

DBMS PROJECT

ON

RAILWAYS SYSTEM DATABASE



DESIGNED BY

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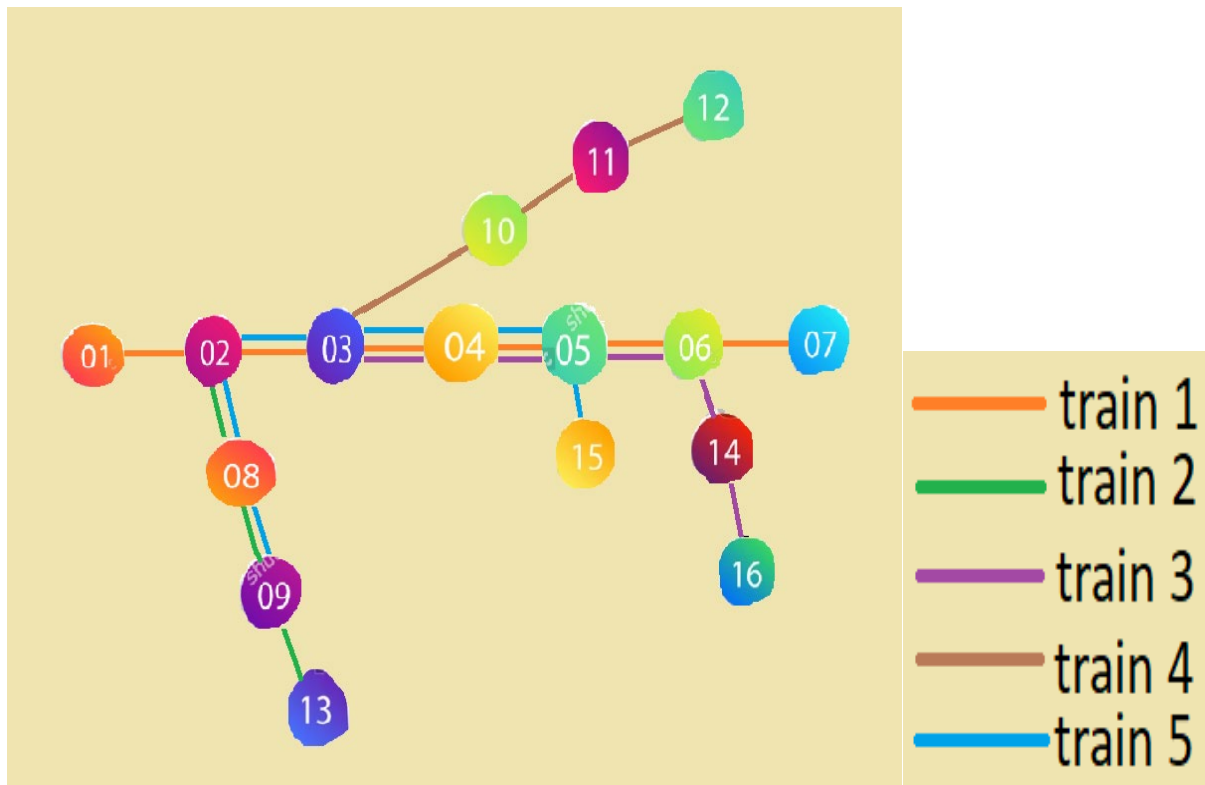
DEEPANSHU JINDAL -197126 - SECTION - A

SASWAT DAS - 197273 - SECTION - B

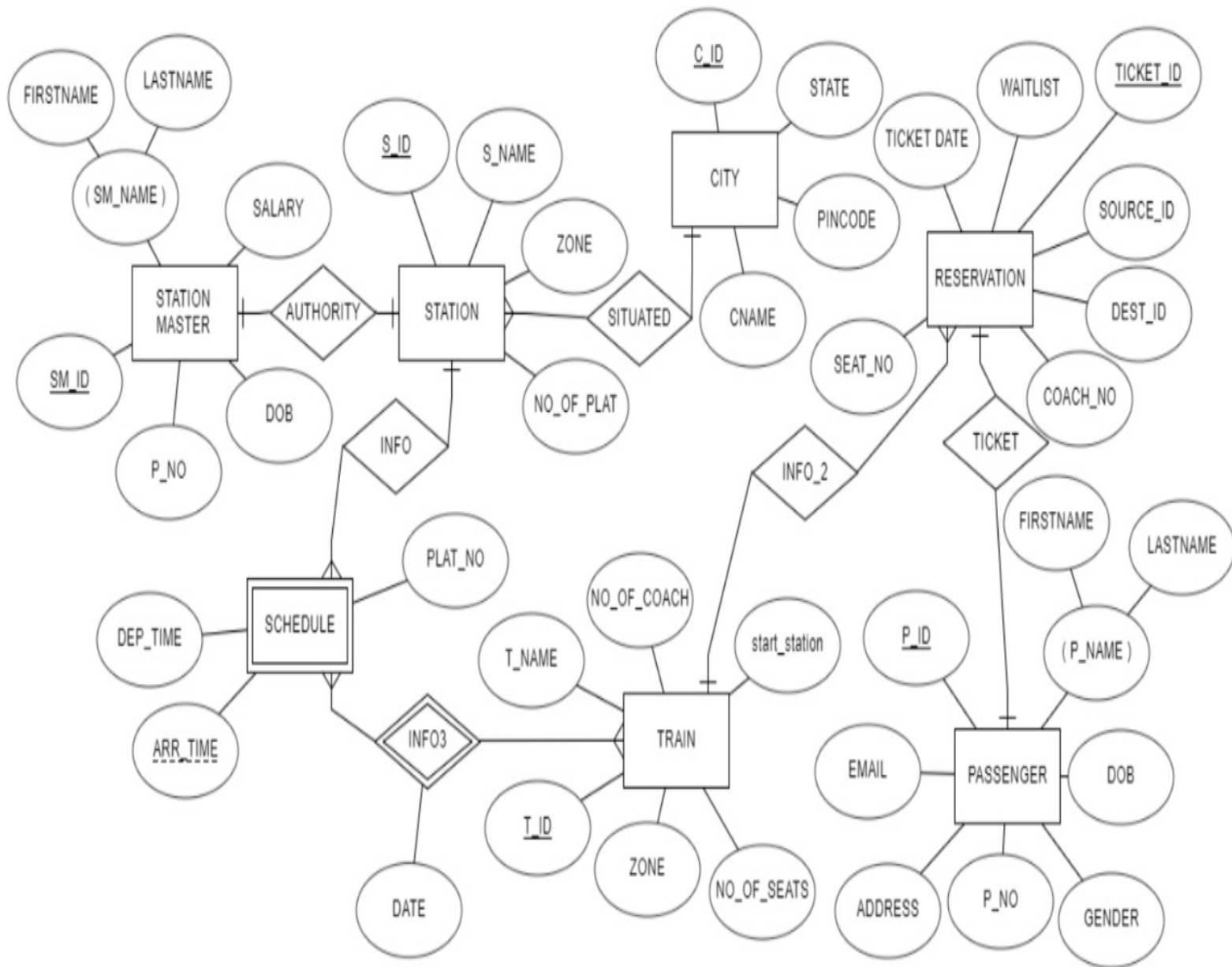
PROBLEM STATEMENT

This Railways System Database is modelled such that :-

- Railway Authority can access the details of stations, station master, trains, passengers , reservation related information quickly.
- Passengers can search trains by just entering the source and destination.
- Passengers can see the waitlist of any train between two stations.
- Passengers can book tickets and can cancel the ticket at anytime (the waitlist gets updated).
- Passengers can access the details related to their reservation which is identified by a unique ticket id.
- The database is modelled as a train network where stations are the nodes and the tracks are the edges of the system.



ER DIAGRAM



RELATIONAL SCHEMA

Table: StationMaster

- SM_ID
- SMNAME(MULTIVALUED ATTRIBUTE)
- SALARY
- DOB
- P_NO

Table: Station

- S_ID
- S_NAME
- ZONE
- NO_OF_PLAT

Table: City

- C_ID
- C_NAME
- STATE
- PINCODE

Table: Train

- T_ID
- T_NAME
- NO_OF_COACH
- NO_OF_SEATS
- START_STATION
- ZONE

Table: Reservation

- **TICKET_ID**
- **WAITLIST**
- **SOURCE_ID**
- **DEST_ID**
- **SEAT_NO**
- **COACH_NO**
- **TICKET_DATE**

Table: Passenger

- **P_ID**
- **P_NAME(MULTIVALUED ATTRIBUTE)**
- **DOB**
- **EMAIL**
- **ADDRESS**
- **P_NO**
- **GENDER**

Table: Schedule(Weak Entity)

- **ARR_TIME**
- **DEP_TIME**
- **PLAT_NO**

In all the above tables , there is only one candidate key which says that only the candidate key(primary key here) determines all other attributes of a table. Therefore, there is no possibility of transitive dependencies which suggests that **relations are in 3NF**. Even extending further, as there are no functional dependencies except the key dependencies **relations are in BCNF**.

CREATION OF TABLES

Table: StationMaster

```
CREATE TABLE STATIONMASTER(  
SM_ID INT,  
FIRSTNAME VARCHAR2(15),  
LASTNAME VARCHAR2(15),  
SALARY INT,  
DOB DATE,  
P_NO VARCHAR2(10),  
PRIMARY KEY(SM_ID)  
);
```

```
INSERT INTO STATIONMASTER  
VALUES(1120,'RAM','SINGH',40000,'10101985','9876543210');
```

```
INSERT INTO STATIONMASTER  
VALUES(1121,'OM PRAKASH','SHARMA',30000,'17101992','7425553298');
```

```
INSERT INTO STATIONMASTER  
VALUES(1126,'GHANSHYAM','YADAV',45000,'29021980','6667548214');
```

```
INSERT INTO STATIONMASTER  
VALUES(1254,'AAYUSH','PATIDAR',25000,'07111995','9514786320');
```

```
INSERT INTO STATIONMASTER  
VALUES(1001,'MOHIT','MANDAL',40000,'17111984','7412589610');
```

```
INSERT INTO STATIONMASTER  
VALUES(1267,'SHYAM','KUMAR',50000,'14011978','8877443210');
```

```
INSERT INTO STATIONMASTER  
VALUES(1987,'RAVI PRASAD','MISHRA',48000,'21101985','7778842510');
```

```
INSERT INTO STATIONMASTER  
VALUES(2001,'KAMAL','SINGH',35000,'11121990','9977884455');
```

```
INSERT INTO STATIONMASTER  
VALUES(2222,'RAMESH','LAMBDA',40000,'01081988','9948642180');
```

```
INSERT INTO STATIONMASTER  
VALUES(1664,'RAJESH','KASWAN',48000,'19111983','9845673210');
```

```
INSERT INTO STATIONMASTER  
VALUES(1245,'BRIJLAL','RAJPUT',50000,'02101980','7796352210');
```

```
INSERT INTO STATIONMASTER  
VALUES(1345,'KISHAN','SINGH',35000,'10111989','9876458880');
```

```
INSERT INTO STATIONMASTER  
VALUES(1554,'PAWAN','SONI',45000,'11101982','7512589630');
```

```
INSERT INTO STATIONMASTER  
VALUES(1800,'MAHENDRA','NAHATA',44000,'14121980','8496544210');
```

```
INSERT INTO STATIONMASTER  
VALUES(2994,'RAMESH','YADAV',30000,'10101995','9988743210');
```

```
INSERT INTO STATIONMASTER  
VALUES(1400,'HARISH','JASRASARIA',42000,'11121980','7799843210');
```

Table: City

```
CREATE TABLE CITY  
(  
    C_ID INT,  
    C_NAME VARCHAR2(20),  
    STATE VARCHAR2(15),  
    PINCODE INT,  
    PRIMARY KEY(C_ID)  
);
```

```
INSERT INTO CITY  
VALUES(33550,'JAIPUR','RAJASTHAN',3365);
```

```
INSERT INTO CITY  
VALUES(15050,'LUCKNOW','UTTARPRADESH',1598);
```

```
INSERT INTO CITY  
VALUES(33510,'KOTA','RAJASTHAN',3375);
```

```
INSERT INTO CITY  
VALUES(22298,'PATNA','BIHAR',2267);
```

```
INSERT INTO CITY  
VALUES(10101,'DELHI','NEW DELHI',1099);
```

```
INSERT INTO CITY  
VALUES(15045,'WARANGAL','TELANGANA',1510);
```



```
INSERT INTO CITY  
VALUES(10987,'SURAT','GUJRAT',1080);
```

Table: Train

```
create table train  
(  
    t_id number primary key,  
    t_name varchar2(40),  
    no_of_coach number,  
    no_of_seats number,  
    zone varchar2(40)  
);
```

```
insert into train values(12896,'RAJDHANI EXPRS',12,70,'NORTH-  
EAST',201931);
```

```
insert into train values(13754,'DHAULI EXPRS',12,70,'EAST',200101);
```

```
insert into train values(36201,'PURUSHOTTAM SUPERFAST  
EXPRS',12,70,'SOUTH-EAST',200010);
```

```
insert into train values(25378,'ANDHRA-DELHI  
EXPRS',12,70,'SOUTH',199612);
```

```
insert into train values(12598,'GUJARAT EXPRS',12,70,'NORTH-  
WEST',190098);
```

```
Alter table train add start_station_id int;
```

```
update train set start_station_id=201931 where t_id=12896;
```

```
update train set start_station_id=190098 where t_id=12598;
```

```
update train set start_station_id=200101 where t_id=13754;
```

```
update train set start_station_id=200010 where t_id=36201;
```

```
update train set start_station_id=199612 where t_id=25378;
```

Table: Passenger

```
create table PASSENGER(  
P_ID INT PRIMARY KEY,  
FIRSTNAME VARCHAR(20),  
LASTNAME VARCHAR(20),  
P_NO NUMBER ,  
ADDRESS VARCHAR(60),  
EMAIL VARCHAR(40),  
DOB DATE,  
GENDER VARCHAR(15));
```

```
INSERT INTO PASSENGER  
VALUES(126,'SASWAT','DAS',9853089002,'SEC-  
6,CDA,CUTTACK,ODISHA','DASCHIKU37@GMAIL.COM','6-3-2001','MALE');  
INSERT INTO PASSENGER  
VALUES(135,'SIBASHIS','DHAL',9983089542,'PLOT-81,RAJEEV GANDHI  
NAGAR,KOTA','DHAL69@GMAIL.COM','19-7-1998','MALE');  
INSERT INTO PASSENGER  
VALUES(124,'MANOJ','KUMAR',8876586432,'HOUSE-56,RAJENDRA  
NAGAR,DELHI','MANOJ_1996@YAHOO.COM','17-8-1996','MALE');  
INSERT INTO PASSENGER  
VALUES(255,'SAKSHI','MISHRA',8249937651,'PLOT 12,PARAUL  
BAGH,JAIPUR,RAJASTHAN','SAKSHI_452@GMAIL.COM','8-11-  
1990','FEMALE');  
INSERT INTO PASSENGER  
VALUES(654,'SASWATI','PANJA',9167762253,'HANAMKONDA,WARANGAL,  
TELANGANA','SASWATI73@GMAIL.COM','15-1-2003','FEMALE');  
INSERT INTO PASSENGER  
VALUES(411,'SHREERAM','MOHANTY',9090940553,'HARIPUR  
ROAD,CUTTACK,ODISHA','SHREERAMMOHANTY436@GMAIL.COM','24-8-  
2001','MALE');  
INSERT INTO PASSENGER  
VALUES(132,'DEEPANSHU','JINDAL',7734289761,'MEHROUMGARH,ALWA  
R,RAJASTHAN','JINDAL_71@GMAIL.COM','27-12-1995','MALE');  
INSERT INTO PASSENGER  
VALUES(201,'DEEPAK','CHAHAR',9937325601,'AJEEB  
NAGAR,MUMBAI,MAHARASHTRA','CHAHAR_DEEPAK@GMAIL.COM','29-  
11-1987','MALE');
```

```

INSERT INTO PASSENGER
VALUES(322,'MONISHA','CHATOPADHYAY',8219078782,'NIZAMPUR,KOLK
ATA,WEST BENGAL','MONISHA_90@HOTMAIL.COM','16-7-1978','FEMALE');
INSERT INTO PASSENGER
VALUES(454,'AMRITA','PRITAM',9439637500,'SEC-
9,CDA,CUTTACK,ODISHA','AP900@GMAIL.COM','1-12-2001','FEMALE');
INSERT INTO PASSENGER
VALUES(625,'SAROJ','BARHMA',8976212534,'GARDEN REACH,RAILWAY
COLONY,KOLKATA','BRAHMA89@GMAIL.COM','28-5-1992','MALE');
INSERT INTO PASSENGER
VALUES(899,'REENA','AGARWAL',7763297653,'KARAU
L BAGH,DELHI','REENA_31@GMAIL.COM','19-8-2005','FEMALE');
INSERT INTO PASSENGER
VALUES(123,'MADHAV','GODPOLE',9987634568,'RAJNAGAR,NAGPUR,MA
HARASHTRA','GODPOLE77@GMAIL.COM','6-10-1990','MALE');
INSERT INTO PASSENGER
VALUES(134,'ANKITA','JHALLI',8978656743,'WEST
BANDRA,MUMBAI,MAHARASHTRA','JHALLI_ANKITA@YAHOO.COM','26-1-
1977','FEMALE');
INSERT INTO PASSENGER
VALUES(157,'ANSHUMAN','MISHRA',8867908612,'RUDRAGHAT,PRAYAGR
AJ,UTTAR PRADESH','BORUTO_69@GMAIL.COM','28-5-2001','MALE');
INSERT INTO PASSENGER
VALUES(159,'SUFİYAN','ANSARI',7789634256,'ELDECO,LUCKNOW,UTTAR
PRADESH','ANSARI89@GMAIL.COM','9-9-2000','MALE');
INSERT INTO PASSENGER
VALUES(250,'CHIRANTAN','CHACHA',8890967555,'SADAVPUR,PATNA,MA
DHYA PRADESH','CHIRU_CHACHA@GMAIL.COM','30-7-1997','MALE');
INSERT INTO PASSENGER
VALUES(326,'DEEPAK','SHUKLA',9853086752,'WEST
HARJANPATH,DISPUR,ASSAM','SHUKLA_8756@GMAIL.COM','12-6-
1995','MALE');
INSERT INTO PASSENGER
VALUES(456,'AARTI','GOYAL',9853384671,'SERUTGARH,UDAIPUR,RAJAST
HAN','AARTIGOYAL7@GMAIL.COM','20-3-2002','FEMALE');
INSERT INTO PASSENGER
VALUES(321,'REVANTH','REDDY',8876759002,'HILLVIEW
ROAD,HYDERABAD,TELANGANA','REVANTH_56@GMAIL.COM','16-5-
1989','MALE');

```

Table: Reservation

create table **reservation**

```
(  
    ticket_id number primary key,  
    waitlist number,  
    source_id number,  
    dest_id number,  
    seat_no number,  
    coach_no number,  
    ticket_date date,  
    t_id number,  
    p_id number,  
    foreign key (t_id) references train(t_id),  
    foreign key (p_id) references passenger(p_id)  
);
```

insert into reservation values(1000,0,201931,185798,1,1,'20-05-2021',12896,126);

insert into reservation values(1001,0,200010,199833,2,1,'20-05-2021',12896,135);

insert into reservation values(1002,0,200010,185798,3,1,'20-05-2021',12896,124);

insert into reservation values(1003,0,199612,199833,4,1,'20-05-2021',12896,255);

insert into reservation values(1004,0,200101,198289,3,4,'22-03-2021',13754,654);

insert into reservation values(1005,0,199690,190098,4,1,'22-03-2021',13754,411);

insert into reservation values(1006,0,200101,198289,3,1,'22-03-2021',13754,132);

insert into reservation values(1007,0,200101,198289,5,2,'22-03-2021',13754,201);

insert into reservation values(1008,0,200010,194386,45,5,'2-06-2021',36201,322);

insert into reservation values(1009,0,199612,192543,36,3,'2-06-2021',36201,454);

insert into reservation values(1010,0,199833,192543,15,2,'2-06-2021',36201,625);

```
insert into reservation values(1011,0,198698,194386,25,3,'2-06-2021',36201,899);
```

```
insert into reservation values(1012,0,199612,194578,55,5,'27-12-2021',25378,123);
```

```
insert into reservation values(1013,0,199612,194578,36,4,'27-12-2021',25378,134);
```

```
insert into reservation values(1014,0,195687,194578,17,2,'27-12-2021',25378,157);
```

```
insert into reservation values(1015,0,199612,194578,11,4,'27-12-2021',25378,159);
```

```
insert into reservation values(1016,0,199833,187625,26,1,'27-01-2021',12598,250);
```

```
insert into reservation values(1017,0,199690,199612,31,4,'27-01-2021',12598,326);
```

```
insert into reservation values(1018,0,198289,187625,15,3,'27-01-2021',12598,456);
```

```
insert into reservation values(1019,0,200101,187625,11,4,'27-01-2021',12598,321);
```

Table: Station

```
CREATE TABLE STATION
```

```
(  
  S_ID INT,  
  S_NAME VARCHAR2(30),  
  ZONE VARCHAR2(25),  
  NO_OF_PLAT INT,  
  C_ID INT,  
  SM_ID INT,
```

```
  PRIMARY KEY(S_ID),  
  FOREIGN KEY(C_ID) REFERENCES CITY(C_ID),  
  FOREIGN KEY(SM_ID) REFERENCES STATIONMASTER(SM_ID)  
);
```

```
INSERT INTO STATION
```

```
VALUES(201931,'MANSAROVAR STATION','NORTH-EAST',6,33550,1254);
```

```

INSERT INTO STATION
VALUES(200101,'LUCKNOW TERMINAL','EAST',6,15050,1120);
INSERT INTO STATION
VALUES(200010,'KOTA JUNCTION','NORTH-WEST',6,33510,1121);
INSERT INTO STATION
VALUES(199612,'PATNA JUNCTION','NORTH-SOUTH',6,22298,1126);
INSERT INTO STATION
VALUES(199833,'NANGLOI STATION','NORTH-EAST',6,10101,1001);
INSERT INTO STATION
VALUES(198698,'WARANGAL STATION','SOUTH-CENTRAL',6,15045,1267);
INSERT INTO STATION
VALUES(185798,'SURAT TERMINAL','CENTRAL',6,10987,1987);
INSERT INTO STATION
VALUES(199690,'PRATAP STATION','EAST-CENTRAL',6,33550,2001);
INSERT INTO STATION
VALUES(190098,'RANI LAXMIBAI STATION','SOUTH-WEST',6,15050,2222);
INSERT INTO STATION
VALUES(195687,'EAST KOTA STATION','EAST-WEST',6,33510,1664);
INSERT INTO STATION
VALUES(187845,'PATLIPUTRA STATION','SOUTH',6,22298,1245);
INSERT INTO STATION
VALUES(194578,'OLD DELHI STATION','NORTH',6,10101,1345);
INSERT INTO STATION
VALUES(198289,'KAZIPET STATION','NORTH-SOUTH',6,15045,1554);
INSERT INTO STATION
VALUES(192543,'WEST SURAT STATION','SOUTH-EAST',6,10987,1800);
INSERT INTO STATION
VALUES(187625,'JAIPUR JUNCTION','WEST',6,33550,2994);
INSERT INTO STATION
VALUES(194386,'KASHIRAM RAILWAY STATION','CENTRAL-
WEST',6,15050,1400);

```

Table: Schedule

```

create table schedule
(
    s_id INT,
    t_id number,
    date_of_journey date,
    arr_time varchar(15),
    dep_time varchar(15),

```

```
plat_no number,  
foreign key (t_id) references train(t_id),  
foreign key (s_id) references station(s_id),  
primary key(s_id,t_id)  
);
```

```
insert into schedule values (201931,12896,'20-05-2021','05:00:00','05:05:00',3);  
insert into schedule values (200101,12896,'20-05-2021','06:00:00','06:03:30',2);  
insert into schedule values (200010,12896,'20-05-2021','07:10:11','07:12:11',1);  
insert into schedule values (199612,12896,'20-05-2021','08:00:00','08:10:00',4);  
insert into schedule values (199833,12896,'20-05-2021','10:50:00','10:51:00',5);  
insert into schedule values (198698,12896,'20-05-2021','12:00:00','12:01:01',6);  
insert into schedule values (185798,12896,'20-05-2021','12:45:54','14:00:00',3);
```

```
insert into schedule values (190098,12598,'27-01-2021','21:35:00','21:40:00',4);  
insert into schedule values (199690,12598,'27-01-2021','22:50:00','22:52:30',1);  
insert into schedule values (200101,12598,'28-01-2021','01:05:45','01:09:00',5);  
insert into schedule values (200010,12598,'28-01-2021','04:45:00','04:55:00',6);  
insert into schedule values (199612,12598,'28-01-2021','05:30:00','05:50:30',2);  
insert into schedule values (199833,12598,'28-01-2021','07:00:00','07:10:30',3);  
insert into schedule values (187625,12598,'28-01-2021','09:30:45','09:40:00',1);
```

```
insert into schedule values (200101,13754,'22-03-2021','09:00:00','09:10:00',2);  
insert into schedule values (199690,13754,'22-03-2021','10:00:00','10:10:00',1);  
insert into schedule values (190098,13754,'22-03-2021','11:05:25','11:10:30',3);  
insert into schedule values (198289,13754,'22-03-2021','13:05:00','14:00:00',4);
```

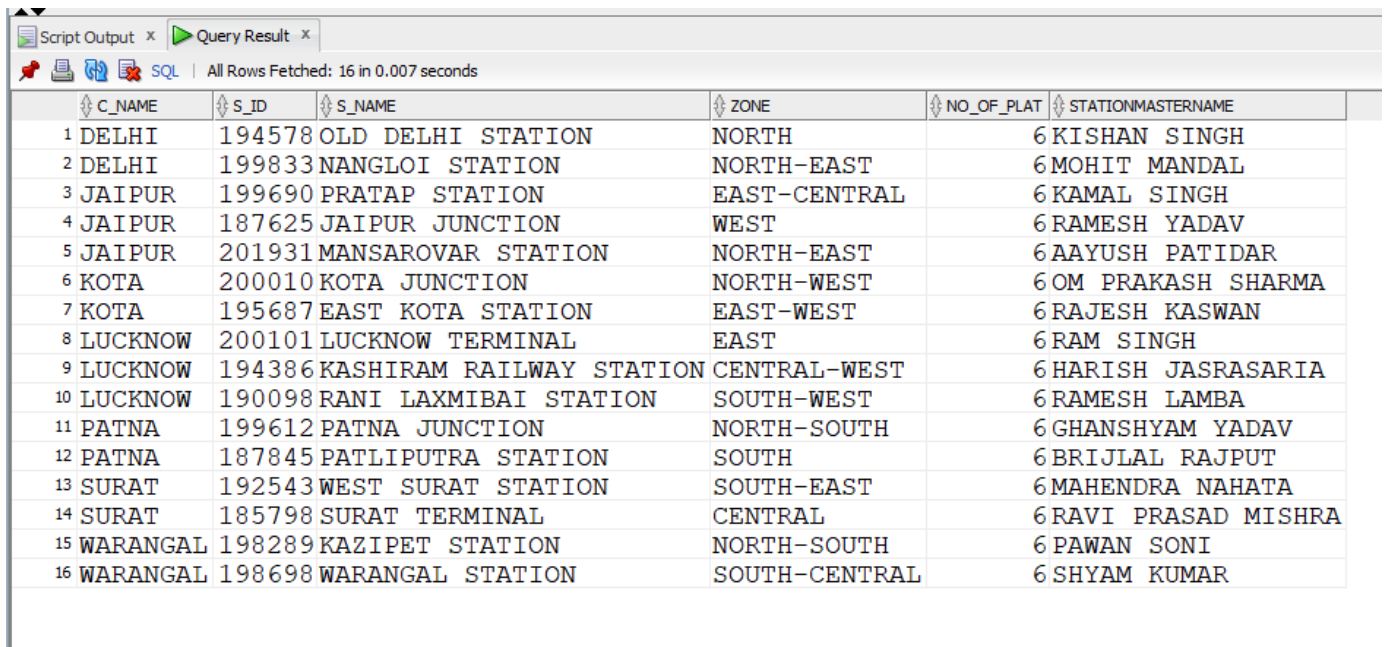
```
insert into schedule values (200010,36201,'2-06-2021','14:00:00','14:10:00',3);  
insert into schedule values (199612,36201,'2-06-2021','15:00:00','15:09:00',2);  
insert into schedule values (199833,36201,'2-06-2021','19:00:05','19:10:05',1);  
insert into schedule values (198698,36201,'2-06-2021','22:00:00','22:01:00',4);  
insert into schedule values (192543,36201,'3-06-2021','00:00:00','00:05:00',5);  
insert into schedule values (194386,36201,'3-06-2021','01:00:00','01:05:00',6);
```

```
insert into schedule values (199612,25378,'27-12-2021','00:05:35','00:08:40',5);  
insert into schedule values (195687,25378,'27-12-2021','03:00:00','03:07:30',1);  
insert into schedule values (187845,25378,'27-12-2021','07:05:00','07:09:00',3);  
insert into schedule values (194578,25378,'27-12-2021','08:37:00','08:42:00',4);
```

QUERIES

Q1. Write all the stations details along with the city in which the station fall in , along with the station master recorded in the database.

```
SELECT C_NAME,S_ID,S_NAME,ZONE,NO_OF_PLAT,(FIRSTNAME||  
'||LASTNAME) as stationmastername  
FROM CITY NATURAL JOIN STATION NATURAL JOIN STATIONMASTER  
ORDER BY C_NAME;
```



The screenshot shows a database query result window with a tab labeled 'Query Result'. The status bar indicates 'All Rows Fetched: 16 in 0.007 seconds'. The table contains 16 rows of data with columns: C_NAME, S_ID, S_NAME, ZONE, NO_OF_PLAT, and STATIONMASTERNAME. The data is ordered by C_NAME.

	C_NAME	S_ID	S_NAME	ZONE	NO_OF_PLAT	STATIONMASTERNAME
1	DELHI	194578	OLD DELHI STATION	NORTH	6	KISHAN SINGH
2	DELHI	199833	NANGLOI STATION	NORTH-EAST	6	MOHIT MANDAL
3	JAIPUR	199690	PRATAP STATION	EAST-CENTRAL	6	KAMAL SINGH
4	JAIPUR	187625	JAIPUR JUNCTION	WEST	6	RAMESH YADAV
5	JAIPUR	201931	MANSAROVAR STATION	NORTH-EAST	6	AAYUSH PATIDAR
6	KOTA	200010	KOTA JUNCTION	NORTH-WEST	6	OM PRAKASH SHARMA
7	KOTA	195687	EAST KOTA STATION	EAST-WEST	6	RAJESH KASWAN
8	LUCKNOW	200101	LUCKNOW TERMINAL	EAST	6	RAM SINGH
9	LUCKNOW	194386	KASHIRAM RAILWAY STATION	CENTRAL-WEST	6	HARISH JASRASARIA
10	LUCKNOW	190098	RANI LAXMIBAI STATION	SOUTH-WEST	6	RAMESH LAMBA
11	PATNA	199612	PATNA JUNCTION	NORTH-SOUTH	6	GHANSHYAM YADAV
12	PATNA	187845	PATLIPUTRA STATION	SOUTH	6	BRIJLAL RAJPUT
13	SURAT	192543	WEST SURAT STATION	SOUTH-EAST	6	MAHENDRA NAHATA
14	SURAT	185798	SURAT TERMINAL	CENTRAL	6	RAVI PRASAD MISHRA
15	WARANGAL	198289	KAZIPET STATION	NORTH-SOUTH	6	PAWAN SONI
16	WARANGAL	198698	WARANGAL STATION	SOUTH-CENTRAL	6	SHYAM KUMAR

```
select s.s_id as "STATION ID", s.s_name as "STATION NAME",  
(sm.firstname||'||sm.lastname) as "STATIONMASTER NAME",  
c.c_name as "CITY",c.state as "STATE",c.pincode as "PINCODE",  
s.zone as "ZONE", s.no_of_plat as "NO OF PLATFORMS"  
from station s  
inner join city c on c.c_id=s.c_id  
inner join stationmaster sm on sm.sm_id=s.sm_id  
order by city;
```


STATION ID	STATION NAME	STATIONMASTER NAME	CITY	STATE	PINCODE	ZONE	NO OF PLATFORMS
1	194578 OLD DELHI STATION	KISHAN SINGH	DELHI	NEW DELHI	1099	NORTH	6
2	199833 NANGLOI STATION	MOHIT MANDAL	DELHI	NEW DELHI	1099	NORTH-EAST	6
3	199690 PRATAP STATION	KAMAL SINGH	JAIPUR	RAJASTHAN	3365	EAST-CENTRAL	6
4	187625 JAIPUR JUNCTION	RAMESH YADAV	JAIPUR	RAJASTHAN	3365	WEST	6
5	201931 MANSAROVAR STATION	AAYUSH PATIDAR	JAIPUR	RAJASTHAN	3365	NORTH-EAST	6
6	200010 KOTA JUNCTION	OM PRAKASH SHARMA	KOTA	RAJASTHAN	3375	NORTH-WEST	6
7	195687 EAST KOTA STATION	RAJESH KASWAN	KOTA	RAJASTHAN	3375	EAST-WEST	6
8	200101 LUCKNOW TERMINAL	RAM SINGH	LUCKNOW	UTTARPRADESH	1598	EAST	6
9	194386 KASHIRAM RAILWAY STATION	HARISH JASRASARIA	LUCKNOW	UTTARPRADESH	1598	CENTRAL-WEST	6
10	190098 RANI LAXMIBAI STATION	RAMESH LAMBA	LUCKNOW	UTTARPRADESH	1598	SOUTH-WEST	6
11	199612 PATNA JUNCTION	GHANSHYAM YADAV	PATNA	BIHAR	2267	NORTH-SOUTH	6
12	187845 PATLIPUTRA STATION	BRIJLAL RAJPUT	PATNA	BIHAR	2267	SOUTH	6
13	192543 WEST SURAT STATION	MAHENDRA NAHATA	SURAT	GUJRAT	1080	SOUTH-EAST	6
14	185798 SURAT TERMINAL	RAVI PRASAD MISHRA	SURAT	GUJRAT	1080	CENTRAL	6
15	198289 KAZIPET STATION	PAWAN SONI	WARANGAL	TELANGANA	1510	NORTH-SOUTH	6
16	198698 WARANGAL STATION	SHYAM KUMAR	WARANGAL	TELANGANA	1510	SOUTH-CENTRAL	6

```
select s_id,s_name,(firstname||' '||lastname)as
station_master_name,c_name,no_of_plat from station natural join
stationmaster natural join city order by c_name;
```

S_ID	S_NAME	STATION_MASTER_NAME	C_NAME	NO_OF_PLAT
1	194578 OLD DELHI STATION	KISHAN SINGH	DELHI	6
2	199833 NANGLOI STATION	MOHIT MANDAL	DELHI	6
3	199690 PRATAP STATION	KAMAL SINGH	JAIPUR	6
4	187625 JAIPUR JUNCTION	RAMESH YADAV	JAIPUR	6
5	201931 MANSAROVAR STATION	AAYUSH PATIDAR	JAIPUR	6
6	200010 KOTA JUNCTION	OM PRAKASH SHARMA	KOTA	6
7	195687 EAST KOTA STATION	RAJESH KASWAN	KOTA	6
8	200101 LUCKNOW TERMINAL	RAM SINGH	LUCKNOW	6
9	194386 KASHIRAM RAILWAY STATION	HARISH JASRASARIA	LUCKNOW	6
10	190098 RANI LAXMIBAI STATION	RAMESH LAMBA	LUCKNOW	6
11	199612 PATNA JUNCTION	GHANSHYAM YADAV	PATNA	6
12	187845 PATLIPUTRA STATION	BRIJLAL RAJPUT	PATNA	6
13	192543 WEST SURAT STATION	MAHENDRA NAHATA	SURAT	6
14	185798 SURAT TERMINAL	RAVI PRASAD MISHRA	SURAT	6
15	198289 KAZIPET STATION	PAWAN SONI	WARANGAL	6
16	198698 WARANGAL STATION	SHYAM KUMAR	WARANGAL	6

Q2. Write the details of all the station master and name of the station they handle.

```
SELECT SM_ID,(FIRSTNAME||' '||LASTNAME) as STATIONMASTER_NAME,
SALARY,DOB,P_NO,S_NAME AS STATION_NAME
FROM STATIONMASTER NATURAL JOIN STATION;
```

SM_ID	STATIONMASTER_NAME	SALARY	DOB	P_NO	STATION_NAME
1	1254 AAYUSH PATIDAR	25000	07-11-95	9514786320	MANSAROVAR STATION
2	1120 RAM SINGH	40000	10-10-85	9876543210	LUCKNOW TERMINAL
3	1121 OM PRAKASH SHARMA	30000	17-10-92	7425553298	KOTA JUNCTION
4	1126 GHANSHYAM YADAV	45000	29-02-80	6667548214	PATNA JUNCTION
5	1001 MOHIT MANDAL	40000	17-11-84	7412589610	NANGLOI STATION
6	1267 SHYAM KUMAR	50000	14-01-78	8877443210	WARANGAL STATION
7	1987 RAVI PRASAD MISHRA	48000	21-10-85	7778842510	SURAT TERMINAL
8	2001 KAMAL SINGH	35000	11-12-90	9977884455	PRATAP STATION
9	1245 BRIJLAL RAJPUT	50000	02-10-80	7796352210	PATLIPUTRA STATION
10	1345 KISHAN SINGH	35000	10-11-89	9876458880	OLD DELHI STATION
11	1554 PAWAN SONI	45000	11-10-82	7512589630	KAZIPET STATION
12	1800 MAHENDRA NAHATA	44000	14-12-80	8496544210	WEST SURAT STATION
13	2994 RAMESH YADAV	30000	10-10-95	9988743210	JAIPUR JUNCTION
14	1400 HARISH JASRASARIA	42000	11-12-80	7799843210	KASHIRAM RAILWAY STATION
15	2222 RAMESH LAMBA	40000	01-08-88	9948642180	RANI LAXMIBAI STATION
16	1664 RAJESH KASWAN	48000	19-11-83	9845673210	EAST KOTA STATION

```
select sm.sm_id as "STATIONMASTER ID",(sm.firstname||' '||sm.lastname)
as "STATIONMASTER NAME",
sm.salary as "SALARY", sm.dob as "DATE OF BIRTH",sm.p_no as "PHONE
NUMBER",
s.s_name as "STATION" from stationmaster sm
inner join station s on s.sm_id=sm.sm_id;
```

STATIONMASTER ID	STATIONMASTER NAME	SALARY	DATE OF BIRTH	PHONE NUMBER	STATION
1	1254 AAYUSH PATIDAR	25000	07-11-95	9514786320	MANSAROVAR STATION
2	1120 RAM SINGH	40000	10-10-85	9876543210	LUCKNOW TERMINAL
3	1121 OM PRAKASH SHARMA	30000	17-10-92	7425553298	KOTA JUNCTION
4	1126 GHANSHYAM YADAV	45000	29-02-80	6667548214	PATNA JUNCTION
5	1001 MOHIT MANDAL	40000	17-11-84	7412589610	NANGLOI STATION
6	1267 SHYAM KUMAR	50000	14-01-78	8877443210	WARANGAL STATION
7	1987 RAVI PRASAD MISHRA	48000	21-10-85	7778842510	SURAT TERMINAL
8	2001 KAMAL SINGH	35000	11-12-90	9977884455	PRATAP STATION
9	2222 RAMESH LAMBA	40000	01-08-88	9948642180	RANI LAXMIBAI STATION
10	1664 RAJESH KASWAN	48000	19-11-83	9845673210	EAST KOTA STATION
11	1245 BRIJLAL RAJPUT	50000	02-10-80	7796352210	PATLIPUTRA STATION
12	1345 KISHAN SINGH	35000	10-11-89	9876458880	OLD DELHI STATION
13	1554 PAWAN SONI	45000	11-10-82	7512589630	KAZIPET STATION
14	1800 MAHENDRA NAHATA	44000	14-12-80	8496544210	WEST SURAT STATION
15	2994 RAMESH YADAV	30000	10-10-95	9988743210	JAIPUR JUNCTION
16	1400 HARISH JASRASARIA	42000	11-12-80	7799843210	KASHIRAM RAILWAY STATION

select SM_id,(firstname||' '||lastname) as sm_name,s_name as station_name,p_no as phone,salary,dob from stationmaster natural join station order by salary asc;

	SM_ID	SM_NAME	STATION_NAME	PHONE	SALARY	DOB
1	1254	AAYUSH PATIDAR	MANSAROVAR STATION	9514786320	25000	07-11-95
2	2994	RAMESH YADAV	JAIPUR JUNCTION	9988743210	30000	10-10-95
3	1121	OM PRAKASH SHARMA	KOTA JUNCTION	7425553298	30000	17-10-92
4	2001	KAMAL SINGH	PRATAP STATION	9977884455	35000	11-12-90
5	1345	KISHAN SINGH	OLD DELHI STATION	9876458880	35000	10-11-89
6	1001	MOHIT MANDAL	NANGLOI STATION	7412589610	40000	17-11-84
7	2222	RAMESH LAMBA	RANI LAXMIBAI STATION	9948642180	40000	01-08-88
8	1120	RAM SINGH	LUCKNOW TERMINAL	9876543210	40000	10-10-85
9	1400	HARISH JASRASARIA	KASHIRAM RAILWAY STATION	7799843210	42000	11-12-80
10	1800	MAHENDRA NAHATA	WEST SURAT STATION	8496544210	44000	14-12-80
11	1554	PAWAN SONI	KAZIPET STATION	7512589630	45000	11-10-82
12	1126	GHANSHYAM YADAV	PATNA JUNCTION	6667548214	45000	29-02-80
13	1987	RAVI PRASAD MISHRA	SURAT TERMINAL	7778842510	48000	21-10-85
14	1664	RAJESH KASWAN	EAST KOTA STATION	9845673210	48000	19-11-83
15	1267	SHYAM KUMAR	WARANGAL STATION	8877443210	50000	14-01-78
16	1245	BRIJLAL RAJPUT	PATLIPUTRA STATION	7796352210	50000	02-10-80

Q3. Write the passenger list recorded till now in the database.

select p.p_id as "PASSENGER ID", (p.firstname||' '||p.lastname) as "NAME",
p.p_no as "PHONE NUMBER", p.address as "ADDRESS", p.email as
"EMAIL",
p.dob as "DATE OF BIRTH", p.gender as "GENDER"
from passenger p;

PASSENGER ID	NAME	PHONE NUMBER	ADDRESS	EMAIL	DATE OF BIRTH	GENDER
1	126 SASWAT DAS	9853089002	SEC-6, CDA, CUTTACK, ODISHA	DASCHIKU37@GMAIL.COM	06-03-01	MALE
2	135 SIBASHIS DHAL	9983089542	PLOT-81, RAJEEV GANDHI NAGAR, KOTA	DHAL69@GMAIL.COM	19-07-98	MALE
3	124 MANOJ KUMAR	8876586432	HOUSE-56, RAJENDRA NAGAR, DELHI	MANOJ_1996@YAHOO.COM	17-08-96	MALE
4	255 SAKSHI MISHRA	8249937651	PLOT 12, PARAUL BAGH, JAIPUR, RAJASTHAN	SAKSHI_452@GMAIL.COM	08-11-90	FEMALE
5	654 SASWATI PANJA	9167762253	HANAMKONDA, WARANGAL, TELANGANA	SASWATI73@GMAIL.COM	15-01-03	FEMALE
6	411 SHREERAM MOHANTY	9090940553	HARIPUR ROAD, CUTTACK, ODISHA	SHREERAMMOHANTY436@GMAIL.COM	24-08-01	MALE
7	132 DEEPANSHU JINDAL	7734289761	MEHROUMGARH, ALWAR, RAJASTHAN	JINDAL_71@GMAIL.COM	27-12-95	MALE
8	201 DEEPAK CHAHAR	9937325601	AJEEB NAGAR, MUMBAI, MAHARASHTRA	CHAHAR_DEEPAK@GMAIL.COM	29-11-87	MALE
9	322 MONISHA CHATOPADHYAY	8219078782	NIZAMPUR, KOLKATA, WEST BENGAL	MONISHA_90@HOTMAIL.COM	16-07-78	FEMALE
10	454 AMRITA PRITAM	9439637500	SEC-9, CDA, CUTTACK, ODISHA	AP900@GMAIL.COM	01-12-01	FEMALE
11	625 SAROJ BARHMA	8976212534	GARDEN REACH, RAILWAY COLONY, KOLKATA	BRAHMA89@GMAIL.COM	28-05-92	MALE
12	899 REENA AGARWAL	7763297653	KARAUL BAGH, DELHI	REENA_31@GMAIL.COM	19-08-05	FEMALE
13	123 MADHAV GODPOLE	9987634568	RAJNAGAR, NAGPUR, MAHARASHTRA	GODPOLE77@GMAIL.COM	06-10-90	MALE
14	134 ANKITA JHALLI	8978656743	WEST BANDRA, MUMBAI, MAHARASHTRA	JHALLI_ANKITA@YAHOO.COM	26-01-77	FEMALE
15	157 ANSHUMAN MISHRA	8867908612	RUDRAGHAT, PRAYAGRAJ, UTTAR PRADESH	BORUTO_69@GMAIL.COM	28-05-01	MALE
16	159 SUFIYAN ANSARI	7789634256	ELDECO, LUCKNOW, UTTAR PRADESH	ANSARI89@GMAIL.COM	09-09-00	MALE
17	250 CHIRANTAN CHACHA	8890967555	SADAVPUR, PATNA, MADHYA PRADESH	CHIRU_CHACHA@GMAIL.COM	30-07-97	MALE
18	326 DEEPAK SHUKLA	9853086752	WEST HARJANPATH, DISPUR, ASSAM	SHUKLA_8756@GMAIL.COM	12-06-95	MALE
19	456 AARTI GOYAL	9853384671	SERUTGARH, UDAIPUR, RAJASTHAN	AARTIGOYAL7@GMAIL.COM	20-03-02	FEMALE
20	321 REVANTH REDDY	8876759002	HILLVIEW ROAD, HYDERABAD, TELANGANA	REVANTH_56@GMAIL.COM	16-05-89	MALE

```
SELECT P_ID AS PASSENGER_ID,(FIRSTNAME||' '||LASTNAME) AS
PASSENGER_NAME,DOB AS DATE_OF_BIRTH
,GENDER,EMAIL,ADDRESS,P_NO AS PHONE_NUMBER
FROM PASSENGER;
```

PASSENGER_ID	PASSENGER_NAME	DATE_OF_BIRTH	GENDER	EMAIL	ADDRESS	PHONE_NUMBER
1	126 SASWAT DAS	06-03-01	MALE	DASCHIKU37@GMAIL.COM	SEC-6, CDA, CUTTACK, ODISHA	9853089002
2	135 SIBASHIS DHAL	19-07-98	MALE	DHAL69@GMAIL.COM	PLOT-81, RAJEEV GANDHI NAGAR, KOTA	9983089542
3	124 MANOJ KUMAR	17-08-96	MALE	MANOJ 1996@YAHOO.COM	HOUSE-56, RAJENDRA NAGAR, DELHI	8876586432
4	255 SAKSHI MISHRA	08-11-90	FEMALE	SAKSHI 452@GMAIL.COM	PLOT 12, PARAUL BAGH, JAIPUR, RAJASTHAN	8249937651
5	654 SASWATI PANJA	15-01-03	FEMALE	SASWATI73@GMAIL.COM	HANAMKONDA, WARANGAL, TELANGANA	9167762253
6	411 SHREERAM MOHANTY	24-08-01	MALE	SHREERAMMOHANTY436@GMAIL.COM	HARIPUR ROAD, CUTTACK, ODISHA	9090940553
7	132 DEEPANSHU JINDAL	27-12-95	MALE	JINDAL 71@GMAIL.COM	MEHROUMGARH, ALWAR, RAJASTHAN	7734289761
8	201 DEEPAK CHAHAR	29-11-87	MALE	CHAHAR DEEPAK@GMAIL.COM	AJEEB NAGAR, MUMBAI, MAHARASHTRA	9937325601
9	322 MONISHA CHATOPADHYAY	16-07-78	FEMALE	MONISHA 90@HOTMAIL.COM	NIZAMPUR, KOLKATA, WEST BENGAL	8219078782
10	454 AMRITA PRITAM	01-12-01	FEMALE	AP900@GMAIL.COM	SEC-9, CDA, CUTTACK, ODISHA	9439637500
11	625 SAROJ BARHMA	28-05-92	MALE	BRAHMA89@GMAIL.COM	GARDEN REACH, RAILWAY COLONY, KOLKATA	8976212534
12	899 REENA AGARWAL	19-08-05	FEMALE	REENA 31@GMAIL.COM	KARAU BAGH, DELHI	7763297653
13	123 MADHAV GODPOLE	06-10-90	MALE	GODPOLE77@GMAIL.COM	RAJNAGAR, NAGPUR, MAHARASHTRA	9987634568
14	134 ANKITA JHALLI	26-01-77	FEMALE	JHALLI ANKITA@YAHOO.COM	WEST BANDRA, MUMBAI, MAHARASHTRA	8978656743
15	157 ANSHUMAN MISHRA	28-05-01	MALE	BORUTO 69@GMAIL.COM	RUDRAGHAT, PRAYAGRAJ, UTTAR PRADESH	8867908612
16	159 SUFIYAN ANSARI	09-09-00	MALE	ANSARI89@GMAIL.COM	ELDECO, LUCKNOW, UTTAR PRADESH	7789634256
17	250 CHIRANTAN CHACHA	30-07-97	MALE	CHIRU CHACHA@GMAIL.COM	SADAVPUR, PATNA, MADHYA PRADESH	8890967555
18	326 DEEPAK SHUKLA	12-06-95	MALE	SHUKLA 8756@GMAIL.COM	WEST HARJANPATH, DISPUR, ASSAM	9853086752
19	456 AARTI GOYAL	20-03-02	FEMALE	AARTIGOYAL7@GMAIL.COM	SERUTGARH, UDAIPUR, RAJASTHAN	9853384671
20	321 REVANTH REDDY	16-05-89	MALE	REVANTH 56@GMAIL.COM	HILLVIEW ROAD, HYDERABAD, TELANGANA	8876759002

Q4. Write the current reservation status list .

```
SELECT * FROM RESERVATION;
```

TICKET_ID	WAITLIST	SOURCE_ID	DEST_ID	SEAT_NO	COACH_NO	TICKET_DATE	T_ID	P_ID
1	1000	0	201931	185798	1	1 20-05-21	12896	126
2	1001	0	200010	199833	2	1 20-05-21	12896	135
3	1002	0	200010	185798	3	1 20-05-21	12896	124
4	1003	0	199612	199833	4	1 20-05-21	12896	255
5	1004	0	200101	198289	3	4 22-03-21	13754	654
6	1005	0	199690	190098	4	1 22-03-21	13754	411
7	1006	0	200101	198289	3	1 22-03-21	13754	132
8	1007	0	200101	198289	5	2 22-03-21	13754	201
9	1008	0	200010	194386	45	5 02-06-21	36201	322
10	1009	0	199612	192543	36	3 02-06-21	36201	454
11	1010	0	199833	192543	15	2 02-06-21	36201	625
12	1011	0	198698	194386	25	3 02-06-21	36201	899
13	1012	0	199612	194578	55	5 27-12-21	25378	123
14	1013	0	199612	194578	36	4 27-12-21	25378	134
15	1014	0	195687	194578	17	2 27-12-21	25378	157
16	1015	0	199612	194578	11	4 27-12-21	25378	159
17	1016	0	199833	187625	26	1 27-01-21	12598	250
18	1017	0	199690	199612	31	4 27-01-21	12598	326
19	1018	0	198289	187625	15	3 27-01-21	12598	456
20	1019	0	200101	187625	11	4 27-01-21	12598	321

Q5. Write down the train names, respective starting station name and dept. time from the starting station and arrival time at a given station (if at all the given station falls in the journey path of the train) (take given station as input).

```
select t.t_id as "TRAIN ID",t.t_name as "TRAIN NAME",
st.s_name as "START STATION NAME",arr.arr_time as "DEPARTURE TIME
FROM START",
sch.arr_time as "ARRIVAL AT GIVEN STATION",sch.plat_no as "PLATFORM
NO" from schedule sch
inner join train t on t.t_id=sch.t_id
inner join (select tr.t_id,s.s_name from station s
            inner join train tr on tr.start_station_id=s.s_id) st on t.t_id=st.t_id
inner join (select tr.t_id,sc.arr_time from schedule sc
            inner join train tr on tr.t_id=sc.t_id
            where sc.s_id=tr.start_station_id) arr on arr.t_id=t.t_id
where sch.s_id=&station_id;
```

Enter Substitution Variable

Enter value for station_id:

200010

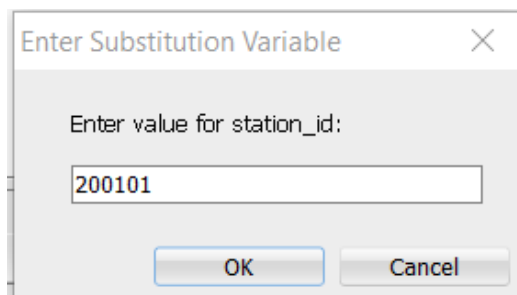
OK
Cancel

SQL | All Rows Fetched: 3 in 0.002 seconds

	TRAIN ID	TRAIN NAME	START STATION NAME	DEPARTURE TIME FROM START	ARRIVAL AT GIVEN STATION	PLATFORM NO
1	12598	GUJARAT EXPRS	RANI LAXMIBAI STATION	21:35:00	04:45:00	6
2	12896	RAJDHANI EXPRS	MANSAROVAR STATION	05:00:00	07:10:11	1
3	36201	PURUSHOTTAM SUPERFAST EXPRS	KOTA JUNCTION	14:00:00	14:00:00	3

Q6. Write down all the details of trains scheduled throughout the day in a particular station(user defined).

```
select sch.t_id as "TRAIN ID",t.t_name as "TRAIN NAME",
sch.date_of_journey as "DATE OF JOURNEY",
sch.arr_time as "ARRIVAL TIME", sch.dep_time as "DEPARTURE TIME",
sch.plat_no as "PLATFORM NO"
from schedule sch
inner join train t on t.t_id=sch.t_id
where sch.s_id=&station_id order by sch.date_of_journey;
```



	TRAIN ID	TRAIN NAME	DATE OF JOURNEY	ARRIVAL TIME	DEPARTURE TIME	PLATFORM NO
1	12598	GUJARAT EXPRS	28-01-21	01:05:45	01:09:00	5
2	13754	DHAULI EXPRS	22-03-21	09:00:00	09:10:00	2
3	12896	RAJDHANI EXPRS	20-05-21	06:00:00	06:03:30	2

Q7. As an officer of Railway authority you came to know that passenger with passenger id =126 in the reservation list is assigned confirmed ticket although the person should be at waiting 1 .So update the list accordingly.

```
update reservation
set waitlist=1
where p_id=126;
```

(P.T.O)

TICKET_ID	WAITLIST	SOURCE_ID	DEST_ID	SEAT_NO	COACH_NO	TICKET_DATE	T_ID	P_ID
1	1000	0	201931	185798	1	1 20-05-21	12896	126
2	1001	0	200010	199833	2	1 20-05-21	12896	135
3	1002	0	200010	185798	3	1 20-05-21	12896	124
4	1003	0	199612	199833	4	1 20-05-21	12896	255
5	1004	0	200101	198289	3	4 22-03-21	13754	654
6	1005	0	199690	190098	4	1 22-03-21	13754	411
7	1006	0	200101	198289	3	1 22-03-21	13754	132
8	1007	0	200101	198289	5	2 22-03-21	13754	201
9	1008	0	200010	194386	45	5 02-06-21	36201	322
10	1009	0	199612	192543	36	3 02-06-21	36201	454
11	1010	0	199833	192543	15	2 02-06-21	36201	625
12	1011	0	198698	194386	25	3 02-06-21	36201	899
13	1012	0	199612	194578	55	5 27-12-21	25378	123
14	1013	0	199612	194578	36	4 27-12-21	25378	134
15	1014	0	195687	194578	17	2 27-12-21	25378	157
16	1015	0	199612	194578	11	4 27-12-21	25378	159
17	1016	0	199833	187625	26	1 27-01-21	12598	250
18	1017	0	199690	199612	31	4 27-01-21	12598	326
19	1018	0	198289	187625	15	3 27-01-21	12598	456
20	1019	0	200101	187625	11	4 27-01-21	12598	321

TICKET_ID	WAITLIST	SOURCE_ID	DEST_ID	SEAT_NO	COACH_NO	TICKET_DATE	T_ID	P_ID
1	1000	1	201931	185798	1	1 20-05-21	12896	126
2	1001	0	200010	199833	2	1 20-05-21	12896	135
3	1002	0	200010	185798	3	1 20-05-21	12896	124
4	1003	0	199612	199833	4	1 20-05-21	12896	255
5	1004	0	200101	198289	3	4 22-03-21	13754	654
6	1005	0	199690	190098	4	1 22-03-21	13754	411
7	1006	0	200101	198289	3	1 22-03-21	13754	132
8	1007	0	200101	198289	5	2 22-03-21	13754	201
9	1008	0	200010	194386	45	5 02-06-21	36201	322
10	1009	0	199612	192543	36	3 02-06-21	36201	454
11	1010	0	199833	192543	15	2 02-06-21	36201	625
12	1011	0	198698	194386	25	3 02-06-21	36201	899
13	1012	0	199612	194578	55	5 27-12-21	25378	123
14	1013	0	199612	194578	36	4 27-12-21	25378	134
15	1014	0	195687	194578	17	2 27-12-21	25378	157
16	1015	0	199612	194578	11	4 27-12-21	25378	159
17	1016	0	199833	187625	26	1 27-01-21	12598	250
18	1017	0	199690	199612	31	4 27-01-21	12598	326
19	1018	0	198289	187625	15	3 27-01-21	12598	456
20	1019	0	200101	187625	11	4 27-01-21	12598	321

Q8. Write down all the trains that cross two given stations in their path of journey.

```
select t_name,t_id from train
where t_id = ALL(select S.t_id from (schedule s) JOIN (schedule s1) ON
s.s_id=(select s_id from station where s_name=&x) and s1.s_id=(select
s_id from station where s_name=&y) and
(s.date_of_journey<=s1.date_of_journey or s.arr_time<s1.arr_time) and
s.t_id=s1.t_id);
```

Enter Substitution Variable		Enter Substitution Variable	
Enter value for x:		Enter value for y:	
<input type="text" value="KOTA JUNCTION"/>		<input type="text" value="PATNA JUNCTION"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

	T_NAME	T_ID
1	GUJARAT	12598
2	PURUSHOTTAM SUPERFAST EXPRS	36201
3	RAJDHANI EXPRS	12896

```
select distinct(t.t_id) as "TRAIN ID",t.t_name as "TRAIN NAME"
from schedule sch
inner join train t on t.t_id=sch.t_id
where
(exists (select sc.s_id from schedule sc where sc.s_id=&firststation and
sc.t_id=t.t_id))
and
(exists (select sc.s_id from schedule sc where sc.s_id=&secondstation
and sc.t_id=t.t_id));
```

Enter Substitution Variable		Enter Substitution Variable	
Enter value for firststation:		Enter value for secondstation:	
<input type="text" value="200010"/>		<input type="text" value="199833"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

	TRAIN ID	TRAIN NAME
1	36201	PURUSHOTTAM SUPERFAST EXPRS
2	12896	RAJDHANI EXPRS
3	12598	GUJARAT EXPRS

Q9. Write the details of all the passengers who are in reservation list (include waiting people too) along with their source city and dest city names, states in which the cities are , and respective pincodes of the cities.

```
SELECT P.P_ID,(P.FIRSTNAME||' '||P.LASTNAME) AS
NAME,P.DOB,P.EMAIL,P.ADDRESS,C.C_NAME AS
SOURCE_STATION,C.STATE AS SOURCE_STATE,C.PINCODE AS
SOURCE_PINCODE,
C1.C_NAME AS DEST_STATION,C1.STATE AS DEST_STATE,C1.PINCODE AS
DEST_PINCODE
FROM ((PASSENGER P JOIN RESERVATION R ON R.P_ID=P.P_ID) JOIN
(SELECT * FROM CITY NATURAL JOIN STATION) C ON
C.S_ID=R.SOURCE_ID) JOIN (SELECT * FROM CITY NATURAL JOIN
STATION) C1 ON R.DEST_ID=C1.S_ID;
```

P_ID	NAME	DOB	EMAIL	ADDRESS	SOURCE_STATION	SOURCE_STATE	SOURCE_PINCODE	DEST_STATION	DEST_STATE
1	126 SASWAT DAS	06-03-01	DASCHIKU37@GMAIL.COM	SEC-6,CDA,CUTTACK,ODISHA	JAIPUR	RAJASTHAN	3365 SURAT	GUJRAT	
2	135 SIBASHIS DHAL	19-07-98	DHAL69@GMAIL.COM	PLOT-81,RAJEEV GANDHI NAGAR,KOTA	KOTA	RAJASTHAN	3375 DELHI	NEW DELHI	
3	124 MANOJ KUMAR	17-08-96	MANOJ_1996@YAHOO.COM	HOUSE-56,RAJENDRA NAGAR,DELHI	KOTA	RAJASTHAN	3375 SURAT	GUJRAT	
4	255 SAKSHI MISHRA	08-11-90	SAKSHI_452@GMAIL.COM	PLOT 12,PARAUL BAGH,JAIPUR,RAJASTHAN	PATNA	BIHAR	2267 DELHI	NEW DELHI	
5	654 SASWATI PANJA	15-01-03	SASWATI73@GMAIL.COM	HANAMKONDA,WARANGAL,TELANGANA	LUCKNOW	UTTARPRADESH	1598 WARANGAL	TELANGANA	
6	411 SHREERAM MOHANTY	24-08-01	SHREERAMMOHANTY436@GMAIL.COM	HARIPUR ROAD,CUTTACK,ODISHA	JAIPUR	RAJASTHAN	3365 LUCKNOW	UTTARPRADESH	
7	132 DEEPANSHU JINDAL	27-12-95	JINDAL_71@GMAIL.COM	MEHROUMGARH,ALWAR,RAJASTHAN	LUCKNOW	UTTARPRADESH	1598 WARANGAL	TELANGANA	
8	201 DEEPAK CHAHAR	29-11-87	CHAHAR_DEEPAK@GMAIL.COM	AJEEB NAGAR,MUMBAI,MAHARASHTRA	LUCKNOW	UTTARPRADESH	1598 WARANGAL	TELANGANA	
9	322 MONISHA CHATOPADHYAY	16-07-78	MONISHA_90@HOTMAIL.COM	NIZAMPUR,KOLKATA,WEST BENGAL	KOTA	RAJASTHAN	3375 LUCKNOW	UTTARPRADESH	
10	454 AMRITA PRITAM	01-12-01	AP900@GMAIL.COM	SEC-9,CDA,CUTTACK,ODISHA	PATNA	BIHAR	2267 SURAT	GUJRAT	
11	625 SAROJ BARHMA	28-05-92	BRAHMA89@GMAIL.COM	GARDEN REACH,RAILWAY COLONY,KOLKATA	DELHI	NEW DELHI	1099 SURAT	GUJRAT	
12	899 REENA AGARWAL	19-08-05	REENA_31@GMAIL.COM	KARAUL BAGH,DELHI	WARANGAL	TELANGANA	1510 LUCKNOW	UTTARPRADESH	
13	123 MADHAV GODPOLE	06-10-90	GODPOLE77@GMAIL.COM	RAJNAGAR,NAGPUR,MAHARASHTRA	PATNA	BIHAR	2267 DELHI	NEW DELHI	
14	134 ANKITA JHALLI	26-01-77	JHALLI_ANKITA@YAHOO.COM	WEST BANDRA,MUMBAI,MAHARASHTRA	PATNA	BIHAR	2267 DELHI	NEW DELHI	
15	157 ANSHUMAN MISHRA	28-05-01	BORUTO_69@GMAIL.COM	RUDRAGHAT,PRAYAGRAJ,UTTAR PRADESH	KOTA	RAJASTHAN	3375 DELHI	NEW DELHI	
16	159 SUFIYAN ANSARI	09-09-00	ANSARI89@GMAIL.COM	ELDECO,LUCKNOW,UTTAR PRADESH	PATNA	BIHAR	2267 DELHI	NEW DELHI	
17	250 CHIRANTAN CHACHA	30-07-97	CHIRU_CHACHA@GMAIL.COM	SADAVPUR,PATNA,MADHYA PRADESH	DELHI	NEW DELHI	1099 JAIPUR	RAJASTHAN	
18	326 DEEPAK SHUKLA	12-06-95	SHUKLA_8756@GMAIL.COM	WEST HARJANPATH,DISPUR,ASSAM	JAIPUR	RAJASTHAN	3365 PATNA	BIHAR	
19	456 AARTI GOYAL	20-03-02	AARTIGOYAL7@GMAIL.COM	SERUTGARH,UDAIPUR,RAJASTHAN	WARANGAL	TELANGANA	1510 JAIPUR	RAJASTHAN	
20	321 REVANTH REDDY	16-05-89	REVANTH_56@GMAIL.COM	HILLVIEW ROAD,HYDERABAD,TELANGANA	LUCKNOW	UTTARPRADESH	1598 JAIPUR	RAJASTHAN	

Q10. Write the detailed schedule of all the trains.

```
select sch.t_id as "TRAIN ID",t.t_name as "TRAIN NAME",sch.s_id as
"STATION ID",
s.s_name as "STATION NAME",sch.date_of_journey as "DATE OF
JOURNEY",
sch.arr_time as "ARRIVAL TIME", sch.dep_time as "DEPARTMENT TIME",
sch.plat_no as "PLATFORM NO"
from schedule sch
inner join train t on t.t_id=sch.t_id
inner join station s on s.s_id=sch.s_id;
```

TRAIN ID	TRAIN NAME	STATION ID	STATION NAME	DATE OF JOURNEY	ARRIVAL TIME	DEPARTMENT TIME	PLATFORM NO
1	12896 RAJDHANI EXPRS	201931	MANSAROVAR STATION	20-05-21	05:00:00	05:05:00	3
2	12896 RAJDHANI EXPRS	200101	LUCKNOW TERMINAL	20-05-21	06:00:00	06:03:30	2
3	12896 RAJDHANI EXPRS	200010	KOTA JUNCTION	20-05-21	07:10:11	07:12:11	1
4	12896 RAJDHANI EXPRS	199612	PATNA JUNCTION	20-05-21	08:00:00	08:10:00	4
5	12896 RAJDHANI EXPRS	199833	NANGLOI STATION	20-05-21	10:50:00	10:51:00	5
6	12896 RAJDHANI EXPRS	198698	WARANGAL STATION	20-05-21	12:00:00	12:01:01	6
7	12896 RAJDHANI EXPRS	185798	SURAT TERMINAL	20-05-21	12:45:54	14:00:00	3
8	12598 GUJARAT EXPRS	190098	RANI LAXMIBAI STATION	27-01-21	21:35:00	21:40:00	4
9	12598 GUJARAT EXPRS	199690	PRATAP STATION	27-01-21	22:50:00	22:52:30	1
10	12598 GUJARAT EXPRS	200101	LUCKNOW TERMINAL	28-01-21	01:05:45	01:09:00	5
11	12598 GUJARAT EXPRS	200010	KOTA JUNCTION	28-01-21	04:45:00	04:55:00	6
12	12598 GUJARAT EXPRS	199612	PATNA JUNCTION	28-01-21	05:30:00	05:50:30	2
13	12598 GUJARAT EXPRS	199833	NANGLOI STATION	28-01-21	07:00:00	07:10:30	3
14	12598 GUJARAT EXPRS	187625	JAIPUR JUNCTION	28-01-21	09:30:45	09:40:00	1
15	13754 DHAULI EXPRS	200101	LUCKNOW TERMINAL	22-03-21	09:00:00	09:10:00	2
16	13754 DHAULI EXPRS	199690	PRATAP STATION	22-03-21	10:00:00	10:10:00	1
17	13754 DHAULI EXPRS	190098	RANI LAXMIBAI STATION	22-03-21	11:05:25	11:10:30	3
18	13754 DHAULI EXPRS	198289	KAZIPET STATION	22-03-21	13:05:00	14:00:00	4
19	36201 PURUSHOTTAM SUPERFAST EXPRS	200010	KOTA JUNCTION	02-06-21	14:00:00	14:10:00	3
20	36201 PURUSHOTTAM SUPERFAST EXPRS	199612	PATNA JUNCTION	02-06-21	15:00:00	15:09:00	2
21	36201 PURUSHOTTAM SUPERFAST EXPRS	199833	NANGLOI STATION	02-06-21	19:00:05	19:10:05	1
22	36201 PURUSHOTTAM SUPERFAST EXPRS	198698	WARANGAL STATION	02-06-21	22:00:00	22:01:00	4
23	36201 PURUSHOTTAM SUPERFAST EXPRS	192543	WEST SURAT STATION	03-06-21	00:00:00	00:05:00	5
24	36201 PURUSHOTTAM SUPERFAST EXPRS	194386	KASHIRAM RAILWAY STATION	03-06-21	01:00:00	01:05:00	6
25	25378 ANDHRA-DELHI EXPRS	199612	PATNA JUNCTION	27-12-21	00:05:35	00:08:40	5
26	25378 ANDHRA-DELHI EXPRS	195687	EAST KOTA STATION	27-12-21	03:00:00	03:07:30	1
27	25378 ANDHRA-DELHI EXPRS	187845	PATILIPUTRA STATION	27-12-21	07:05:00	07:09:00	3
28	25378 ANDHRA-DELHI EXPRS	194578	OLD DELHI STATION	27-12-21	08:37:00	08:42:00	4

```
select * from schedule natural join (select t_id,t_name from train) natural
join (select s_id,s_name from station) order by t_id asc,date_of_journey
asc,arr_time asc;
```

	S_ID	T_ID	DATE_OF_JOURNEY	ARR_TIME	DEP_TIME	PLAT_NO	T_NAME	S_NAME
1	190098	12598	27-01-21	21:35:00	21:40:00	4	GUJARAT	RANI LAXMIBAI STATION
2	199690	12598	27-01-21	22:50:00	22:52:30	1	GUJARAT	PRATAP STATION
3	200101	12598	28-01-21	01:05:45	01:09:00	5	GUJARAT	LUCKNOW TERMINAL
4	200010	12598	28-01-21	04:45:00	04:55:00	6	GUJARAT	KOTA JUNCTION
5	199612	12598	28-01-21	05:30:00	05:50:30	2	GUJARAT	PATNA JUNCTION
6	199833	12598	28-01-21	07:00:00	07:10:30	3	GUJARAT	NANGLOI STATION
7	187625	12598	28-01-21	09:30:45	09:40:00	1	GUJARAT	JAIPUR JUNCTION
8	201931	12896	20-05-21	05:00:00	05:05:00	3	RAJDHANI EXPRS	MANSAROVAR STATION
9	200101	12896	20-05-21	06:00:00	06:03:30	2	RAJDHANI EXPRS	LUCKNOW TERMINAL
10	200010	12896	20-05-21	07:10:11	07:12:11	1	RAJDHANI EXPRS	KOTA JUNCTION
11	199612	12896	20-05-21	08:00:00	08:10:00	4	RAJDHANI EXPRS	PATNA JUNCTION
12	199833	12896	20-05-21	10:50:00	10:51:00	5	RAJDHANI EXPRS	NANGLOI STATION
13	198698	12896	20-05-21	12:00:00	12:01:01	6	RAJDHANI EXPRS	WARANGAL STATION
14	185798	12896	20-05-21	12:45:54	14:00:00	3	RAJDHANI EXPRS	SURAT TERMINAL
15	200101	13754	22-03-21	09:00:00	09:10:00	2	DHAULI EXPRS	LUCKNOW TERMINAL
16	199690	13754	22-03-21	10:00:00	10:10:00	1	DHAULI EXPRS	PRATAP STATION
17	190098	13754	22-03-21	11:05:25	11:10:30	3	DHAULI EXPRS	RANI LAXMIBAI STATION
18	198289	13754	22-03-21	13:05:00	14:00:00	4	DHAULI EXPRS	KAZIPET STATION
19	199612	25378	27-12-21	00:05:35	00:08:40	5	ANDHRA-DELHI EXPRS	PATNA JUNCTION
20	195687	25378	27-12-21	03:00:00	03:07:30	1	ANDHRA-DELHI EXPRS	EAST KOTA STATION
21	187845	25378	27-12-21	07:05:00	07:09:00	3	ANDHRA-DELHI EXPRS	PATLIPUTRA STATION
22	194578	25378	27-12-21	08:37:00	08:42:00	4	ANDHRA-DELHI EXPRS	OLD DELHI STATION
23	200010	36201	02-06-21	14:00:00	14:10:00	3	PURUSHOTTAM SUPERFAST EXPRS	KOTA JUNCTION
24	199612	36201	02-06-21	15:00:00	15:09:00	2	PURUSHOTTAM SUPERFAST EXPRS	PATNA JUNCTION
25	199833	36201	02-06-21	19:00:05	19:10:05	1	PURUSHOTTAM SUPERFAST EXPRS	NANGLOI STATION
26	198698	36201	02-06-21	22:00:00	22:01:00	4	PURUSHOTTAM SUPERFAST EXPRS	WARANGAL STATION
27	192543	36201	03-06-21	00:00:00	00:05:00	5	PURUSHOTTAM SUPERFAST EXPRS	WEST SURAT STATION
28	194386	36201	03-06-21	01:00:00	01:05:00	6	PURUSHOTTAM SUPERFAST EXPRS	KASHIRAM RAILWAY STATION

Q11. What is the arrival,departure time and platform number of ‘Rajdhani Exprs’ at ‘KOTA JUNCTION’?

```
SELECT TR.T_NAME AS TRAIN_NAME , ST.S_NAME AS STATION_NAME ,
SC.ARR_TIME AS ARRIVAL_TIME ,SC.DEP_TIME AS DEPARTURE_TIME
FROM STATION ST,TRAIN TR,SCHEDULE SC
WHERE TR.T_NAME ='RAJDHANI EXPRS' AND ST.S_NAME ='KOTA
JUNCTION' AND TR.T_ID=SC.T_ID AND SC.S_ID=ST.S_ID;
```

TRAIN_NAME	STATION_NAME	ARRIVAL_TIME	DEPARTURE_TIME
1 RAJDHANI EXPRS	KOTA JUNCTION	07:10:11	07:12:11

```
select arr_time,dep_time,plat_no from schedule where t_id=(select t_id
from train where t_name='RAJDHANI EXPRS') AND S_ID=(SELECT S_ID
FROM STATION WHERE S_NAME='KOTA JUNCTION');
```

	ARR_TIME	DEP_TIME	PLAT_NO
1	7:10:11 AM	7:12:11 AM	1

Q12. Write a PL/SQL code to insert a passenger information in passenger table.

```
DECLARE
P_ID INT:=&P_ID;
FIRSTNAME VARCHAR(20) :=&FIRSTNAME;
LASTNAME VARCHAR(20) :=&LASTNAME;
P_NO NUMBER := &P_NO;
ADDRESS VARCHAR(60) := &ADDRESS;
EMAIL VARCHAR(40):= &EMAIL;
DOB DATE:= &DOB;
GENDER VARCHAR(15):=&GENDER;
BEGIN
    INSERT INTO PASSENGER
    VALUES(P_ID,FIRSTNAME,LASTNAME,P_NO,ADDRESS,EMAIL,DOB,GEN
DER);
    DBMS_OUTPUT.PUT_LINE('ONE PASSENGER ADDED SUCCESSFULLY');
END;

SELECT * FROM PASSENGER;
```

Enter Substitution Variable

Enter value for P_ID:

OK Cancel

Enter Substitution Variable

Enter value for FIRSTNAME:

OK Cancel

Enter Substitution Variable

Enter value for LASTNAME:

'SHARMA'

OK

Cancel

Enter Substitution Variable

Enter value for P_NO:

9874563210

OK

Cancel

Enter Substitution Variable

Enter value for ADDRESS:

'WARD-18,BHADRA,BIHAR'

OK

Cancel

Enter Substitution Variable

Enter value for EMAIL:

'SHARMAAMAR67@GMAIL.COM'

OK

Cancel

Enter Substitution Variable

Enter value for DOB:

'10/10/1995'

OK

Cancel

Enter Substitution Variable

Enter value for GENDER:

'MALE'

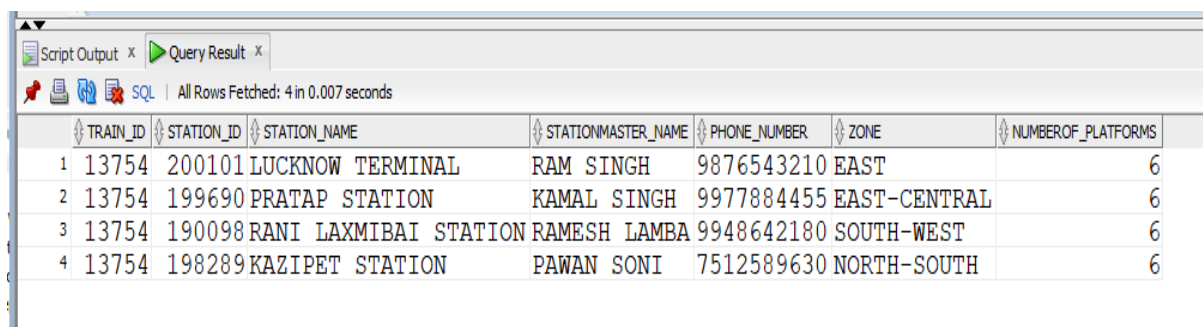
OK

Cancel

P_ID	FIRSTNAME	LASTNAME	P_NO	ADDRESS	EMAIL	DOB	GENDER
1	126	SASWAT DAS	9853089002	SEC-6, CDA, CUTTACK, ODISHA	DASCHIKU37@GMAIL.COM	06-03-01	MALE
2	135	SIBASHIS DHAL	9983089542	PLOT-81, RAJEEV GANDHI NAGAR, KOTA	DHAL69@GMAIL.COM	19-07-98	MALE
3	124	MANOJ KUMAR	8876586432	HOUSE-56, RAJENDRA NAGAR, DELHI	MANOJ 1996@YAHOO.COM	17-08-96	MALE
4	255	SAKSHI MISHRA	8249937651	PLOT 12, PARAUL BAGH, JAIPUR, RAJASTHAN	SAKSHI 452@GMAIL.COM	08-11-90	FEMALE
5	654	SASWATI PANJA	9167762253	HANAMKONDA, WARANGAL, TELANGANA	SASWATI73@GMAIL.COM	15-01-03	FEMALE
6	411	SHREERAM MOHANTY	9090940553	HARIPUR ROAD, CUTTACK, ODISHA	SHREERAMMOHANTY436@GMAIL.COM	24-08-01	MALE
7	132	DEEPANSHU JINDAL	7734289761	MEHROUMGARH, ALWAR, RAJASTHAN	JINDAL 71@GMAIL.COM	27-12-95	MALE
8	201	DEEPAK CHAHAR	9937325601	AJEEB NAGAR, MUMBAI, MAHARASHTRA	CHAHAR DEEPAK@GMAIL.COM	29-11-87	MALE
9	322	MONISHA CHATOPADHYAY	8219078782	NIZAMPUR, KOLKATA, WEST BENGAL	MONISHA 90@HOTMAIL.COM	16-07-78	FEMALE
10	454	AMRITA PRITAM	9439637500	SEC-9, CDA, CUTTACK, ODISHA	AP900@GMAIL.COM	01-12-01	FEMALE
11	625	SAROJ BARHMA	8976212534	GARDEN REACH, RAILWAY COLONY, KOLKATA	BRAHMA89@GMAIL.COM	28-05-92	MALE
12	899	REENA AGARWAL	7763297653	KARAU BAGH, DELHI	REENA 31@GMAIL.COM	19-08-05	FEMALE
13	123	MADHAV GODPOLE	9987634568	RAJNAGAR, NAGPUR, MAHARASHTRA	GODPOLE77@GMAIL.COM	06-10-90	MALE
14	134	ANKITA JHALLI	8978656743	WEST BANDRA, MUMBAI, MAHARASHTRA	JHALLI ANKITA@YAHOO.COM	26-01-77	FEMALE
15	157	ANSHUMAN MISHRA	8867908612	RUDRAGHAT, PRAYAGRAJ, UTTAR PRADESH	BORUTO 69@GMAIL.COM	28-05-01	MALE
16	159	SUFIYAN ANSARI	7789634256	ELDECO, LUCKNOW, UTTAR PRADESH	ANSARI89@GMAIL.COM	09-09-00	MALE
17	250	CHIRANTAN CHACHA	8890967555	SADAVPUR, PATNA, MADHYA PRADESH	CHIRU CHACHA@GMAIL.COM	30-07-97	MALE
18	326	DEEPAK SHUKLA	9853086752	WEST HARJANPATH, DISPUR, ASSAM	SHUKLA 8756@GMAIL.COM	12-06-95	MALE
19	456	AARTI GOYAL	9853384671	SERUTGARH, UDAIPUR, RAJASTHAN	AARTIGOYAL7@GMAIL.COM	20-03-02	FEMALE
20	321	REVANTH REDDY	8876759002	HILLVIEW ROAD, HYDERABAD, TELANGANA	REVANTH 56@GMAIL.COM	16-05-89	MALE
21	400	AMAR SHARMA	9876543210	WARD-18, BHADRA, BIHAR	SHARMAAMAR67@GMAIL.COM	10-10-95	MALE

Q13. Write down the station details, respective station master name and phone number of all those stations that fall in the path of journey of train with trainid=13754.

```
SELECT TR.T_ID AS TRAIN_ID, ST.S_ID AS STATION_ID, ST.S_NAME AS
STATION_NAME, (SM.FIRSTNAME||' '||SM.LASTNAME) as
STATIONMASTER_NAME, SM.P_NO AS PHONE_NUMBER,
ST.ZONE, ST.NO_OF_PLAT AS NUMBEROF_PLATFORMS
FROM TRAIN TR, STATION ST, STATIONMASTER SM, SCHEDULE SC
WHERE TR.T_ID=13754 AND SC.T_ID=TR.T_ID AND ST.S_ID =SC.S_ID AND
SM.SM_ID=ST.SM_ID;
```



The screenshot shows a database query result window with the following data:

	TRAIN_ID	STATION_ID	STATION_NAME	STATIONMASTER_NAME	PHONE_NUMBER	ZONE	NUMBEROF_PLATFORMS
1	13754	200101	LUCKNOW TERMINAL	RAM SINGH	9876543210	EAST	6
2	13754	199690	PRATAP STATION	KAMAL SINGH	9977884455	EAST-CENTRAL	6
3	13754	190098	RANI LAXMIBAI STATION	RAMESH LAMBA	9948642180	SOUTH-WEST	6
4	13754	198289	KAZIPET STATION	PAWAN SONI	7512589630	NORTH-SOUTH	6

-----000000000000000000-----