



VIT[®]

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Information Technology and Engineering
Lab Cycle Sheet, FEBRUARY 2020
B.Tech, Winter-2019-2020

NAME	PRIYAL BHARDWAJ
REG. NO.	18BIT0272
COURSE CODE	ITE1003
COURSE NAME	DATABASE MANAGEMENT SYSTEMS
SLOT	L-33+L-34
FACULTY	Prof. BIMAL KUMAR RAY

Railway Reservation System -(Redesigning IRCTC database)

Train(train_number, name, source, destination, start_time, reach_time, traveltime, distance, class, days, type)

Ticket(PNR_no, Transactionid, from_station, To_station, date_of_journey, class, date_of_booking, total_ticket_fare, train_number)

Passenger(PNR_no, Serial_no, Name, Age, Reservation_status)

Train_Route(Train_no, route_no, station_code, name, arrival_time, depart_time, distance, day)

Train_Ticket_fare(Train_no, class, base_fare, reservation_charge, superfast_charge, other_charge, tatkal_charge, service_tax)

Q.1

Create all the tables specified above. Make underlined columns as primary key.(use number, number(m,n), varchar(n), date, time, timestamp datatypes appropriately) **(Low Level)**
Insert atleast 5 rows to each table. (Check www.irctc.co.in website for actual data)

1. Use Interactive insertion for inserting rows to the table.
2. Use ADT(varray) for class and days column in Train table.

CODE:

```
create or replace type class as varray(6) of varchar(10)
/
create or replace type days_of_run as varray(7) of varchar(3)
/

create table train
(
    train_number    number(5) primary key,
    name            varchar(25),
    source          varchar(20),
    destination     varchar(20),
    start_time      timestamp(0),
    reach_time      timestamp(0),
    traveltime      interval day to second(0),
    distance        number(4),
    t_class         class,
    days            days_of_run,
    type            varchar(10)
);

create table ticket
(
    pnr_no          number(10) primary key,
    transactionid   number(10),
```

```

        from_station    varchar(20),
        to_station      varchar(20),
        date_of_journey date,
        ticket_class    varchar(6),
        date_of_booking date,
        ticket_fare     number(8,2),
        train_number    references train
    );

create table passenger
(
    pnr_no            references ticket,
    serial_no         number(2),
    name              varchar(20),
    age               number(3),
    reservation_status varchar(6),
    primary key(pnr_no, Serial_no)
);

create table train_route
(
    train_number      references train,
    route_no          number(5),
    station_code      varchar(4),
    name              varchar(20),
    arrival_time      timestamp(0),
    depart_time       timestamp(0),
    distance          number(4),
    day               varchar(3),
    primary key(train_number, route_no)
);

create table train_ticket_fare
(
    train_number      references train,
    ticket_class      varchar(6),--references ticket not working,
    base_fare         number(7,2),
    reservation_charge number(6,2),
    superfast_charge  number(6,2),
    other_charge      number(6,2),
    tatkal_charge     number(6,2),
    service_tax       number(6,2),
    primary key(train_number, ticket_class)
);

desc train
desc ticket
desc passenger
desc train_route
desc train_ticket_fare

```

```
SQL> @C:/DA1.sql
```

```
Type created.
```

```
Type created.
```

```
Table created.
```

```
Table created.
```

```
Table created.
```

```
Table created.
```

```
Table created.
```

Name	Null?	Type
TRAIN_NUMBER	NOT NULL	NUMBER(5)
NAME		VARCHAR2(25)
SOURCE		VARCHAR2(20)
DESTINATION		VARCHAR2(20)
START_TIME		TIMESTAMP(0)
REACH_TIME		TIMESTAMP(0)
TRAVELTIME		INTERVAL DAY(2) TO SECOND(0)
DISTANCE		NUMBER(4)
T_CLASS		CLASS
DAYS		DAYS_OF_RUN
TYPE		VARCHAR2(10)

Name	Null?	Type
PNR_NO	NOT NULL	NUMBER(10)
TRANSACTIONID		NUMBER(10)
FROM_STATION		VARCHAR2(20)
TO_STATION		VARCHAR2(20)
DATE_OF_JOURNEY		DATE
TICKET_CLASS		VARCHAR2(6)
DATE_OF_BOOKING		DATE
TICKET_FARE		NUMBER(8,2)
TRAIN_NUMBER		NUMBER(5)

Name	Null?	Type
PNR_NO	NOT NULL	NUMBER(10)
SERIAL_NO	NOT NULL	NUMBER(2)
NAME		VARCHAR2(20)
AGE		NUMBER(3)
RESERVATION_STATUS		VARCHAR2(6)

Name	Null?	Type
-----	-----	-----
TRAIN_NUMBER	NOT NULL	NUMBER(5)
ROUTE_NO	NOT NULL	NUMBER(5)
STATION_CODE		VARCHAR2(4)
NAME		VARCHAR2(20)
ARRIVAL_TIME		TIMESTAMP(0)
DEPART_TIME		TIMESTAMP(0)
DISTANCE		NUMBER(4)
DAY		VARCHAR2(3)
Name	Null?	Type
-----	-----	-----
TRAIN_NUMBER	NOT NULL	NUMBER(5)
TICKET_CLASS	NOT NULL	VARCHAR2(6)
BASE_FARE		NUMBER(7,2)
RESERVATION_CHARGE		NUMBER(6,2)
SUPERFAST_CHARGE		NUMBER(6,2)
OTHER_CHARGE		NUMBER(6,2)
TATKAL_CHARGE		NUMBER(6,2)
SERVICE_TAX		NUMBER(6,2)

Non-interactive insertion of values:

TRAIN:

```

insert into train values
(
    12164, 'Chennai Express', 'Chennai Egmore', 'Dadar',
    to_timestamp('06:45', 'hh24:mi'), to_timestamp('06:00',
'hh24:mi'),
    to_dsinterval('000 23:15:00'), 1274,
    class('1A','2A','3A','SL',null,null),
    days_of_run('Mon','Tue','Wed','Thu','Fri','Sat','Sun'),'Express'
);

insert into train values
(
    20127, 'Ahmedabad Express', 'Delhi', 'Ahmedabad',
    to_timestamp('03:40', 'hh24:mi'),to_timestamp('4:45',
'hh24:mi'),
    to_dsinterval('001 01:05:00'), 950,
    class('1A','2A','3A','SL',null,null),
    days_of_run('Mon','Wed','Thu','Fri','Sat',null,null),'Fast'
);

insert into train values
(
    11042, 'Mumbai Express', 'Chennai Central', 'Mumbai Cst',
    to_timestamp('11:55', 'hh24:mi'),to_timestamp('13:35',
'hh24:mi'),
    to_dsinterval('001 01:40:00'), 1280,

```

```

        class('2A','3A','SL','Gen',null,NULL),
        days_of_run('Mon','Tue','Wed','Thu','Fri','Sat','Sun'),'Express'
    );

insert into train values
(
    11028, 'Mumbai Mail', 'Chennai Central', 'Mumbai Cst',
    to_timestamp('22:50', 'hh24:mi'),to_timestamp('03:45',
'hh24:mi'),
    to_dsinterval('001 04:55:00'), 1280,
    class('2A','3A','SL',null,null,NULL),
    days_of_run('Mon','Tue','Wed','Thu','Fri','Sat','Sun'),'Express'
);

insert into train values
(
    22554, 'Pune Express', 'Delhi', 'Pune',
    to_timestamp('01:45', 'hh24:mi'),to_timestamp('18:00',
'hh24:mi'),
    to_dsinterval('000 15:15:00'), 1480,
    class('1A','2A','3A','SL','gen',NULL),
    days_of_run('Mon','Tue','Wed','Thu','Fri',null,null),'SuperFast'
);

```

```

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

```

```
SQL> select * from train;
```

TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_T	REACH_T	TRAVELTIME	DISTANCE
12164	Chennai Express	Chennai Egmore	Dadar	06:45	06:00	+00 23:15:00	1274
CLASS('1A', '2A', '3A', 'SL', NULL, NULL)				DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun')		Express	
20127	Ahmedabad Expre	Delhi	Ahmedabad	03:40	04:45	+01 01:05:00	950
CLASS('1A', '2A', '3A', 'SL', NULL, NULL)				DAYS_OF_RUN('Mon', 'Wed', 'Thu', 'Fri', 'Sat', NULL, NULL)		Fast	
11042	Mumbai Express	Chennai Centra	Mumbai Cst	11:55	13:35	+01 01:40:00	1280
CLASS('2A', '3A', 'SL', 'Gen', NULL, NULL)				DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun')		Express	
11028	Mumbai Mail	Chennai Centra	Mumbai Cst	22:50	03:45	+01 04:55:00	1280
CLASS('2A', '3A', 'SL', NULL, NULL, NULL)				DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun')		Express	
22554	Pune Express	Delhi	Pune	01:45	18:00	+00 15:15:00	1480
CLASS('1A', '2A', '3A', 'SL', 'gen', NULL)				DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', NULL, NULL)		SuperFast	

TICKET:

```
insert into ticket values
(
  1928091842, 5468529634, 'Chennai Egmore', 'Mumbai
Central',to_date('22-10-20', 'dd-mm-yy'),
  '2A', to_date('24-09-20', 'dd-mm-yy'), 2100, 12164
);

insert into ticket values
(
  5365986546, 7845632159, 'Bangalore Cantt', 'Mumbai Cantt',
to_date('24-11-20', 'dd-mm-yy'),
  '3A', to_date('02-10-20', 'dd-mm-yy'), 400, 11042
);
insert into ticket values
(
  1895732123, 9517534569, 'Katpadi', 'Manglore', to_date('21-10-20',
'dd-mm-yy'),
  '3A', to_date('04-08-20', 'dd-mm-yy'), 1800, 11042
);
insert into ticket values
(
  8674920651, 7896354865, 'Mumbai Central', 'Bengalore Cantt',
to_date('12-11-20', 'dd-mm-yy'),
  '2A', to_date('19-09-20', 'dd-mm-yy'), 1500, 22554
);
insert into ticket values
(
  1864998349, 5856696892, 'Mumbai Central', 'Katpadi', to_date('14-
06-20', 'dd-mm-yy'),
  'SL', to_date('02-04-20', 'dd-mm-yy'), 1050, 11028
);
```

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

SQL> select * from ticket;

PNR_NO	TRANSACTIONID	FROM_STATION	TO_STATION	DATE_OF_JOURNEY	TICKET	DATE_OF_BOOKING	TICKET_FARE	TRAIN_NUMBER
*****	*****	*****	*****	*****	*****	*****	*****	*****
1928091842	5468529634	Chennai Egmore	Mumbai Central	22-OCT-20	2A	24-SEP-20	2100	12164
5365986546	7845632159	Bangalore Cantt	Mumbai Cantt	24-NOV-20	3A	02-OCT-20	400	11042
1895732123	9517534569	Katpadi	Manglore	21-OCT-20	3A	04-AUG-20	1800	11042
8674920651	7896354865	Mumbai Central	Bengalore Cantt	12-NOV-20	2A	19-SEP-20	1500	22554
1864998349	5856696892	Mumbai Central	Katpadi	14-JUN-20	SL	02-APR-20	1050	11028

PASSENGER:

```
insert into passenger values
( 1928091842, 01, 'Rohan', 68, 'CNF');

insert into passenger values
(5365986546, 01, 'Nitin', 23, 'Wait');

insert into passenger values
( 5365986546, 02, 'Hritisha', 24, 'Wait');

insert into passenger values
( 1895732123, 01, 'Anushka', 19, 'CNF');

insert into passenger values
( 8674920651, 01, 'Nishi', 15, 'CNF');

insert into passenger values
( 8674920651, 02, 'Salonee', 44, 'CNF');

insert into passenger values
( 1864998349, 01, 'Priyal', 17, 'CNF');
```

```
1 row created.
1 row created.
1 row created.
1 row created.
1 row created.
1 row created.
1 row created.
```

```
SQL> select * from passenger;
```

PNR_NO	SERIAL_NO	NAME	AGE	RESERV
*****	*****	*****	****	*****
1928091842	1	Rohan	68	CNF
5365986546	1	Nitin	23	Wait
5365986546	2	Hritisha	24	Wait
1895732123	1	Anushka	19	CNF
8674920651	1	Nishi	15	CNF
8674920651	2	Salonee	44	CNF
1864998349	1	Priyal	17	CNF

TRAIN ROUTE:

```
insert into train_route values
(
  12164, 02464, 'EM', 'Chennai Egmore', to_timestamp('06:35',
'hh24:mi'), to_timestamp('06:45', 'hh24:mi'),
  00, 'Mon'
);

insert into train_route values
(
  11042, 01223, 'BNC', 'Bangalore Cantt', to_timestamp('20:15',
'hh24:mi'), to_timestamp('20:22', 'hh24:mi'),
  785, 'Mon'
```



```
);

insert into train_route values
(
    20127, 01224, 'KPD', 'Katpadi', to_timestamp('15:35', 'hh24:mi'),
    to_timestamp('15:40', 'hh24:mi'),
    168, 'Tue'
);

insert into train_route values
(
    11028, 08421, 'BBC', 'Mumbai Central', to_timestamp('22:40',
'hh24:mi'), to_timestamp('22:50', 'hh24:mi'),
    00, 'Mon'
);

insert into train_route values
(
    22554, 07688, 'BBC', 'Mumbai Central', to_timestamp('13:50',
'hh24:mi'), to_timestamp('14:00', 'hh24:mi'),
    00, 'Mon'
);
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
SQL> select * from train_route;
```

TRAIN_NUMBER	ROUTE_NO	STAT	NAME	ARRIVAL_TIME	DEPART_TIME	DISTANCE	DAY
*****	*****	****	*****	*****	*****	*****	***
12164	2464	EM	Chennai Egmore	06:35	06:45	0	Mon
11042	1223	BNC	Bangalore Cantt	20:15	20:22	785	Mon
20127	1224	KPD	Katpadi	15:35	15:40	168	Tue
11028	8421	BBC	Mumbai Central	22:40	22:50	0	Mon
22554	7688	BBC	Mumbai Central	13:50	14:00	0	Mon

TRAIN TICKET FARE:

```
insert into train_ticket_fare values
( 12164, '2A', 1800, 30, 100, 50, 50, 120);
```

```
insert into train_ticket_fare values
( 11042, '3A', 280, 30, NULL, 30, 120, 50);
```

```
insert into train_ticket_fare values
```

```
( 20127, '3A', 1520, 30, 90, 60, NULL, 100);

insert into train_ticket_fare values
( 22554, '2A', 1280, 30, NULL, 40, NULL, 80);

insert into train_ticket_fare values
( 11028, 'Sl', 820, 30, 60, 30, NULL, 110);
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
1 row created.
```

```
SQL> select * from train_ticket_fare;
```

TRAIN_NUMBER	TICKET	BASE_FARE	RESERVATION_CHARGE	SUPERFAST_CHARGE	OTHER_CHARGE	TATKAL_CHARGE	SERVICE_TAX
*****	*****	*****	*****	*****	*****	*****	*****
12164	2A	1800.00	30.00	100.00	50.00	50	120.00
11042	3A	280.00	30.00		30.00	120	50.00
20127	3A	1520.00	30.00	90.00	60.00		100.00
22554	2A	1280.00	30.00		40.00		80.00
11028	Sl	820.00	30.00	60.00	30.00		110.00

Interactive insertion of values:

TRAIN:

```
insert into train values
(
    &train_number, '&name', '&source', '&destination', &start_time,
    &reach_time, &travel_time, &distance, &t_class, &days, '&type'
);
```

```
SQL> insert into train values
2  (
3    &train_number, '&name', '&source', '&destination', &start_time, &reach_time,
4    &travel_time, &distance, &t_class, &days, '&type'
5  );
Enter value for train_number: 12138
Enter value for name: Punjab Mail
Enter value for source: Mumbai
Enter value for destination: New Delhi
Enter value for start_time: to_timestamp('05:15','hh24:mi')
Enter value for reach_time: to_timestamp('07:35','hh24:mi')
old 3:   &train_number, '&name', '&source', '&destination', &start_time, &reach_time,
new 3:   12138, 'Punjab Mail', 'Mumbai', 'New Delhi', to_timestamp('05:15','hh24:mi'), to_timestamp('07:35','hh24:mi'),
Enter value for travel_time: to_dsinterval('001 22:00:00')
Enter value for distance: 1544
Enter value for t_class: class('1A','2A','3A','SL')
Enter value for days: days_of_run('Mon','Tue','Wed')
Enter value for type: Fast
old 4:   &travel_time, &distance, &t_class, &days, '&type'
new 4:   to_dsinterval('001 22:00:00'), 1544, class('1A','2A','3A','SL'), days_of_run('Mon','Tue','Wed'), 'Fast'
1 row created.
```

TICKET:

```
insert into ticket values
(
    &PNR_No, &transactionid, '&from_station', '&to_station',
    &date_of_journey, '&ticket_class', &date_of_booking, &ticket_fare,
    &train_number
);
```

```
SQL> insert into ticket values
2  (
3      &PNR_No, &transactionid, '&from_station', '&to_station', &date_of_journey, '&ticket_class', &date_of_booking, &ticket_fare, &train_number
4  );
Enter value for pnr_no: 3615847290
Enter value for transactionid: 2553809641
Enter value for from_station: Mumbai
Enter value for to_station: New Delhi
Enter value for date_of_journey: to_date('30-01-20','dd-mm-yy')
Enter value for ticket_class: 2A
Enter value for date_of_booking: to_date('25-01-20','dd-mm-yy')
Enter value for ticket_fare: 1050
Enter value for train number: 12138
old   3:      &PNR_No, &transactionid, '&from_station', '&to_station', &date_of_journey, '&ticket_class', &date_of_booking, &ticket_fare, &train_number
new   3:      3615847290, 2553809641, 'Mumbai', 'New Delhi', to_date('30-01-20','dd-mm-yy'),'2A', to_date('25-01-20','dd-mm-yy'), 1050, 12138

1 row created.
```

PASSENGER:

```
insert into passenger values
(
    &PNR_No, &Serial_no, '&Name', &Age, '&Reservation_status'
);
```

```
SQL> insert into passenger values
2  (
3      &PNR_No, &Serial_no, '&Name', &Age, '&Reservation_status'
4  );
Enter value for pnr_no: 3615847290
Enter value for serial_no: 03
Enter value for name: Kushagra
Enter value for age: 83
Enter value for reservation_status: Wait
old   3:      &PNR_No, &Serial_no, '&Name', &Age, '&Reservation_status'
new   3:      3615847290, 03, 'Kushagra', 83, 'Wait'

1 row created.
```

TRAIN ROUTE:

```
insert into train_route values
(
    &train_number, &route_no, '&station_code', '&name', &arrival_time,
    &depart_time, &distance, '&day'
);
```

```

SQL> insert into train_route values
  2  (
  3      &Train_number, &route_no, '&station_code', '&name', &arrival_time, &depart_time, &distance, '&day'
  4  );
Enter value for train_number: 12138
Enter value for route_no: 07688
Enter value for station_code: BBC
Enter value for name: New Delhi
Enter value for arrival_time: to_timestamp('05:15','hh24:mi')
Enter value for depart_time: to_timestamp('05:30','hh24:mi')
Enter value for distance: 1544
Enter value for day: Tue
old   3:      &Train_number, &route_no, '&station_code', '&name', &arrival_time, &depart_time, &distance, '&day'
new   3:      12138, 07688, 'BBC', 'New Delhi', to_timestamp('05:15','hh24:mi'), to_timestamp('05:30','hh24:mi'), 1544, 'Tue'
1 row created.

```

TRAIN TICKET FARE:

```

insert into train_ticket_fare values
(
    &Train_number, '&ticket_class', &base_fare, &reservation_charge,
    &superfast_charge, &other_charge, &tatkal_charge, &service_tax
);

```

```

SQL> insert into train_ticket_fare values
  2  (
  3      &Train_number, '&ticket_class', &base_fare, &reservation_charge, &superfast_charge, &other_charge, &tatkal_charge, &service_tax
  4  );
Enter value for train_number: 12138
Enter value for ticket_class: 2A
Enter value for base_fare: 920
Enter value for reservation_charge: 30
Enter value for superfast_charge: 50
Enter value for other_charge: 13
Enter value for tatkal_charge: 20
Enter value for service_tax: 17
old   3:      &Train_number, '&ticket_class', &base_fare, &reservation_charge, &superfast_charge, &other_charge, &tatkal_charge, &service_tax
new   3:      12138, '2A', 920, 30, 50, 13, 20, 17
1 row created.

```

Q.2

Write simple DDL/DML Queries to **(Low Level)**

1. Remove all the rows from Passenger table permanently.
2. Change the name of the Passenger table to Passenger_Details.
3. List all train details.
4. List all passenger details.
5. Give a list of trains in ascending order of number.
6. List the senior citizen passenger details.
7. List the station names where code starts with 'M'.
8. List the train details within a range of numbers.
9. Change the superfast charge value in train fare as zero, if it is null.
10. List the passenger names whose tickets are not confirmed.
11. List the base_fare of all AC coaches available in each train.

Find the ticket details where transaction id is not known.

1. Use interactive update for updating the seat no for a particular PNR NO.
2. Find the train names that are from Chennai to Mumbai, but do not have the source or destination in its name.
3. Find the train details that are on Thursday (Use the ADT column created).

1. Remove all the rows from Passenger table permanently.

```
Truncate table passenger;
select * from passenger;
SQL> truncate table passenger;

Table truncated.

SQL> select * from passenger;

no rows selected
```

2. Change the name of the Passenger table to Passenger_Details.

```
alter table passenger rename to passenger_details;
SQL> alter table passenger rename to passenger_details;

Table altered.

SQL> desc passenger_details;
+-----+-----+-----+
Name                                         Null?   Type
+-----+-----+-----+
PNR_NO                                       NUMBER(10)
SERIAL_NO                                   NUMBER(2)
NAME                                         VARCHAR2(20)
AGE                                          NUMBER(3)
RESERVATION_STATUS                          VARCHAR2(6)
```

3. List all train details.

```
select * from train;
SQL> select * from train;

TRAIN_NUMBER | NAME                | SOURCE                | DESTINATION | START_T | REACH_T | TRAVELTIME | DISTANCE
+-----+-----+-----+-----+-----+-----+-----+-----+
*****
T_CLASS
*****
12164 | Chennai Express | Chennai Egmore | Dadar | 06:45 | 06:00 | +00 23:15:00 | 1274
CLASS('1A', '2A', '3A', 'SL', NULL, NULL | DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun') | Express
)
20127 | Ahmedabad Expre | Delhi | Ahmedabad | 03:40 | 04:45 | +01 01:05:00 | 950
CLASS('1A', '2A', '3A', 'SL', NULL, NULL | DAYS_OF_RUN('Mon', 'Wed', 'Thu', 'Fri', 'Sat', NULL, NULL) | Fast
)
11042 | Mumbai Express | Chennai Centra | Mumbai Cst | 11:55 | 13:35 | +01 01:40:00 | 1280
CLASS('2A', '3A', 'SL', 'Gen', NULL, NUL | DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun') | Express
L)
11028 | Mumbai Mail | Chennai Centra | Mumbai Cst | 22:50 | 03:45 | +01 04:55:00 | 1280
CLASS('2A', '3A', 'SL', NULL, NULL, NULL | DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun') | Express
)
22554 | Pune Express | Delhi | Pune | 01:45 | 18:00 | +00 15:15:00 | 1480
CLASS('1A', '2A', '3A', 'SL', 'gen', NUL | DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', NULL, NULL) | SuperFast
L)
12138 | Punjab Mail | Mumbai | New Delhi | 05:15 | 07:35 | +01 22:00:00 | 1544
CLASS('1A', '2A', '3A', 'SL') | DAYS_OF_RUN('Mon', 'Tue', 'Wed') | Fast

6 rows selected.
```

4. List all passenger details.

```
select * from passenger;
```

```
SQL> select * from passenger;
```

PNR_NO	SERIAL_NO	NAME	AGE	RESERV
1928091842	1	Rohan	68	CNF
5365986546	1	Nitin	23	Wait
5365986546	2	Hritisha	24	Wait
1895732123	1	Anushka	19	CNF
8674920651	1	Nishi	15	CNF
8674920651	2	Salonee	44	CNF
1864998349	1	Priyal	17	CNF
3615847290	3	Kushagra	83	Wait

8 rows selected.

5. Give a list of trains in ascending order of number.

```
select * from train order by train_number;
```

```
SQL> select * from train order by train_number;
```

TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_T	REACH_T	TRAVELTIME	DISTANCE
11028	Mumbai Mail	Chennai	Mumbai Cst	22:50	03:45	+01 04:55:00	1280
11042	Mumbai Express	Chennai	Mumbai Cst	11:55	13:35	+01 01:40:00	1280
12138	Punjab Mail	Mumbai	New Delhi	05:15	07:35	+01 22:00:00	1544
12164	Chennai Express	Chennai	Egmore	06:45	06:00	+00 23:15:00	1274
20127	Ahmedabad Expre	Delhi	Ahmedabad	03:40	04:45	+01 01:05:00	950
22554	Pune Express	Delhi	Pune	01:45	18:00	+00 15:15:00	1480

6 rows selected.

6. List the senior citizen passenger details.

```
select * from passenger_details where Age>=60;
```

```
SQL> select * from passenger where age>=65;
```

PNR_NO	SERIAL_NO	NAME	AGE	RESERV
1928091842	1	Rohan	68	CNF
3615847290	3	Kushagra	83	Wait

7. List the station names where code starts with 'M'.

```
select * from train_route where station_code like 'M%';
```

```
SQL> select * from train_route where station_code like 'M%';
```

no rows selected

```
SQL> insert into train_route values
```

```
2 (
3 11042, 01229, 'MNC', 'Bangalore Cantt', to_timestamp('20:15', 'hh24:mi'), to_timestamp('20:22', 'hh24:mi'),
4 785, 'Mon'
5 );
```

1 row created.

```
SQL> select * from train_route where station_code like 'M%';
```

TRAIN_NUMBER	ROUTE_NO	STAT	NAME	ARRIVAL_TIME	DEPART_TIME	DISTANCE	DAY
11042	1229	MNC	Bangalore Cantt	20:15	20:22	785	Mon

8. List the train details within a range of numbers.

```
select * from train where train_number between 12130 and 22000;
```

```
SQL> select * from train where train_number between 12130 and 22000;
```

TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_T	REACH_T	TRAVELTIME	DISTANCE
12138	Punjab Mail	Mumbai	New Delhi	05:15	07:35	+01 22:00:00	1544
CLASS('1A', '2A', '3A', 'SL')		DAYS_OF_RUN('Mon', 'Tue', 'Wed')					Fast
12164	Chennai Express	Chennai Egmore	Dadar	06:45	06:00	+00 23:15:00	1274
CLASS('1A', '2A', '3A', 'SL', NULL, NULL)		DAYS_OF_RUN('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun')					Express
20127	Ahmedabad Expre	Delhi	Ahmedabad	03:40	04:45	+01 01:05:00	950
CLASS('1A', '2A', '3A', 'SL', NULL, NULL)		DAYS_OF_RUN('Mon', 'Wed', 'Thu', 'Fri', 'Sat', NULL, NULL)					Fast

```
select * from train where distance between 500 and 1000;
```

```
SQL> select * from train where distance between 500 and 1000;
```

TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_T	REACH_T	TRAVELTIME	DISTANCE
20127	Ahmedabad Expre	Delhi	Ahmedabad	03:40	04:45	+01 01:05:00	950
CLASS('1A', '2A', '3A', 'SL', NULL, NULL)		DAYS_OF_RUN('Mon', 'Wed', 'Thu', 'Fri', 'Sat', NULL, NULL)					Fast

9. Change the superfast charge value in train fare as zero, if it is null.

```
update train_ticket_fare set superfast_charge=0 where
superfast_charge is NULL;
select * from train_ticket_fare;
```

```
SQL> update train_ticket_fare set superfast_charge=0 where superfast_charge is NULL;
```

```
2 rows updated.
```

```
SQL> select * from train_ticket_fare;
```

TRAIN_NUMBER	TICKET	BASE_FARE	RESERVATION_CHARGE	SUPERFAST_CHARGE	OTHER_CHARGE	TATKAL_CHARGE	SERVICE_TAX
*****	*****	*****	*****	*****	*****	*****	*****
12164	2A	1800.00	30.00	100.00	50.00	50	120.00
11042	3A	280.00	30.00	.00	30.00	120	50.00
20127	3A	1520.00	30.00	90.00	60.00		100.00
22554	2A	1280.00	30.00	.00	40.00		80.00
11028	S1	820.00	30.00	60.00	30.00		110.00
12138	2A	920.00	30.00	50.00	13.00	20	17.00

```
6 rows selected.
```

10. List the passenger names whose tickets are not confirmed.

```
select * from passenger where reservation_status = 'Wait';
```

```
SQL> select name from passenger where reservation_status='Wait';
```

```
NAME
```

```
*****
```

```
Nitin
```

```
Hritisha
```

```
Kushagra
```

11. List the base_fare of all AC coaches available in each train.

```
select distinct (base_fare) from train_ticket_fare where ticket_class like
'_A%';
select base_fare from train_ticket_fare where ticket_class like '_A%';
```

```
SQL> select distinct (base_fare) from train_ticket_fare where ticket_class like '_A%';
```

```
BASE_FARE
```

```
*****
```

```
280.00
```

```
1800.00
```

```
920.00
```

```
1280.00
```

```
1520.00
```

```
SQL> select base_fare from train_ticket_fare where ticket_class like '_A%';
```

```
BASE_FARE
```

```
*****
```

```
1800.00
```

```
280.00
```

```
1520.00
```

```
1280.00
```

```
920.00
```


Find the ticket details where transaction id is not known.

```
select * from ticket where transactionid is NULL;
```

```
SQL> select * from ticket where transactionid is NULL;
```

```
no rows selected
```

```
SQL> insert into ticket values
```

```
2 (  
3 1234567809,NULL,'Chennai Egmore','Mumbai Central',to_date('22-01-20','dd-mm-yy'),  
4 '2A',to_date('24-01-20','dd-mm-yy'),2100,12164  
5 );
```

```
1 row created.
```

```
SQL> select * from ticket where transactionid is NULL;
```

PNR_NO	TRANSACTIONID	FROM STATION	TO STATION	DATE OF JOURNEY	TICKET	DATE OF BOOKING	TICKET_FARE	TRAIN_NUMBER
*****	*****	*****	*****	*****	*****	*****	*****	*****
1234567809		Chennai Egmore	Mumbai Central	22-JAN-20	2A	24-JAN-20	2100	12164

1. Use interactive update for updating the seat no for a particular PNR NO.

```
alter table passenger add seat_no number(3);
```

```
update passenger set seat_no=&seat_no where pnr_no=&pnr_no;
```

```
SQL> alter table passenger add seat_no number(3);
```

```
Table altered.
```

```
SQL> update passenger set seat_no=&seat_no where pnr_no=&pnr_no;
```

```
Enter value for seat_no: 23
```

```
Enter value for pnr_no: 3615847290
```

```
old 1: update passenger set seat_no=&seat_no where pnr_no=&pnr_no
```

```
new 1: update passenger set seat_no=23 where pnr_no=3615847290
```

```
1 row updated.
```

2. Find the train names that are from Chennai to Mumbai, but do not have the source or destination in its name.

```
select name from train where source like '%Chennai' and destination like  
'%Mumbai' and name not like '%Chennai' and name not like '%Mumbai';
```

```
SQL> select name from train where source like '%Chennai' and destination like '%Mumbai' and name not like '%Chennai' and name not like '%Mumbai';
```

```
no rows selected
```

3. Find the train details that are on Thursday (Use the ADT column created).

```
select name, ds.* from train, table(train.days) ds;
```

```
select name, ds.* from train, table(train.days) ds where  
column_value='Thu';
```

```
SQL> select name, ds.* from train, table(train.days) ds;
```

NAME	COL
*****	***
Chennai Express	Mon
Chennai Express	Tue
Chennai Express	Wed
Chennai Express	Thu
Chennai Express	Fri
Chennai Express	Sat
Chennai Express	Sun
Ahmedabad Expre ss	Mon
Ahmedabad Expre ss	Wed
Ahmedabad Expre ss	Thu
Ahmedabad Expre ss	Fri
Ahmedabad Expre ss	Sat
Ahmedabad Expre ss	
Ahmedabad Expre ss	

Mumbai Express		Mon
Mumbai Express		Tue
Mumbai Express		Wed
Mumbai Express		Thu
Mumbai Express		Fri
Mumbai Express		Sat
Mumbai Express		Sun
Mumbai Mail		Mon
Mumbai Mail		Tue
Mumbai Mail		Wed
Mumbai Mail		Thu
Mumbai Mail		Fri
Mumbai Mail		Sat
Mumbai Mail		Sun
Pune Express		Mon
Pune Express		Tue
Pune Express		Wed
Pune Express		Thu
Pune Express		Fri
Pune Express		
Pune Express		
Punjab Mail		Mon
Punjab Mail		Tue
Punjab Mail		Wed

38 rows selected.

```
SQL> select name, ds.* from train, table(train.days) ds where column_value='Thu';
```

NAME	COL
*****	***
Chennai Express	Thu
Ahmedabad Expre	Thu
ss	
Mumbai Express	Thu
Mumbai Mail	Thu
Pune Express	Thu