Tulsi','Patel','9869696969','tulsi@gmail.com',21,'Female','tulsi@1
23','Surat,Gujarat');
INSERT INTO USER_INFO
(user_id,first_name,last_name,mobile_no,email,age,gender,password_,
address)
VALUES
(1004,'Dhara','Vaghela','9542069420','dhara@gmail.com',19,'Female','d
hara@123','Ahmedabad,Gujarat');
INSERT INTO USER_INFO
(user_id,first_name,last_name,mobile_no,email,age,gender,password_,
address)
VALUES
(1005,'Babu','Bisleri','9934206969','babu@gmail.com',35,'Male','babu@
123','Vadodara,Gujarat');
```



USER_INFO

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

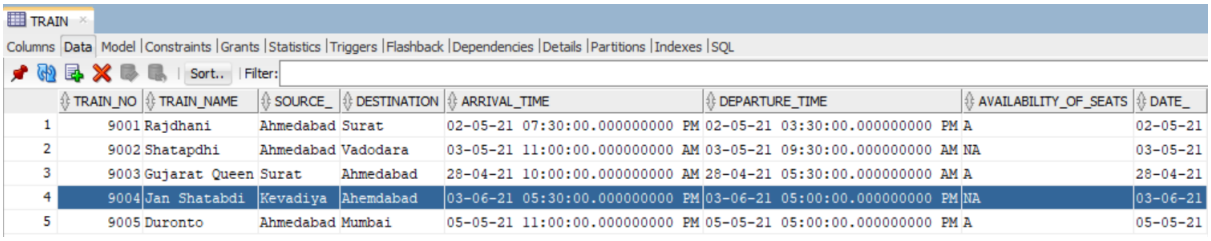
Sort.. | Filter:

	USER_ID	FIRST_NAME	LAST_NAME	MOBILE_NO	EMAIL	AGE	GENDER	PASSWORD_	ADDRESS
1	1001	Vinit	Patel	9211420420	vinit@gmail.com	18	Male	vinit@123	Surat,Gujarat
2	1002	Vaidahi	Patel	9265142069	vaidahi@gmail.com	20	Female	vaidahi@123	Mehsana,Gujarat
3	1003	Tulsi	Patel	9869696969	tulsi@gmail.com	21	Female	tulsi@123	Surat,Gujarat
4	1004	Dhara	Vaghela	9542069420	dhara@gmail.com	19	Female	dhara@123	Ahmedabad,Gujarat
5	1005	Babu	Bisleri	9934206969	babu@gmail.com	35	Male	babu@123	Vadodara,Gujarat

2. TRAIN

```
INSERT INTO TRAIN
(train_no,train_name,source_,destination,departure_time,arrival_time,availability_of_seats,date_)
VALUES
(9001,'Rajdhani','Ahmedabad','Surat',timestamp '2021-05-02 15:30:00',timestamp '2021-05-02 19:30:00','A',TO_DATE('02-May-2021','DD-MON-YYYY'));
INSERT INTO TRAIN
(train_no,train_name,source_,destination,departure_time,arrival_time,availability_of_seats,date_)
VALUES
(9002,'Shatapdhi','Ahmedabad','Vadodara',timestamp '2021-05-03 09:30:00',timestamp '2021-05-03 11:00:00','NA',TO_DATE('03-May-2021','DD-MON-YYYY'));
INSERT INTO TRAIN
(train_no,train_name,source_,destination,departure_time,arrival_time,availability_of_seats,date_)
VALUES
(9003,'Gujarat Queen','Surat','Ahmedabad',timestamp '2021-04-28 05:30:00',timestamp '2021-04-28 10:00:00','A',TO_DATE('28-Apr-2021','DD-MON-YYYY'));
INSERT INTO TRAIN
(train_no,train_name,source_,destination,departure_time,arrival_time,availability_of_seats,date_)
VALUES
(9004,'Jan Shatabdi','Kevadiya','Ahemdabad',timestamp '2021-06-03 17:00:00',timestamp '2021-06-03 17:30:00','NA',TO_DATE('03-Jun-2021','DD-MON-YYYY'));
```

INSERT INTO TRAIN
(train_no,train_name,source_,destination,departure_time,arrival_time,availability_of_seats,date_)
VALUES
(9005,'Duronto','Ahmedabad','Mumbai',timestamp '2021-05-05 17:00:00', timestamp '2021-05-05 23:00:00','A',TO_DATE('05-May-2021','DD-MON-YYYY'));



TRAIN

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

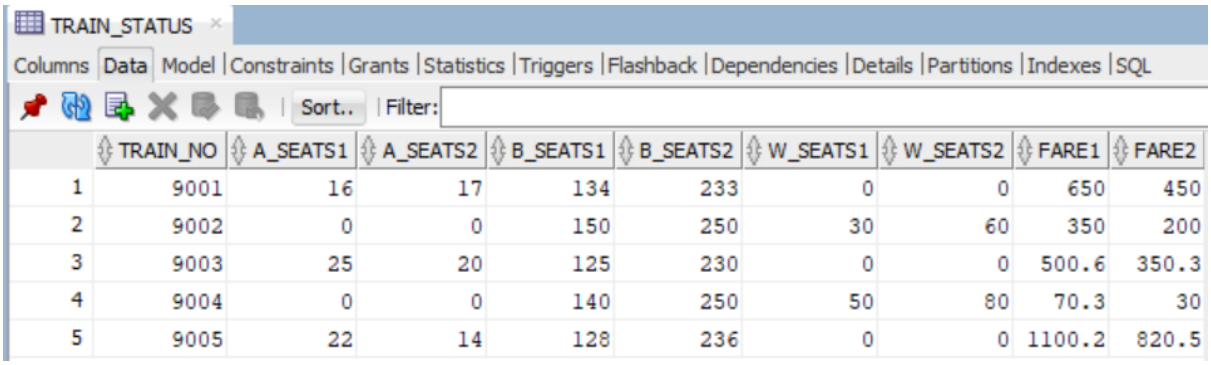
Sort.. | Filter:

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9001	Rajdhani	Ahmedabad	Surat	02-05-21 07:30:00.000000000 PM	02-05-21 03:30:00.000000000 PM	A	02-05-21
2	9002	Shatapdhi	Ahmedabad	Vadodara	03-05-21 11:00:00.000000000 AM	03-05-21 09:30:00.000000000 AM	NA	03-05-21
3	9003	Gujarat Queen	Surat	Ahmedabad	28-04-21 10:00:00.000000000 AM	28-04-21 05:30:00.000000000 AM	A	28-04-21
4	9004	Jan Shatabdi	Kevadiya	Ahemdabad	03-06-21 05:30:00.000000000 PM	03-06-21 05:00:00.000000000 PM	NA	03-06-21
5	9005	Duronto	Ahmedabad	Mumbai	05-05-21 11:00:00.000000000 PM	05-05-21 05:00:00.000000000 PM	A	05-05-21

3. TRAIN_STATUS

INSERT INTO TRAIN_STATUS
(train_no,a_seats1,a_seats2,b_seats1,b_seats2,w_seats1,w_seats2,fare1,fare2)
VALUES
(9001,16,17,134,233,0,0,650.00,450.00);
INSERT INTO TRAIN_STATUS
(train_no,a_seats1,a_seats2,b_seats1,b_seats2,w_seats1,w_seats2,fare1,fare2)
VALUES
(9002,0,0,150,250,30,60,350.00,200.00);
INSERT INTO TRAIN_STATUS
(train_no,a_seats1,a_seats2,b_seats1,b_seats2,w_seats1,w_seats2,fare1,fare2)
VALUES
(9003,25,20,125,230,0,0,500.60,350.30);
INSERT INTO TRAIN_STATUS
(train_no,a_seats1,a_seats2,b_seats1,b_seats2,w_seats1,w_seats2,fare1,fare2)
VALUES
(9004,0,0,140,250,50,80,70.30,30.00);
INSERT INTO TRAIN_STATUS

(train_no,a_seats1,a_seats2,b_seats1,b_seats2,w_seats1,w_seats2,fare1,fare2)
VALUES
(9005,22,14,128,236,0,0,1100.20,820.50);



TRAIN_STATUS

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Sort.. | Filter:

	TRAIN_NO	A_SEATS1	A_SEATS2	B_SEATS1	B_SEATS2	W_SEATS1	W_SEATS2	FARE1	FARE2
1	9001	16	17	134	233	0	0	650	450
2	9002	0	0	150	250	30	60	350	200
3	9003	25	20	125	230	0	0	500.6	350.3
4	9004	0	0	140	250	50	80	70.3	30
5	9005	22	14	128	236	0	0	1100.2	820.5

4. STATION

INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5001,'Ahmedabad', timestamp '2021-05-02 15:20:00',10,9001);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5001,'Ahmedabad', timestamp '2021-05-03 09:25:00',5,9002);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5001,'Ahmedabad', timestamp '2021-04-28 10:00:00',5,9003);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5001,'Ahmedabad', timestamp '2021-06-03 17:30:00',5,9004);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5001,'Ahmedabad', timestamp '2021-05-05 16:50:00',10,9005);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)

```
VALUES
(5002,'Vadodara', timestamp '2021-05-03 11:00:00',10,9002);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5003,'Surat', timestamp '2021-05-02 19:30:00',10,9001);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5003,'Surat', timestamp '2021-04-28 5:15:00',15,9003);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5004,'Kevadiya', timestamp '2021-06-03 16:55:00',5,9004);
INSERT INTO STATION
(station_no,station_name,arrival_time,hault,train_no)
VALUES
(5005,'Mumbai', timestamp '2021-05-05 23:00:00',20,9005);
```

STATION

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Inde

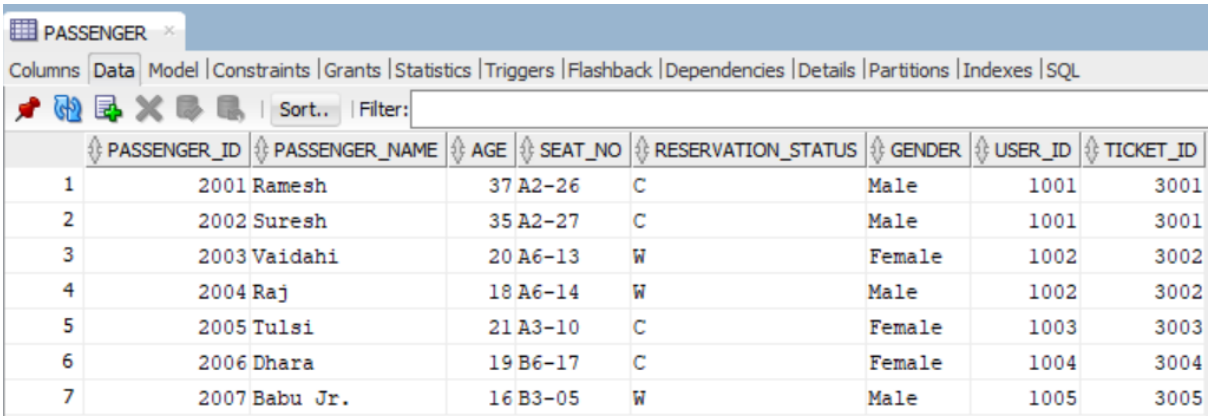
Sort.. | Filter:

	STATION_NO	STATION_NAME	ARRIVAL_TIME	HAULT	TRAIN_NO
1	5001	Ahmedabad	02-05-21 03:20:00.000000000 PM	10	9001
2	5001	Ahmedabad	03-05-21 09:25:00.000000000 AM	5	9002
3	5001	Ahmedabad	28-04-21 10:00:00.000000000 AM	5	9003
4	5001	Ahmedabad	03-06-21 05:30:00.000000000 PM	5	9004
5	5001	Ahmedabad	05-05-21 04:50:00.000000000 PM	10	9005
6	5002	Vadodara	03-05-21 11:00:00.000000000 AM	10	9002
7	5003	Surat	02-05-21 07:30:00.000000000 PM	10	9001
8	5003	Surat	28-04-21 05:15:00.000000000 AM	15	9003
9	5004	Kevadiya	03-06-21 04:55:00.000000000 PM	5	9004
10	5005	Mumbai	05-05-21 11:00:00.000000000 PM	20	9005

5. PASSENGER

```
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
```

```
(2001,'Ramesh',37,'A2-26','C','Male',1001,3001);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2002,'Suresh',35,'A2-27','C','Male',1001,3001);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2003,'Vaidahi',20,'A6-13','W','Female',1002,3002);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2004,'Raj',18,'A6-14','W','Male',1002,3002);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2005,'Tulsi',21,'A3-10','C','Female',1003,3003);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2006,'Dhara',19,'B6-17','C','Female',1004,3004);
INSERT INTO PASSENGER
(passenger_id,passenger_name,age,seat_no,reservation_status,gender,
user_id,ticket_id)
VALUES
(2007,'Babu Jr.',16,'B3-05','W','Male',1005,3005);
```



PASSENGER

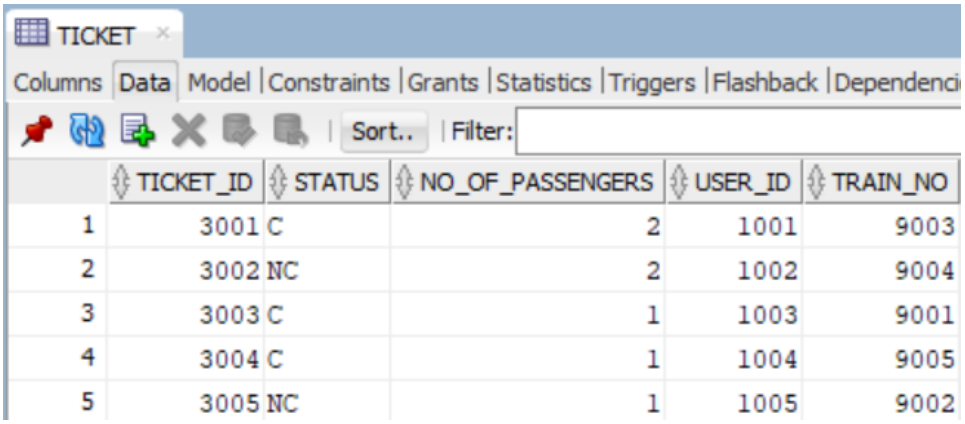
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Sort.. | Filter:

	PASSENGER_ID	PASSENGER_NAME	AGE	SEAT_NO	RESERVATION_STATUS	GENDER	USER_ID	TICKET_ID
1	2001	Ramesh	37	A2-26	C	Male	1001	3001
2	2002	Suresh	35	A2-27	C	Male	1001	3001
3	2003	Vaidahi	20	A6-13	W	Female	1002	3002
4	2004	Raj	18	A6-14	W	Male	1002	3002
5	2005	Tulsi	21	A3-10	C	Female	1003	3003
6	2006	Dhara	19	B6-17	C	Female	1004	3004
7	2007	Babu Jr.	16	B3-05	W	Male	1005	3005

6. TICKET

```
INSERT INTO TICKET
(ticket_id,status,no_of_passengers,user_id,train_no)
VALUES
(3001,'C',2,1001,9003);
INSERT INTO TICKET
(ticket_id,status,no_of_passengers,user_id,train_no)
VALUES
(3002,'NC',2,1002,9004);
INSERT INTO TICKET
(ticket_id,status,no_of_passengers,user_id,train_no)
VALUES
(3003,'C',1,1003,9001);
INSERT INTO TICKET
(ticket_id,status,no_of_passengers,user_id,train_no)
VALUES
(3004,'C',1,1004,9005);
INSERT INTO TICKET
(ticket_id,status,no_of_passengers,user_id,train_no)
VALUES
(3005,'NC',1,1005,9002);
```


TICKET

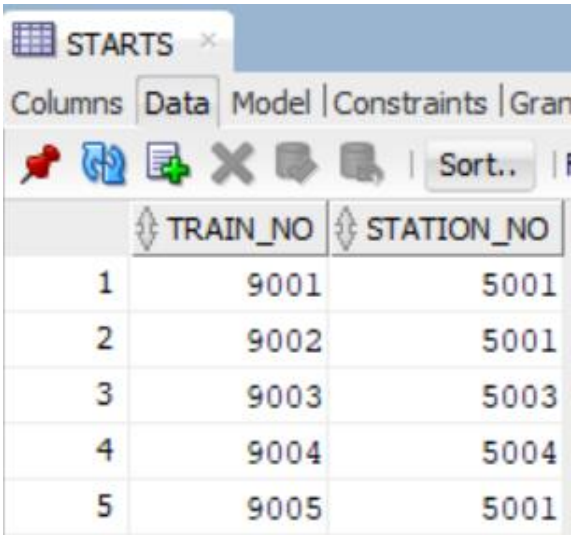
Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependenci

Sort.. | Filter:

	TICKET_ID	STATUS	NO_OF_PASSENGERS	USER_ID	TRAIN_NO
1	3001	C	2	1001	9003
2	3002	NC	2	1002	9004
3	3003	C	1	1003	9001
4	3004	C	1	1004	9005
5	3005	NC	1	1005	9002

7. STARTS

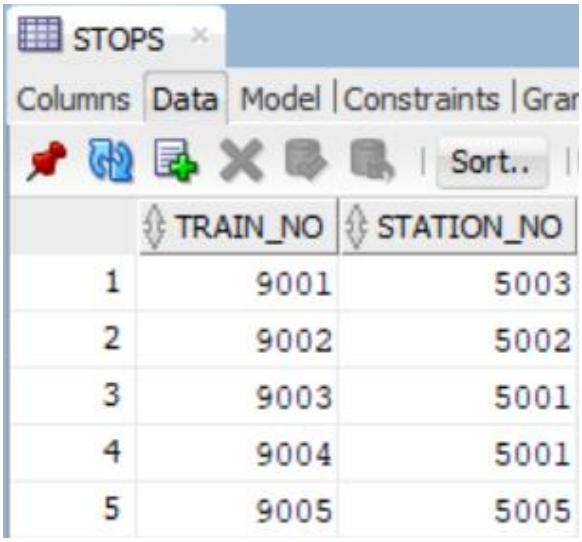
```
INSERT INTO STARTS
(station_no,train_no)
VALUES
(5001,9001);
INSERT INTO STARTS
(station_no,train_no)
VALUES
(5001,9002);
INSERT INTO STARTS
(station_no,train_no)
VALUES
(5003,9003);
INSERT INTO STARTS
(station_no,train_no)
VALUES
(5004,9004);
INSERT INTO STARTS
(station_no,train_no)
VALUES
(5001,9005);
```



	TRAIN_NO	STATION_NO
1	9001	5001
2	9002	5001
3	9003	5003
4	9004	5004
5	9005	5001

8. STOPS

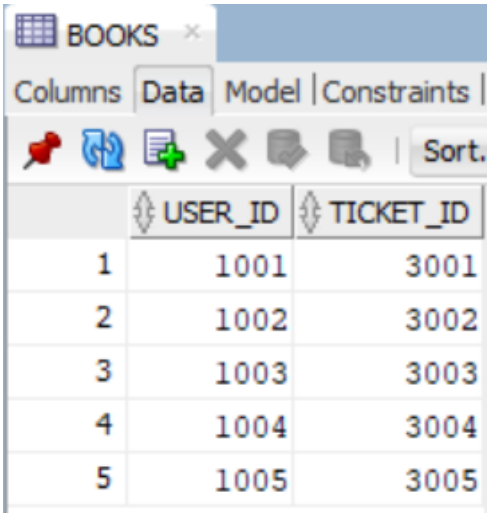
```
INSERT INTO STOPS
(station_no,train_no)
VALUES
(5003,9001);
INSERT INTO STOPS
(station_no,train_no)
VALUES
(5002,9002);
INSERT INTO STOPS
(station_no,train_no)
VALUES
(5001,9003);
INSERT INTO STOPS
(station_no,train_no)
VALUES
(5001,9004);
INSERT INTO STOPS
(station_no,train_no)
VALUES
(5005,9005);
```



	TRAIN_NO	STATION_NO
1	9001	5003
2	9002	5002
3	9003	5001
4	9004	5001
5	9005	5005

9. BOOKS

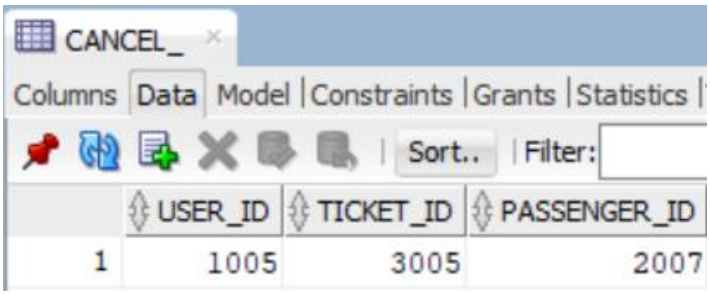
```
INSERT INTO BOOKS
(user_id,ticket_id)
VALUES
(1001,3001);
INSERT INTO BOOKS
(user_id,ticket_id)
VALUES
(1002,3002);
INSERT INTO BOOKS
(user_id,ticket_id)
VALUES
(1003,3003);
INSERT INTO BOOKS
(user_id,ticket_id)
VALUES
(1004,3004);
INSERT INTO BOOKS
(user_id,ticket_id)
VALUES
(1005,3005);
```



	USER_ID	TICKET_ID
1	1001	3001
2	1002	3002
3	1003	3003
4	1004	3004
5	1005	3005

10.CANCEL_

```
INSERT INTO CANCEL_
(user_id,ticket_id,passenger_id)
VALUES
(1005,3005,2007);
```



	USER_ID	TICKET_ID	PASSENGER_ID
1	1005	3005	2007

SQL Queries

1)List all the users who are from Surat.

SELECT * FROM USER_INFO

where address like 'Surat%';

	USER_ID	FIRST_NAME	LAST_NAME	MOBILE_NO	EMAIL	AGE	GENDER	PASSWORD_	ADDRESS
1	1001	Vinit	Patel	9211420420	vinit@gmail.com	18	Male	vinit@123	Surat,Gujarat
2	1003	Tulsi	Patel	9869696969	tulsi@gmail.com	21	Female	tulsi@123	Surat,Gujarat

2)List all the users whose age is greater than or equal to 20.

SELECT * FROM USER_INFO

where age>=20;

	USER_ID	FIRST_NAME	LAST_NAME	MOBILE_NO	EMAIL	AGE	GENDER	PASSWORD_	ADDRESS
1	1002	Vaidahi	Patel	9265142069	vaidahi@gmail.com	20	Female	vaidahi@123	Mehsana,Gujarat
2	1003	Tulsi	Patel	9869696969	tulsi@gmail.com	21	Female	tulsi@123	Surat,Gujarat
3	1005	Babu	Bisleri	9934206969	babu@gmail.com	35	Male	babu@123	Vadodara,Gujarat

3)List all the users who are female.

SELECT * FROM USER_INFO

where gender='Female';

	USER_ID	FIRST_NAME	LAST_NAME	MOBILE_NO	EMAIL	AGE	GENDER	PASSWORD_	ADDRESS
1	1002	Vaidahi	Patel	9265142069	vaidahi@gmail.com	20	Female	vaidahi@123	Mehsana,Gujarat
2	1003	Tulsi	Patel	9869696969	tulsi@gmail.com	21	Female	tulsi@123	Surat,Gujarat
3	1004	Dhara	Vaghela	9542069420	dhara@gmail.com	19	Female	dhara@123	Ahmedabad,Gujarat

4)List all the trains which starts from Ahmedabad.

SELECT * FROM TRAIN

where source_='Ahmedabad';

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9001	Rajdhani	Ahmedabad	Surat	02-05-21 07:30:00.000000000 PM	02-05-21 03:30:00.000000000 PM	A	02-05-21
2	9002	Shatapdhi	Ahmedabad	Vadodara	03-05-21 11:00:00.000000000 AM	03-05-21 09:30:00.000000000 AM	NA	03-05-21
3	9005	Duronto	Ahmedabad	Mumbai	05-05-21 11:00:00.000000000 PM	05-05-21 05:00:00.000000000 PM	A	05-05-21

5)List all the trains which departures in morning.

```
SELECT * FROM TRAIN
where departure_time like '%AM';
```

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9002	Shatapdhi	Ahmedabad	Vadodara	03-05-21 11:00:00.000000000 AM	03-05-21 09:30:00.000000000 AM	NA	03-05-21
2	9003	Gujarat Queen	Surat	Ahmedabad	28-04-21 10:00:00.000000000 AM	28-04-21 05:30:00.000000000 AM	A	28-04-21

6)List all the trains which has available seats.

```
SELECT * FROM TRAIN
where availability_of_seats='A';
```

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9001	Rajdhani	Ahmedabad	Surat	02-05-21 07:30:00.000000000 PM	02-05-21 03:30:00.000000000 PM	A	02-05-21
2	9003	Gujarat Queen	Surat	Ahmedabad	28-04-21 10:00:00.000000000 AM	28-04-21 05:30:00.000000000 AM	A	28-04-21
3	9005	Duronto	Ahmedabad	Mumbai	05-05-21 11:00:00.000000000 PM	05-05-21 05:00:00.000000000 PM	A	05-05-21

7)List all the trains for May 2.

```
SELECT * FROM TRAIN
where date_ like '02-05%';
```

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9001	Rajdhani	Ahmedabad	Surat	02-05-21 07:30:00.000000000 PM	02-05-21 03:30:00.000000000 PM	A	02-05-21

8)List all train in ascending order of their fare for class 1 tickets.

```
SELECT t.train_no,t.train_name,ts.fare1 FROM TRAIN t,TRAIN_STATUS ts
```

where t.train_no = ts.train_no

order by fare1 asc;

	TRAIN_NO	TRAIN_NAME	FARE1
1	9004	Jan Shatabdi	70.3
2	9002	Shatapdhi	350
3	9003	Gujarat Queen	500.6
4	9001	Rajdhani	650
5	9005	Duronto	1100.2

9)List all the trains which has available seats for class 2.

SELECT t.train_no,t.train_name,ts.a_seats2 FROM TRAIN t,TRAIN_STATUS ts

where t.train_no = ts.train_no

and a_seats2>0;

	TRAIN_NO	TRAIN_NAME	A_SEATS2
1	9001	Rajdhani	17
2	9003	Gujarat Queen	20
3	9005	Duronto	14

10)List all the trains which has waiting list of less than 50 passengers for class1 seats.

SELECT t.train_no,t.train_name,ts.w_seats1 FROM TRAIN t,TRAIN_STATUS ts

where t.train_no = ts.train_no

and w_seats1<=50 and w_seats1>0;

	TRAIN_NO	TRAIN_NAME	W_SEATS1
1	9002	Shatapdhi	30
2	9004	Jan Shatabdi	50

11)List all the users with 2 passsengers.

```
SELECT u.user_id,u.first_name,u.last_name,t.no_of_passengers,t.ticket_id
FROM USER_INFO u,TICKET t
where u.user_id=t.user_id
and t.no_of_passengers=2;
```

	USER_ID	FIRST_NAME	LAST_NAME	NO_OF_PASSENGERS	TICKET_ID
1	1001	Vinit	Patel	2	3001
2	1002	Vaidahi	Patel	2	3002

12)List all the users with confirmed tickets.

```
SELECT u.user_id,u.first_name,u.last_name,t.no_of_passengers,t.ticket_id,
t.status
FROM USER_INFO u,TICKET t
where u.user_id=t.user_id
and status='C';
```

	USER_ID	FIRST_NAME	LAST_NAME	NO_OF_PASSENGERS	TICKET_ID	STATUS
1	1001	Vinit	Patel	2	3001	C
2	1003	Tulsi	Patel	1	3003	C
3	1004	Dhara	Vaghela	1	3004	C

13)List all the trains in descending order of their hault.

```
SELECT s.train_no,t.train_name,s.station_no,s.station_name,s.hault
FROM STATION s,TRAIN t
where s.train_no = t.train_no
order by hault desc;
```

	TRAIN_NO	TRAIN_NAME	STATION_NO	STATION_NAME	HAULT
1	9005	Duronto	5005	Mumbai	20
2	9003	Gujarat Queen	5003	Surat	15
3	9001	Rajdhani	5001	Ahmedabad	10
4	9001	Rajdhani	5003	Surat	10
5	9002	Shatapdhi	5002	Vadodara	10
6	9005	Duronto	5001	Ahmedabad	10
7	9004	Jan Shatabdi	5001	Ahmedabad	5
8	9004	Jan Shatabdi	5004	Kevadiya	5
9	9002	Shatapdhi	5001	Ahmedabad	5
10	9003	Gujarat Queen	5001	Ahmedabad	5

14)List all trains which passes the station_no 5003.

```
SELECT s.train_no,t.train_name,s.station_no,s.station_name
FROM STATION s,TRAIN t
where s.train_no = t.train_no
and s.station_no=5003;
```

	TRAIN_NO	TRAIN_NAME	STATION_NO	STATION_NAME
1	9001	Rajdhani	5003	Surat
2	9003	Gujarat Queen	5003	Surat

15)List all the passengers with confirmed reservation status.

```
SELECT * FROM PASSENGER
where reservation_status='C';
```

	PASSENGER_ID	PASSENGER_...	AGE	SEAT_NO	RESERVATION_STATUS	GENDER	USER_ID	TICKET_ID
1	2001	Ramesh	37	A2-26	C	Male	1001	3001
2	2002	Suresh	35	A2-27	C	Male	1001	3001
3	2005	Tulsi	21	A3-10	C	Female	1003	3003
4	2006	Dhara	19	B6-17	C	Female	1004	3004

16)Print details of all the passengers travelling under ticket id 3001.

```
SELECT * FROM PASSENGER
```

where ticket_id=3001;

	PASSENGER_ID	PASSENGER_NAME	AGE	SEAT_NO	RESERVATION_STATUS	GENDER	USER_ID	TICKET_ID
1	2001	Ramesh	37	A2-26	C	Male	1001	3001
2	2002	Suresh	35	A2-27	C	Male	1001	3001

17)List all the passenger travelling in A compartment.

SELECT * FROM PASSENGER

where seat_no like 'A%';

	PASSENGER_ID	PASSENGER_NAME	AGE	SEAT_NO	RESERVATION_STATUS	GENDER	USER_ID	TICKET_ID
1	2001	Ramesh	37	A2-26	C	Male	1001	3001
2	2002	Suresh	35	A2-27	C	Male	1001	3001
3	2003	Vaidahi	20	A6-13	W	Female	1002	3002
4	2004	Raj	18	A6-14	W	Male	1002	3002
5	2005	Tulsi	21	A3-10	C	Female	1003	3003

18)List all the passengers who cancelled their ticket.

SELECT c.user_id,c.passenger_id,c.ticket_id,p.passenger_name,p.seat_no

FROM CANCEL_ c,PASSENGER p

where c.passenger_id=p.passenger_id;

	USER_ID	PASSENGER_ID	TICKET_ID	PASSENGER_...	SEAT_NO
1	1005	2007	3005	Babu Jr.	B3-05

19)List all passengers who are travelling in Gujarat Queen.

SELECT p.passenger_id,p.passenger_name,p.seat_no,t.train_no,t.train_name, ti.ticket_id

FROM PASSENGER p,TRAIN t,TICKET ti

where p.ticket_id=ti.ticket_id

and ti.train_no=t.train_no

and t.train_name='Gujarat Queen';

	PASSENGER_ID	PASSENGER_...	SEAT_NO	TRAIN_NO	TRAIN_NAME	TICKET_ID
1	2001	Ramesh	A2-26	9003	Gujarat Queen	3001
2	2002	Suresh	A2-27	9003	Gujarat Queen	3001

20)Display all the trains which runs between Surat and Ahmedabad.

SELECT * FROM TRAIN

where (source_ = 'Ahmedabad' and destination = 'Surat')

or (source_ = 'Surat' and destination = 'Ahmedabad');

	TRAIN_NO	TRAIN_NAME	SOURCE_	DESTINATION	ARRIVAL_TIME	DEPARTURE_TIME	AVAILABILITY_OF_SEATS	DATE_
1	9001	Rajdhani	Ahmedabad	Surat	02-05-21 07:30:00.000000000 PM	02-05-21 03:30:00.000000000 PM	A	02-05-21
2	9003	Gujarat Queen	Surat	Ahmedabad	28-04-21 10:00:00.000000000 AM	28-04-21 05:30:00.000000000 AM	A	28-04-21

21)Count of trains that stop at each station.

SELECT station_name,count(station_no) FROM STATION

Group by station_name;

	STATION_NAME	COUNT(STATION_NO)
1	Ahmedabad	5
2	Mumbai	1
3	Vadodara	1
4	Kevadiya	1
5	Surat	2

22)Display stations having no of trains greater than equal to 2 in ascending order.

```
SELECT station_name,count(station_no)
FROM STATION
Group by station_name
Having count(station_no)>=2
Order by count(station_no) asc;
```

	STATION_NAME	COUNT(STATION_NO)
1	Surat	2
2	Ahmedabad	5