



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

ITE1003 – DATABASE MANAGEMENT SYSTEMS

DIGITAL ASSIGNMENT 1

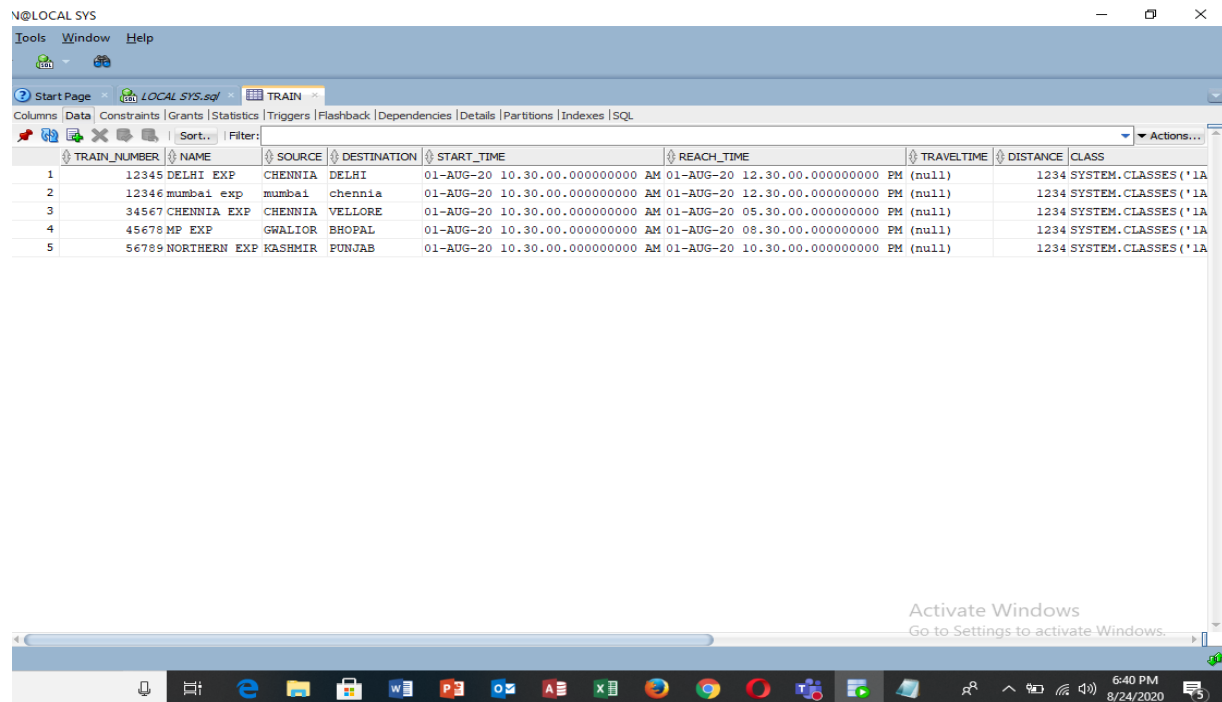
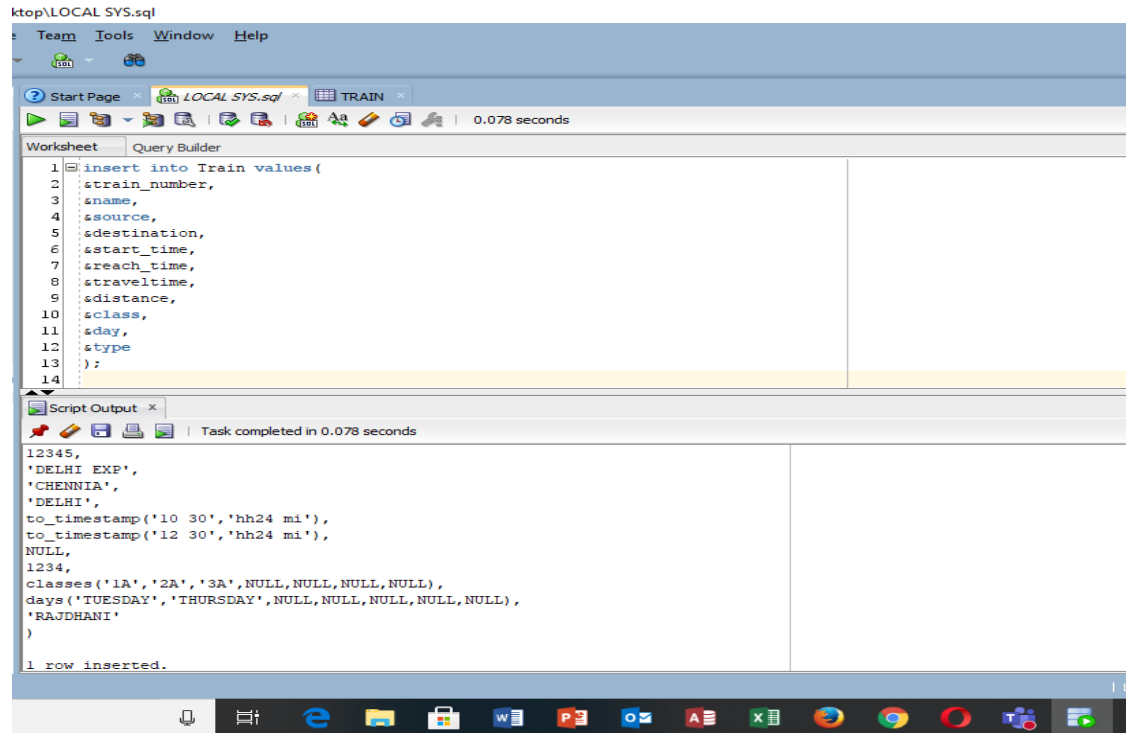
NAME: EASHAA SHIV SHNAKAR SINGH KUSHWAH

REG.NO. : 19BIT0206

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.

TRAIN TABLE:



SQL Server Enterprise Edition (64-bit) - LOCAL SYS

Tools Window Help

Start Page LOCAL SYS.sql TRAIN

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

Sort Filter Actions...

	TRAVELTIME	DISTANCE	CLASS	DAY	TYPE
1	10000 PM (null)		1234 SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)	SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)	RAJDHANI
2	10000 PM (null)		1234 SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)	SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)	SHATABDI
3	10000 PM (null)		1234 SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)	SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)	EXPRESS
4	10000 PM (null)		1234 SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)	SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)	MEGA EXP
5	10000 PM (null)		1234 SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)	SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)	GARIBH RATH

Activate Windows
Go to Settings to activate Windows

6:40 PM
8/24/2020

TICKET TABLE:

ctop\LOCAL SYS.sql

Team Tools Window Help

Start Page LOCAL SYS.sql TICKET

0.067 seconds

Worksheet Query Builder

```

1 insert into Ticket values(
2     sPNR_no,
3     sTransactionid,
4     sfrom_station,
5     sTo_station,
6     sdate_of_journey,
7     sclass,
8     sdate_of_booking,
9     stotal_ticket_fare,
10    strain_number
11 );
12

```

Script Output x

Task completed in 0.067 seconds

```

56789,
345,
'KASHMIR',
'PUNJAB',
to_date('2019 12 12','YYYY MM DD'),
'2A',
to_date('2019 12 01','YYYY MM DD'),
345,
56789
)

1 row inserted.

```

Activate Windows
Go to Settings to activate Windows

Line 11 Co

KET@LOCAL SYS

Tools Window Help

Start Page LOCAL SYS.sql TICKET

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

Sort... Filter:

	PNR_NO	TRANSACTIONID	FROM_STATION	TO_STATION	DATE_OF_JOURNEY	CLASS	DATE_OF_BOOKING	TOTAL_TICKET_FARE	TRAIN_NUMBER
1	12345	1234	chennai	delhi	17-DEC-15	1A	15-DEC-15	123	12345
2	23456	234	MUMBAI	CHENNIA	12-DEC-19	2A	08-DEC-19	123	12346
3	34567	345	CHENNIA	VELLORE	12-DEC-19	3A	10-DEC-19	125	34567
4	45678	456	GWALIOR	BHOPAL	12-DEC-19	1A	02-DEC-19	1266	45678
5	56789	345	KASHMIR	FUNJAB	12-DEC-19	2A	01-DEC-19	345	56789

Activate Window
Go to Settings to activate

PASSENGER TABLE:

op\LOCAL SYS.sql

Team Tools Window Help

Start Page LOCAL SYS.sql PASSENGER

0.027 seconds

Worksheet Query Builder

```

1 insert into Passenger VALUES (
2   <PNR_no,
3   <Serial_no,
4   <Name,
5   <Age,
6   <Reservation_status
7 );
8
9

```

Script Output x

Task completed in 0.027 seconds

```

<Age,
<Reservation_status
)
new:insert into Passenger VALUES (
56789,
39,
'AROH',
26,
'CONF'
)

1 row inserted.

```

Activ.
Go to S

1 Line 8 Column

INGER@LOCAL SYS

Tools Window Help

Start Page LOCAL SYS.sql PASSENGER

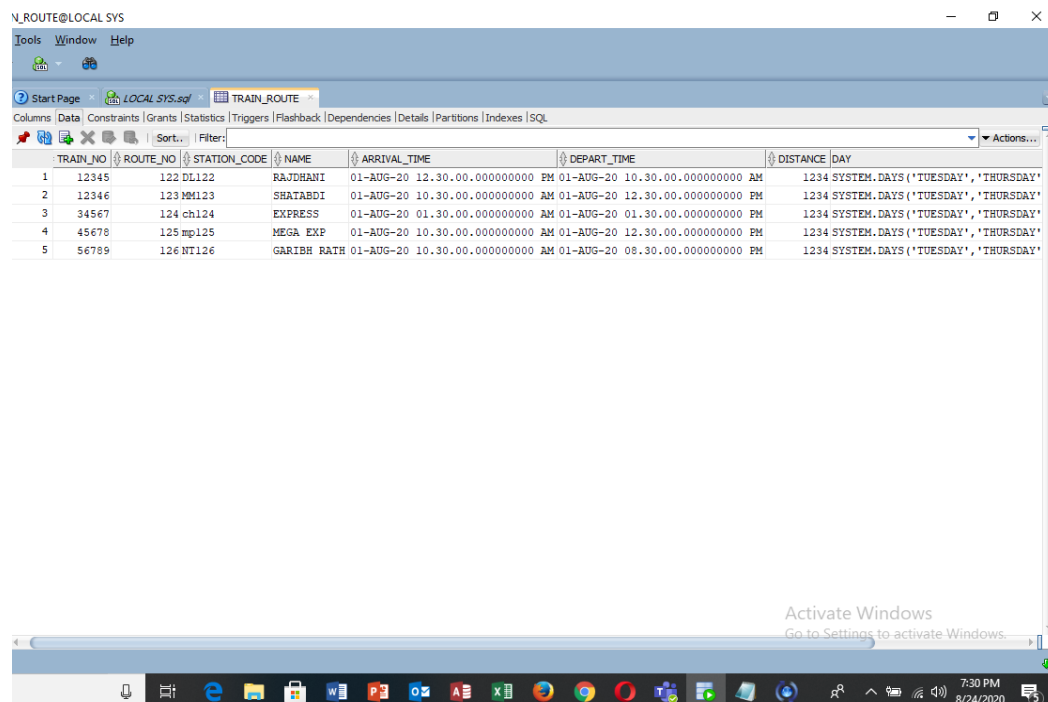
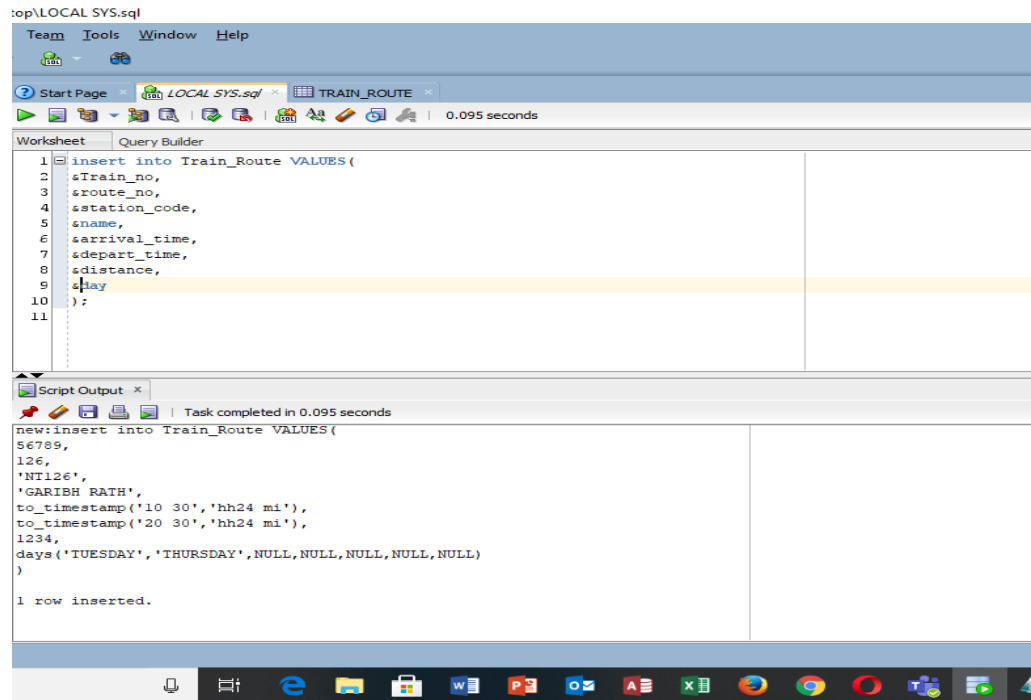
Columns Data Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

Sort... Filter:

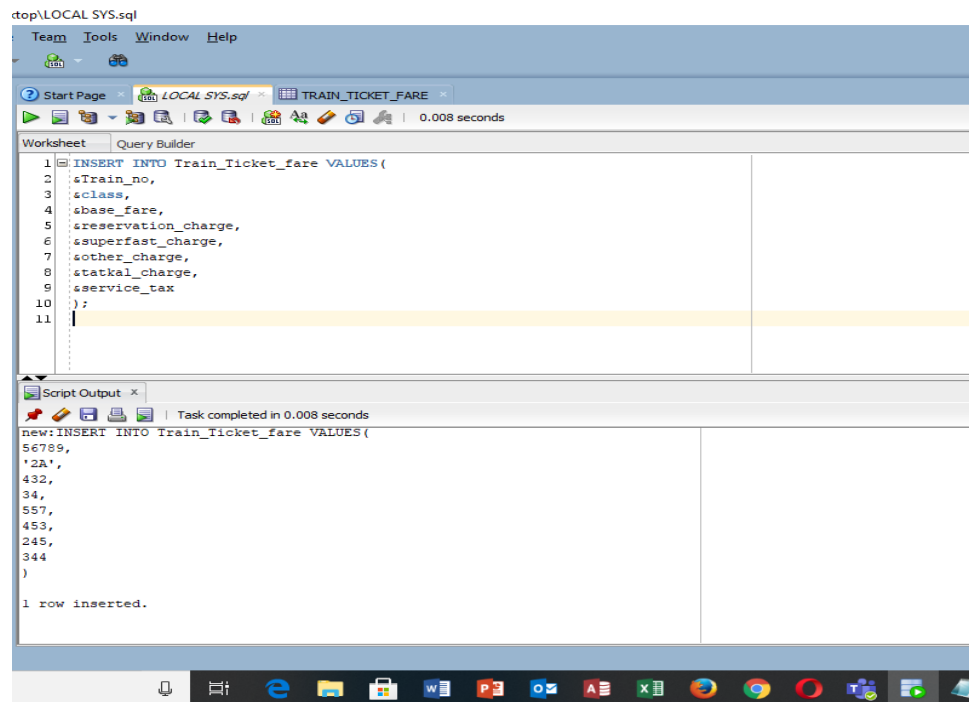
	PNR_NO	SERIAL_NO	NAME	AGE	RESERVATION_STATUS
1	12345	33	STACY	19	RAC
2	23456	34	RANBIR	22	CONF
3	34567	35	RIYA	45	CONF
4	45678	37	SIDDHART	34	RAC
5	56789	39	AROHI	26	CONF

Windows taskbar icons: File Explorer, Edge, Word, PowerPoint, Outlook, Access, Excel, Chrome, Firefox, Teams, OneDrive, File Explorer

TRAIN ROUTE TABLE:



TRAIN TICKET FARE:



TRAIN_TICKET_FARE@LOCAL SYS

Tools Window Help

Start Page LOCAL SYS.sql TRAIN_TICKET_FARE

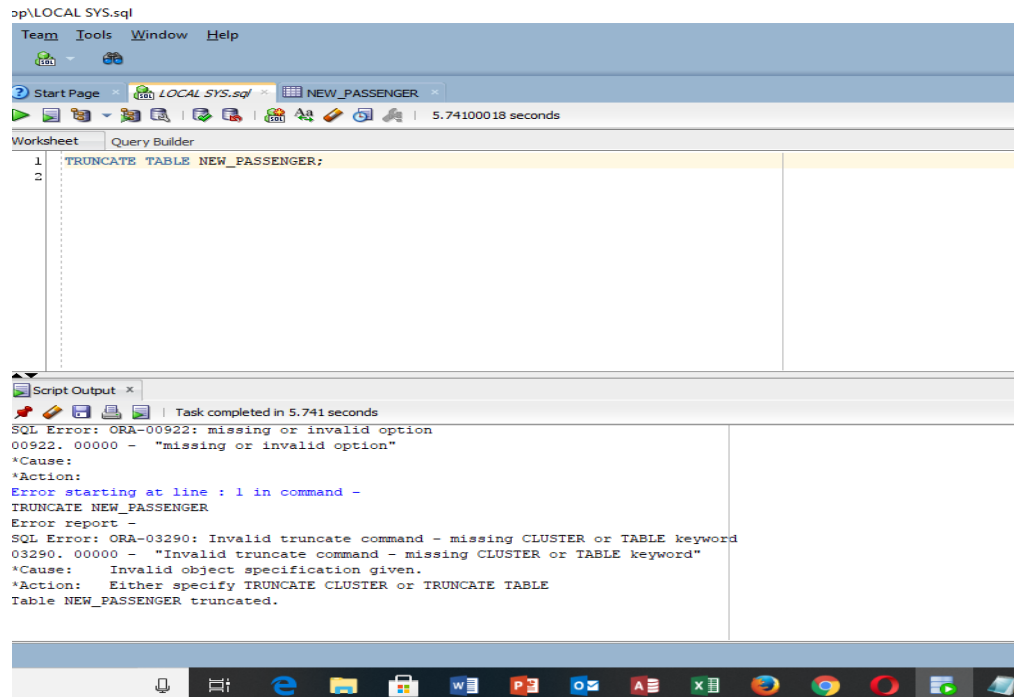
Columns Data Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

	TRAIN_NO	CLASS	BASE_FARE	RESERVATION_CHARGE	SUPERFAST_CHARGE	OTHER_CHARGE	TATKAL_CHARGE	SERVICE_TAX
1	12345	1A	1234	12	123	230	3400	340
2	12346	2A	1233	23	230	340	3400	344
3	34567	3A	1111	234	345	3456	345	456
4	45678	1A	2345	450	555	345	54	433
5	56789	2A	432	34	557	453	245	344

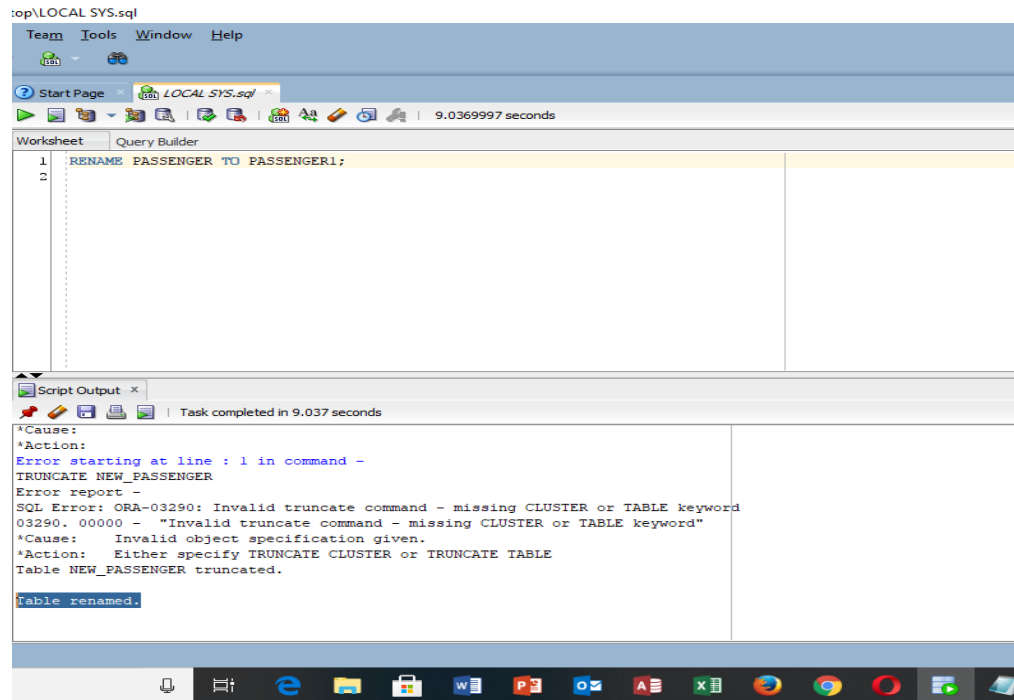
Acti
Go to

2. Write simple DDL/DML Queries to (Low Level)

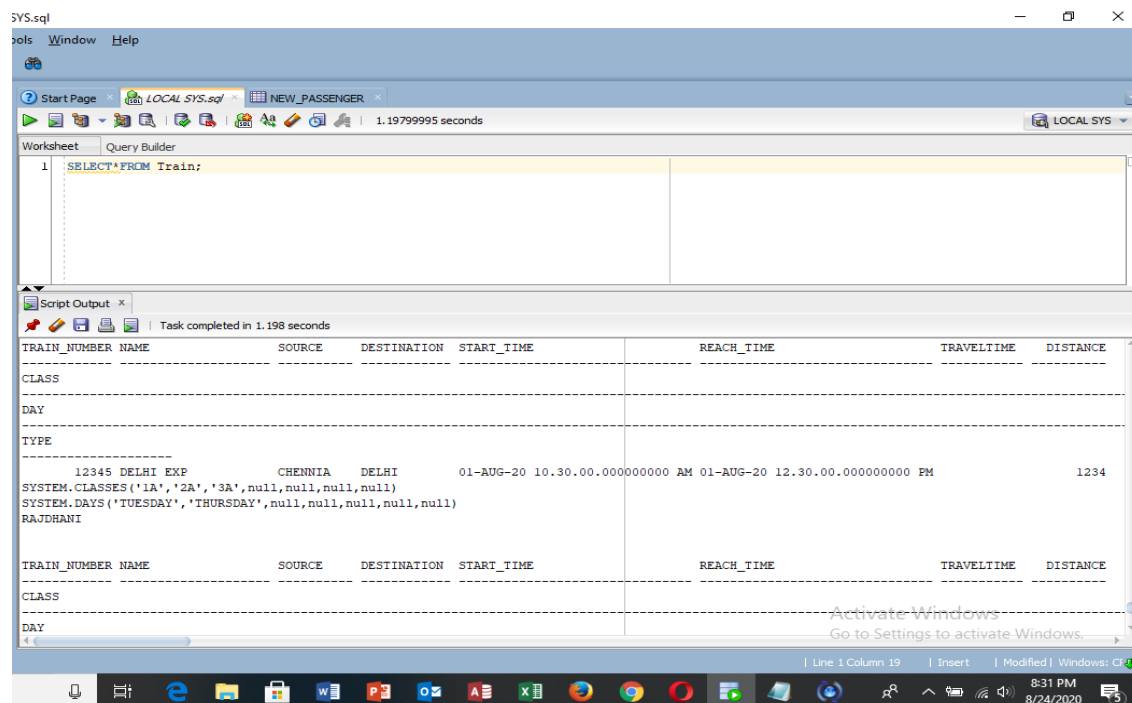
1. Remove all the rows from Passenger table permanently.



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



3. List all train details.



4. List all passenger details.

The screenshot shows a SQL Studio window with a query editor and a results pane. The query editor contains the following SQL statement:

```
SELECT * FROM NEW_PASSENGER;
```

The results pane displays the output of the query, showing 5 rows of passenger details. The columns are PNR_NO, SERIAL_NO, NAME, AGE, and RESERVATION_STATUS.

	PNR_NO	SERIAL_NO	NAME	AGE	RESERVATION_STATUS
1	12345	123	STACY	19	RAC
2	23456	34	RANBIR	34	CONF
3	34567	35	RIYA	44	CONF
4	45678	36	SIDDHART	27	RAC
5	56789	39	AROHI	26	RAC

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

The screenshot shows a SQL Studio window with a query editor and a results pane. The query editor contains the following SQL statement:

```
SELECT * FROM TRAIN ORDER BY train_number ASC;
```

The results pane displays the output of the query, showing 5 rows of train details. The columns are TRAIN_NUMBER, NAME, SOURCE, DESTINATION, START_TIME, REACH_TIME, TRAVELTIME, DISTANCE, and CLASS.

	TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_TIME	REACH_TIME	TRAVELTIME	DISTANCE	CLASS
1	12345	DELHI EXP	CHENNIA	DELHI	01-AUG-20 10.30.00.0000000000	AM 01-AUG-20 12.30.00.0000000000	PM (null)	1234	SYSTEM.C
2	12346	mumbai exp	mumbai	chennia	01-AUG-20 10.30.00.0000000000	AM 01-AUG-20 12.30.00.0000000000	PM (null)	1234	SYSTEM.C
3	34567	CHENNIA EXP	CHENNIA	VELLORE	01-AUG-20 10.30.00.0000000000	AM 01-AUG-20 05.30.00.0000000000	PM (null)	1234	SYSTEM.C
4	45678	MP EXP	GWALIOR	BHOPAL	01-AUG-20 10.30.00.0000000000	AM 01-AUG-20 08.30.00.0000000000	PM (null)	1234	SYSTEM.C
5	56789	NORTHERN EXP	KASHMIR	PUNJAB	01-AUG-20 10.30.00.0000000000	AM 01-AUG-20 10.30.00.0000000000	PM (null)	1234	SYSTEM.C

6. List the senior citizen passenger details

The screenshot shows the SQL Server Enterprise Manager interface. The query editor contains the following SQL statement:

```
SELECT * FROM NEW_PASSENGER WHERE age > 65;
```

The query result pane shows the following output:

```
SYSTEM.CLASSES('1A','2A','3A',null,null,null,null)
SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)
SHATABDI
```

Below the output, it states "no rows selected".

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

The screenshot shows the SQL Server Enterprise Manager interface. The query editor contains the following SQL statement:

```
SELECT name FROM Train_route WHERE station_code LIKE 'M%';
```

The query result pane shows the following output:

```
12346 123 MM123 SHATABDI 01-AUG-20 10.30.00.0000000000 AM 01-AUG-20 12.30.00.0000000000 PM 1234
SYSTEM.DAYS('TUESDAY','THURSDAY',null,null,null,null,null)
```

Below the output, it shows the station name "SHATABDI".

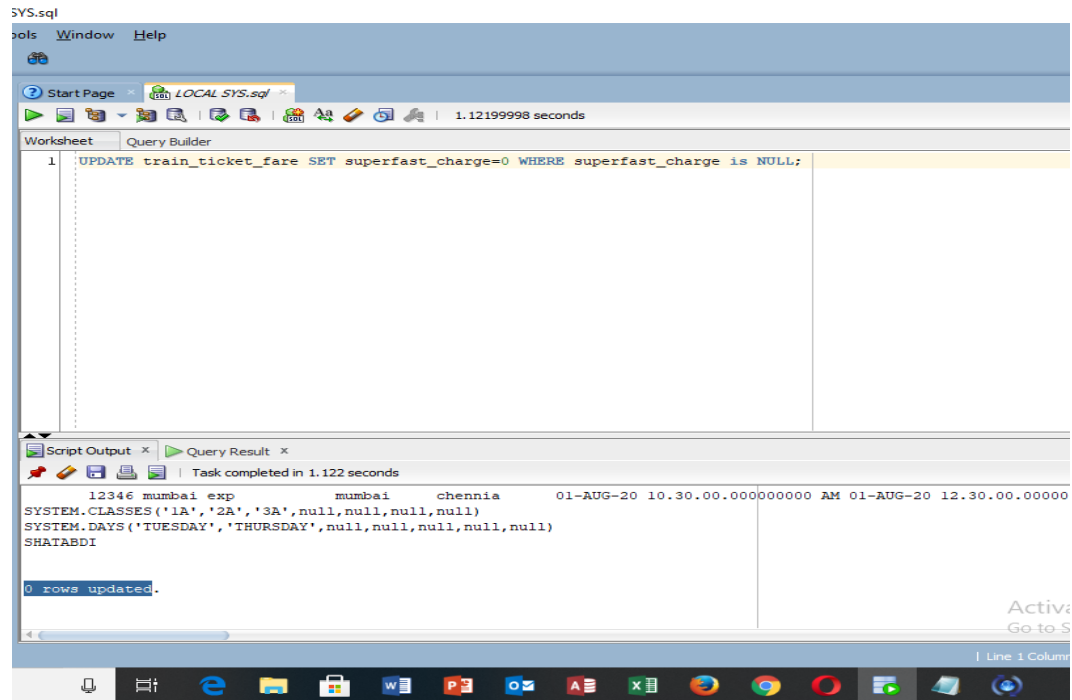
8. List the train details within a range of numbers

The screenshot shows a SQL query execution window titled 'YS.sql'. The query is: `SELECT * FROM Train WHERE train_number BETWEEN 11234 and 21345;`. The query has been executed, and the results are displayed in a table. The table has 10 columns: TRAIN_NUMBER, NAME, SOURCE, DESTINATION, START_TIME, REACH_TIME, TRAVELTIME, DISTANCE, and CLASS. There are 2 rows of data.

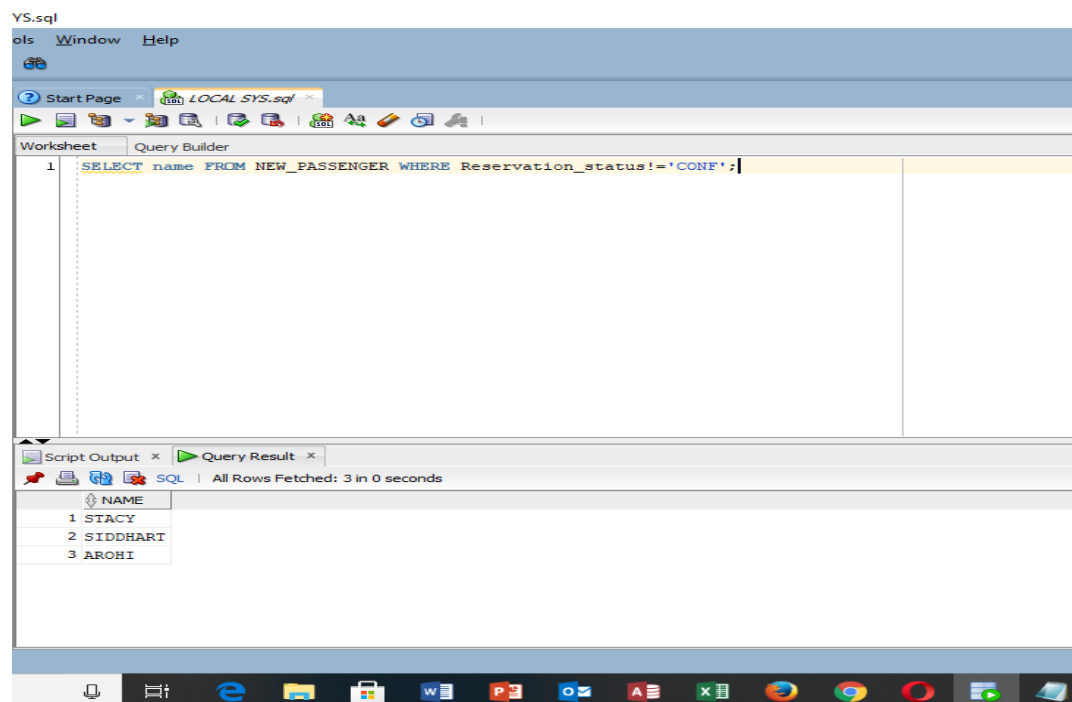
	TRAIN_NUMBER	NAME	SOURCE	DESTINATION	START_TIME	REACH_TIME	TRAVELTIME	DISTANCE	CLASS
1	12345	DELHI EXP	CHENNIA	DELHI	01-AUG-20 10.30.00.000000000 AM	01-AUG-20 12.30.00.000000000 PM	(null)		1234 SYSTEM.CLA
2	12346	mumbai exp	mumbai	chennia	01-AUG-20 10.30.00.000000000 AM	01-AUG-20 12.30.00.000000000 PM	(null)		1234 SYSTEM.CLA

The window also shows a status bar at the bottom indicating 'Line 1 Column 63', 'Insert', 'Modified', and 'Windows: C'. The system clock shows 9:32 PM on 8/24/2020.

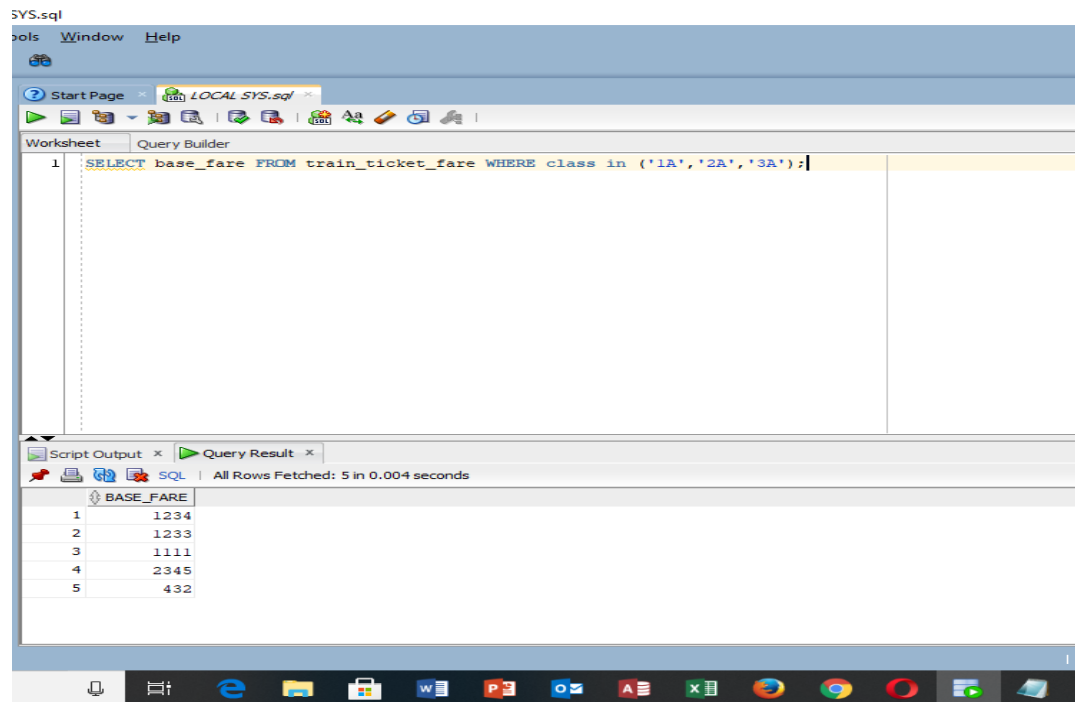
9. Change the superfast charge value in train fare as zero, if it is null.



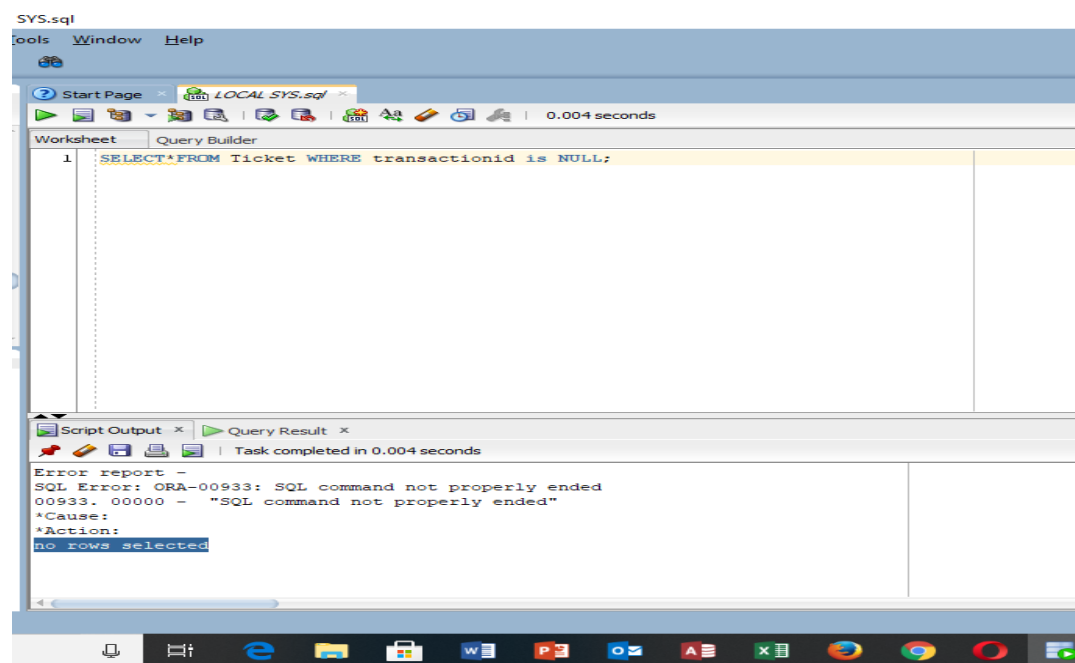
10. List the passenger names whose tickets are not confirmed.



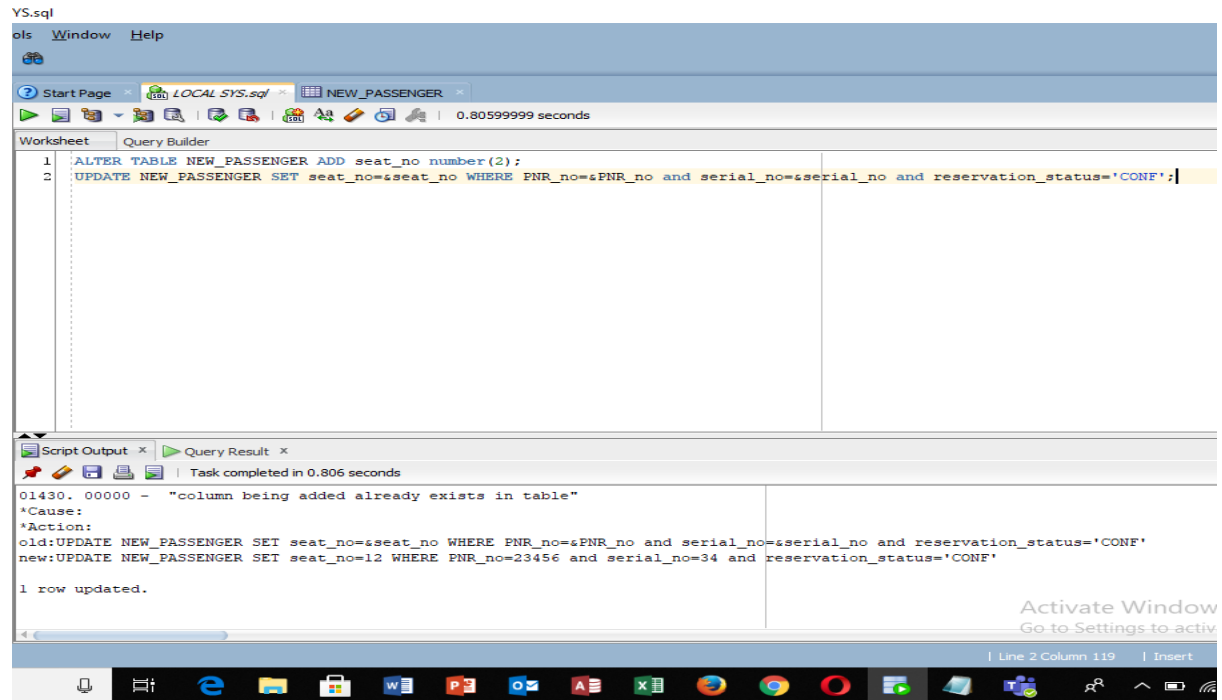
11. List the base_fare of all AC coaches available in each train.



Find the ticket details where transaction id is not known.



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



R@LOCAL SYS

Window Help

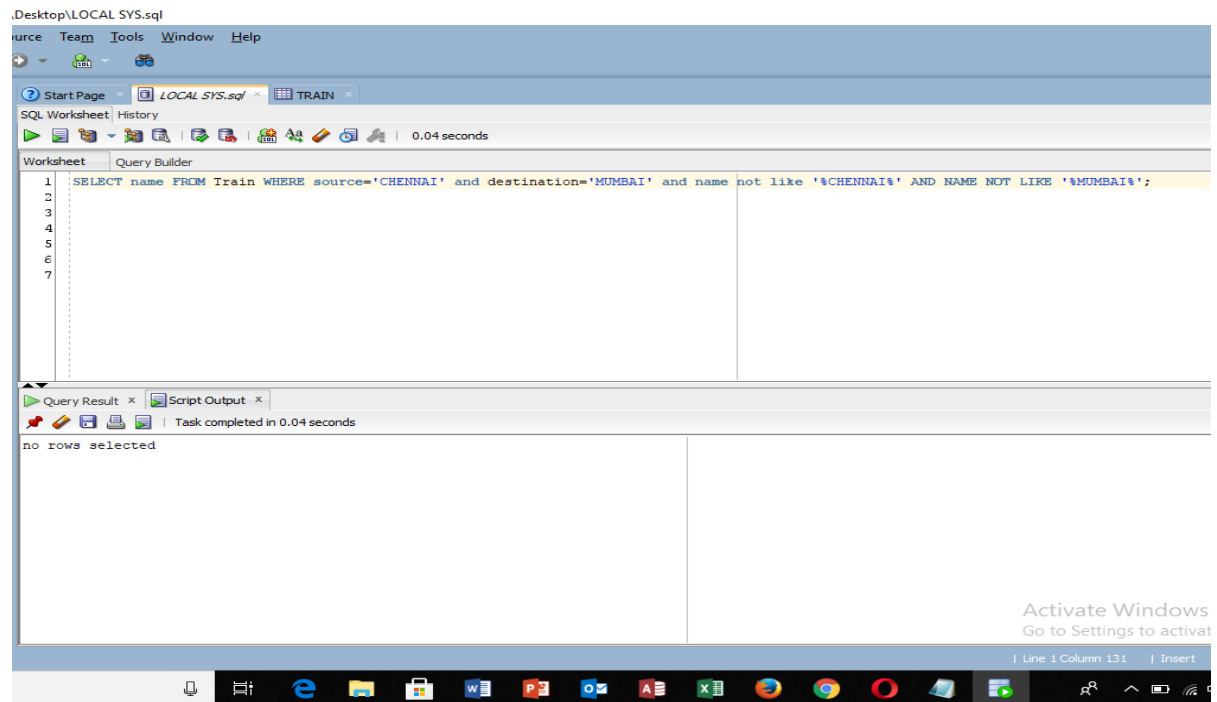
Start Page LOCAL SYS.sql NEW_PASSENGER

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

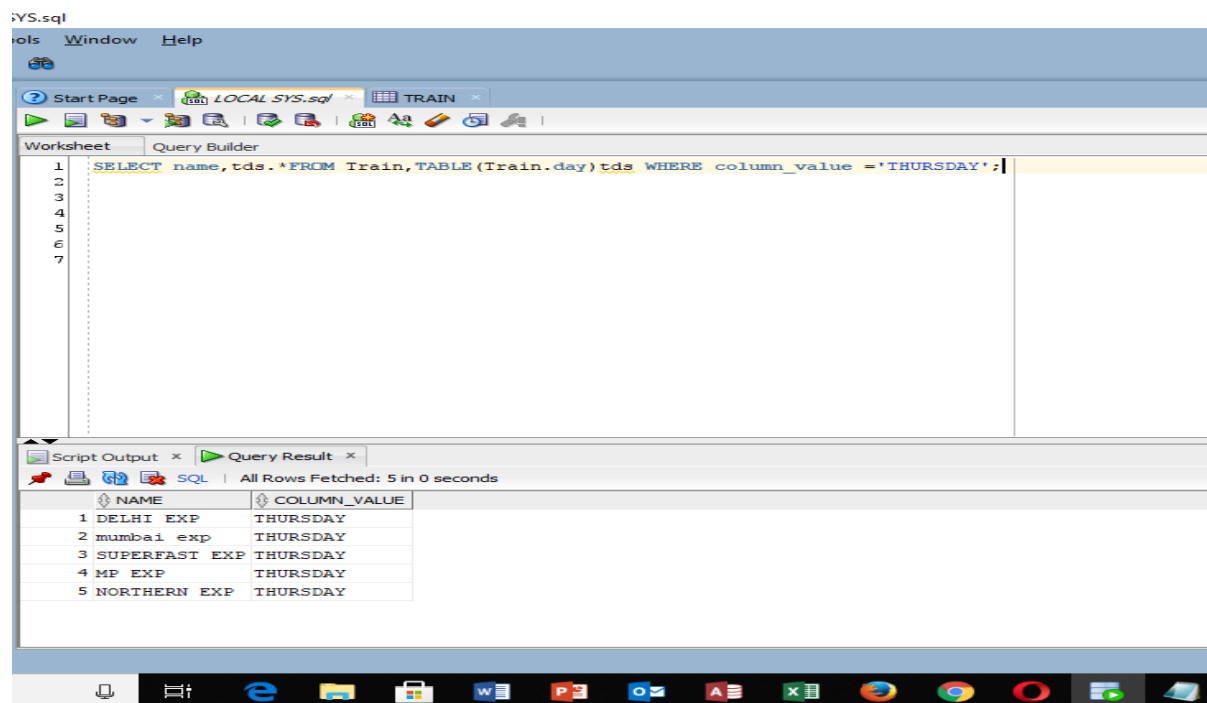
Sort Filter

	PNR_NO	SERIAL_NO	NAME	AGE	RESERVATION_STATUS	SEAT_NO
1	12345	123	STACY	19	RAC	(null)
2	23456	34	RANBIR	34	CONF	12
3	34567	35	RIYA	44	CONF	(null)
4	45678	36	SIDDHART	27	RAC	(null)
5	56789	39	AROHI	26	RAC	(null)

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

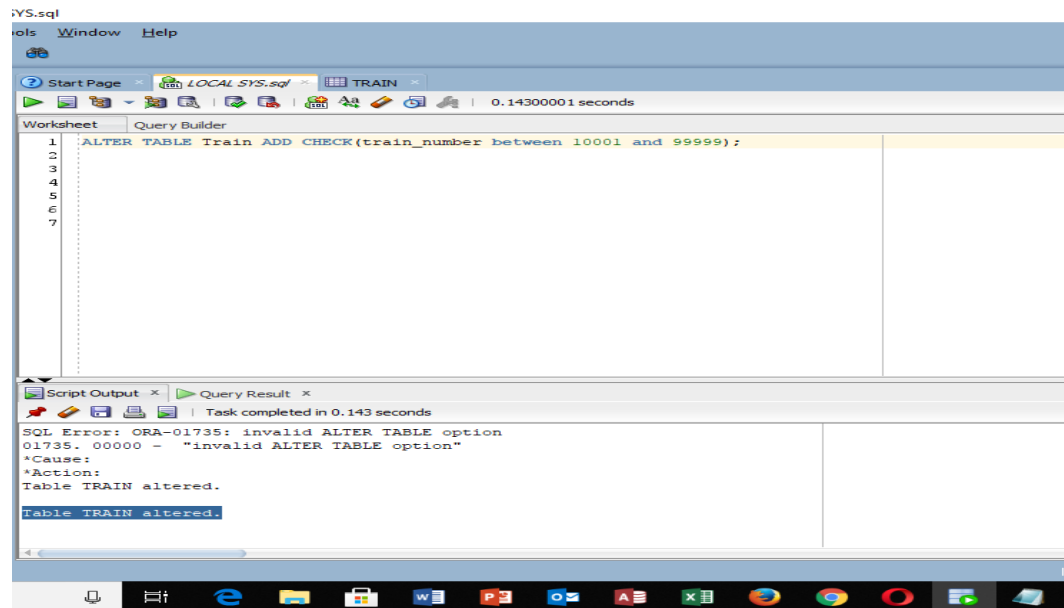


3. Find the train details that are on Thursday (Use the ADT column created)

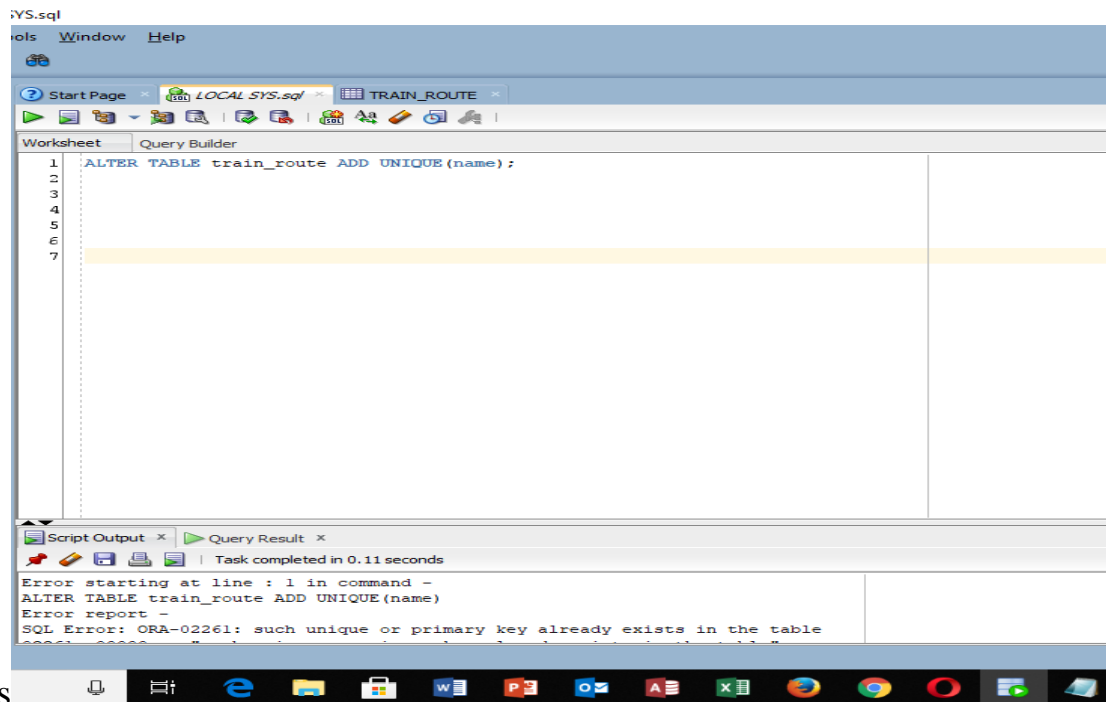


3. Create (Alter table to add constraint) the necessary foreign keys by identifying the relationships in the table. (Middle Level)

1. Add a suitable constraint to train table to always have train no in the range 10001 to 99999.

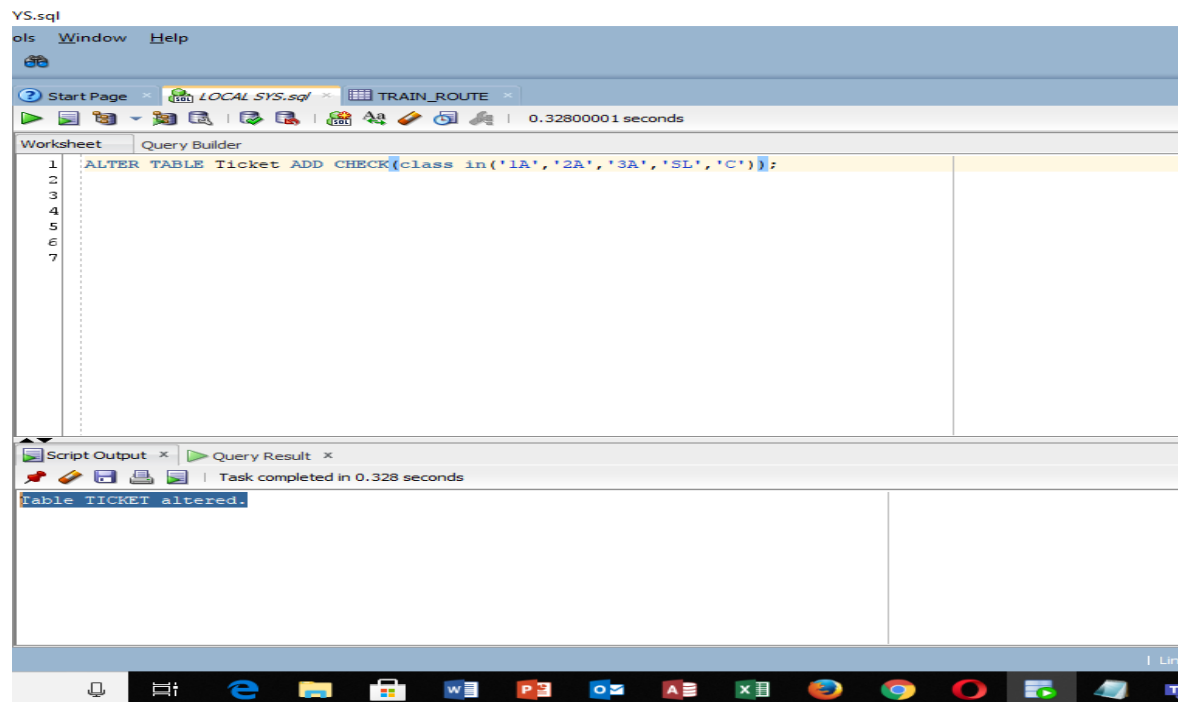


2. . Add a suitable constraint for the column of station name, so that does not take

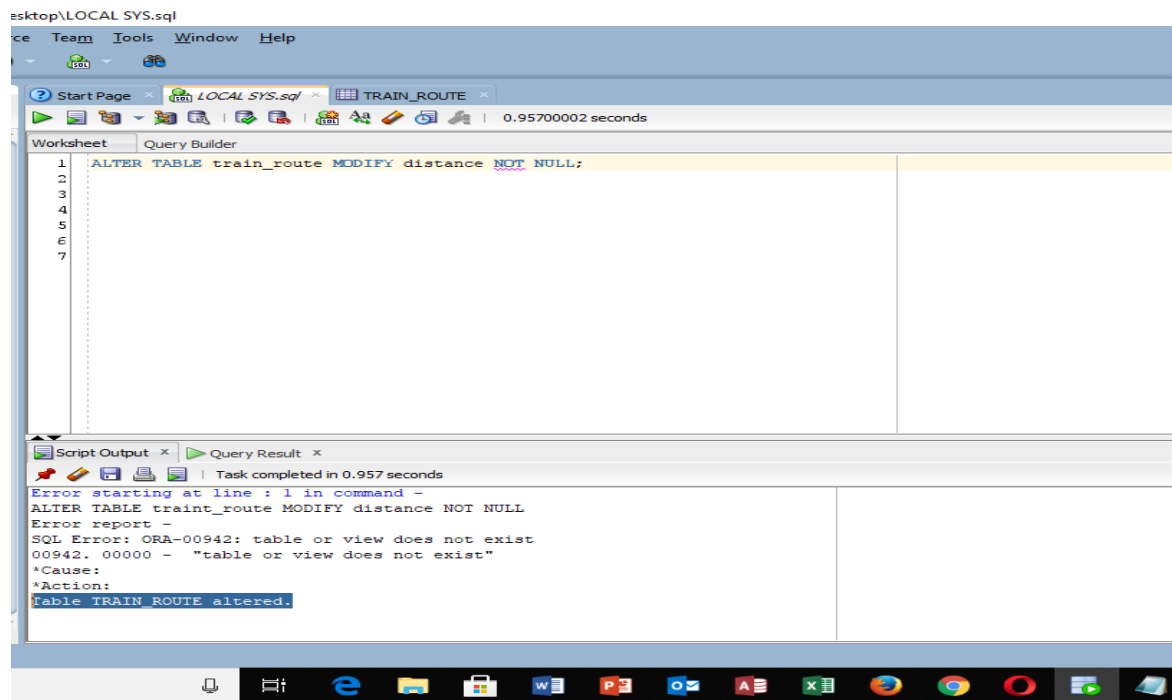


duplicates

4. Add a suitable constraint for the class column that it should take values only as 1A, 2A, 3A, SL, C.

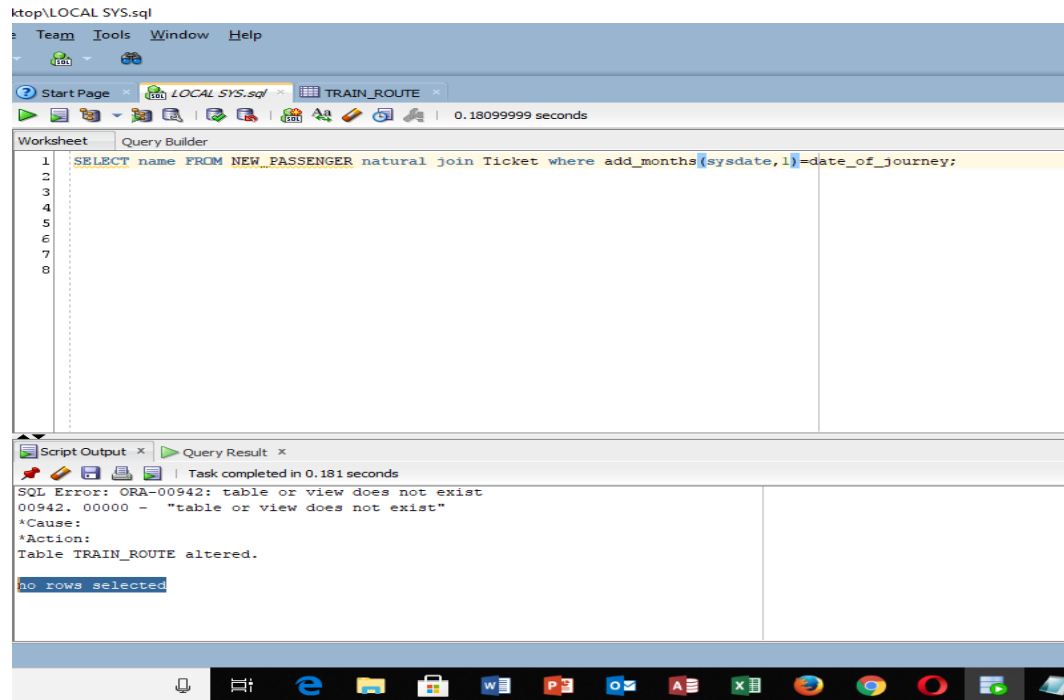


5. Add a not null constraint for the column distance in train_route.

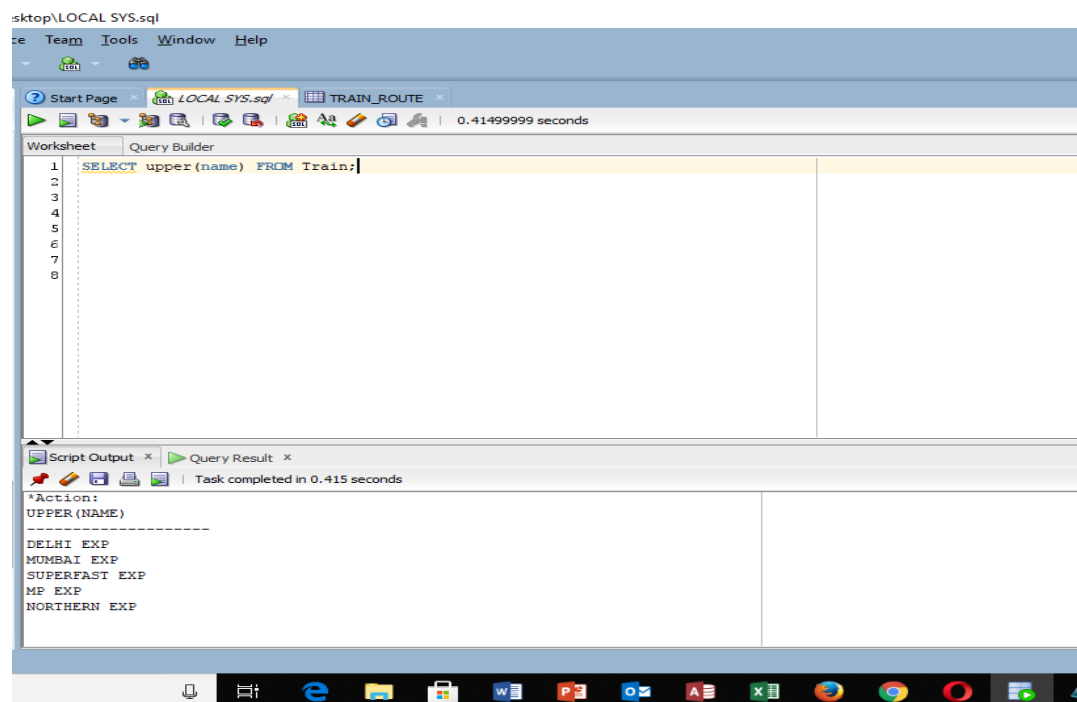


4. Use SQL PLUS functions to. (Low Level)

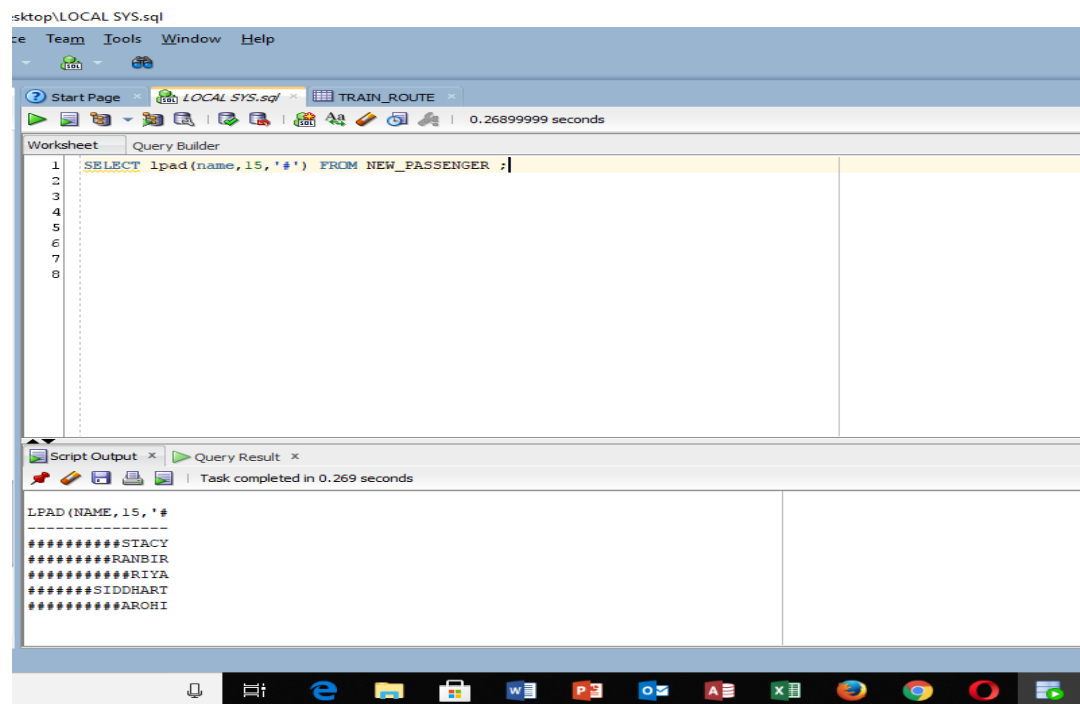
1. Find the passengers whose date of journey is one month from today.



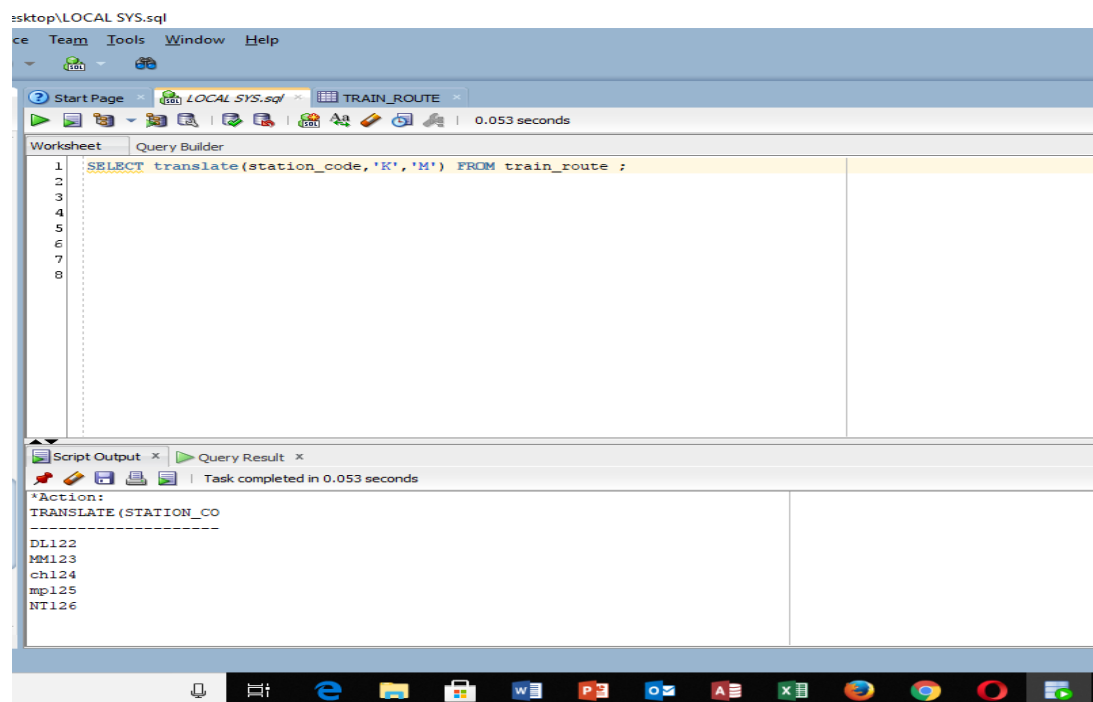
2. Print the train names in upper case.



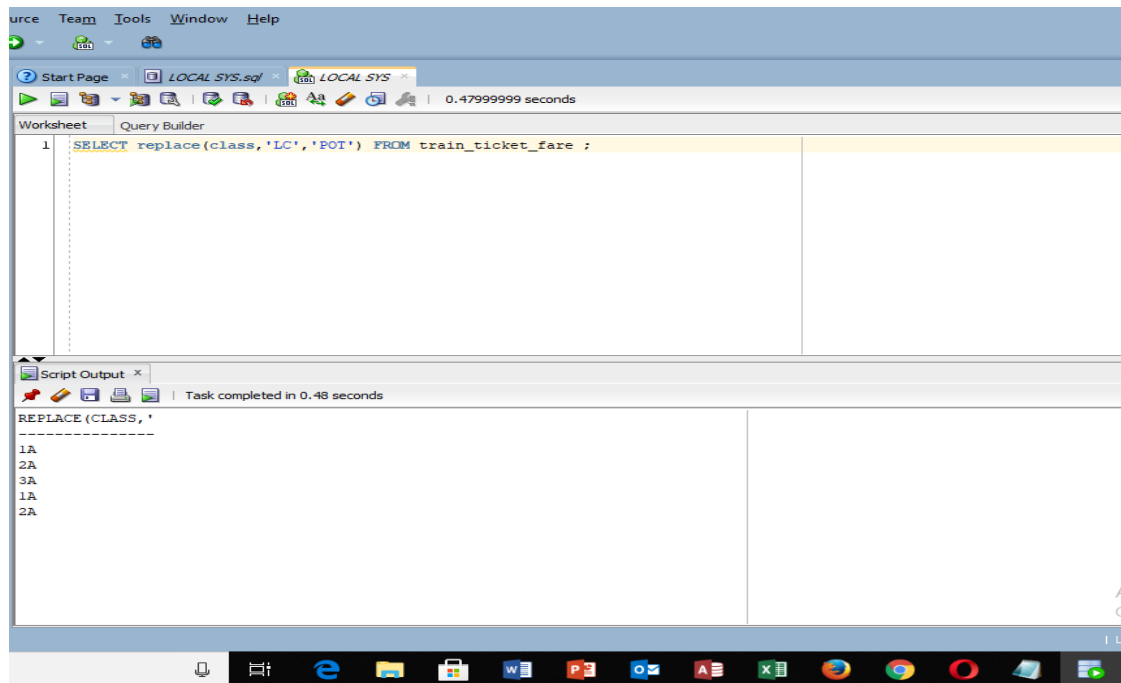
3. Print the passenger names with left padding character.



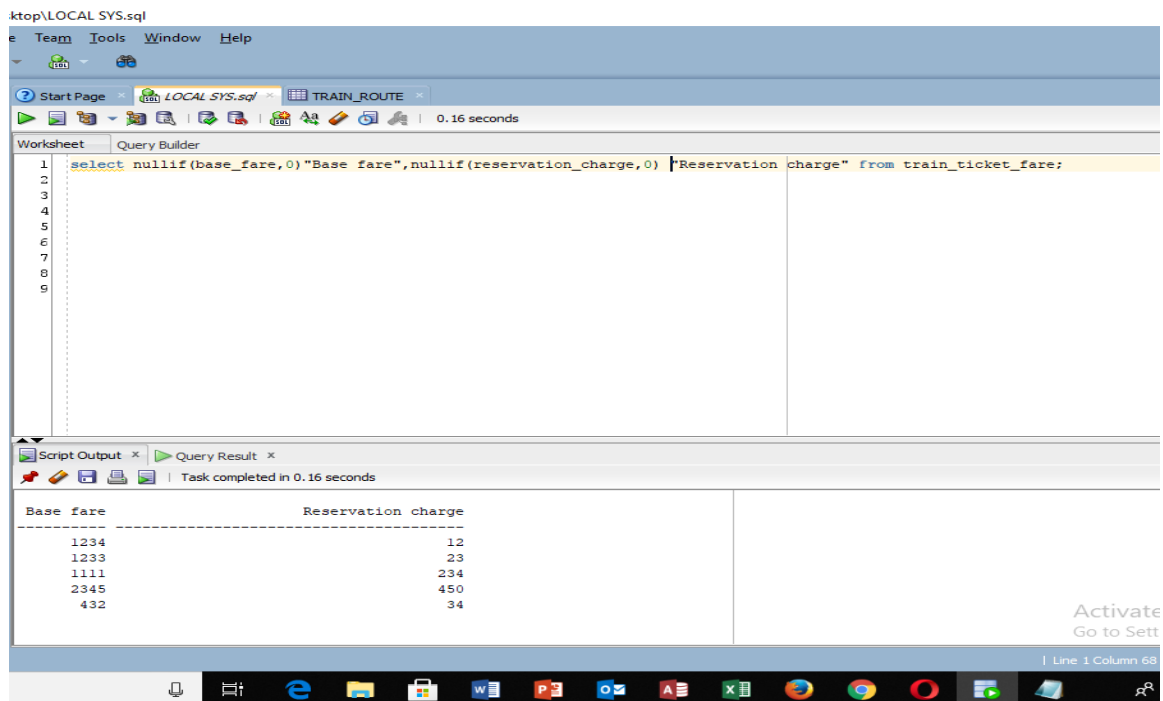
4. Print the station codes replacing K with M.



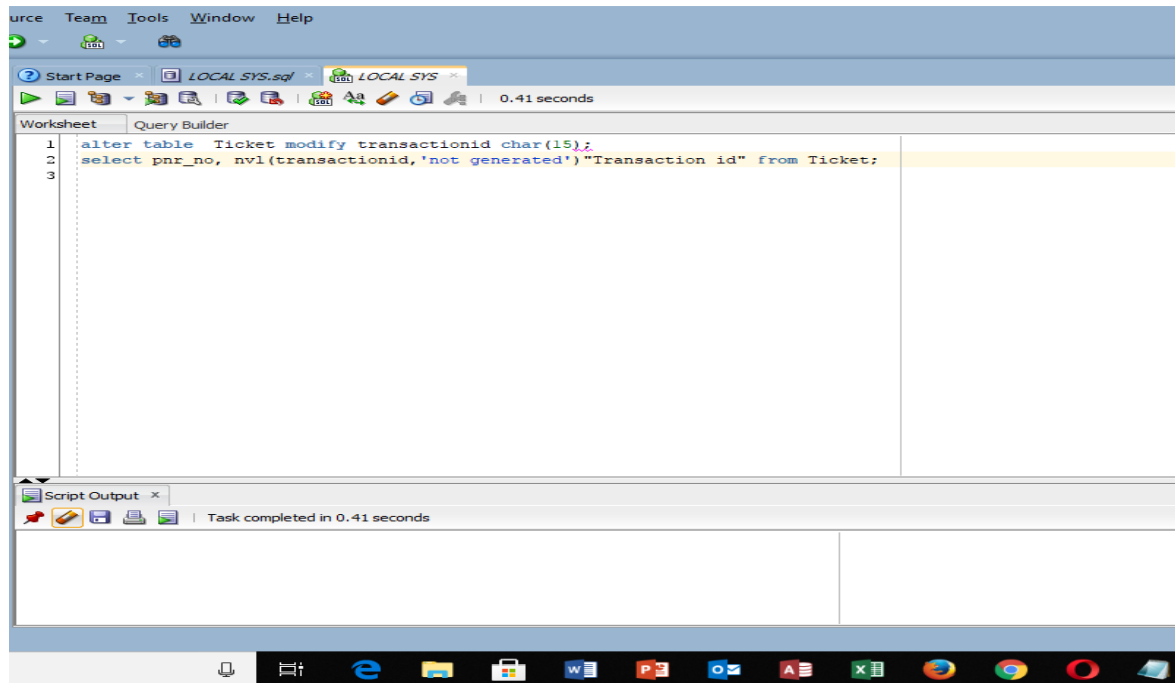
5. Translate all the LC in class column (Train_fare) to POT and display.



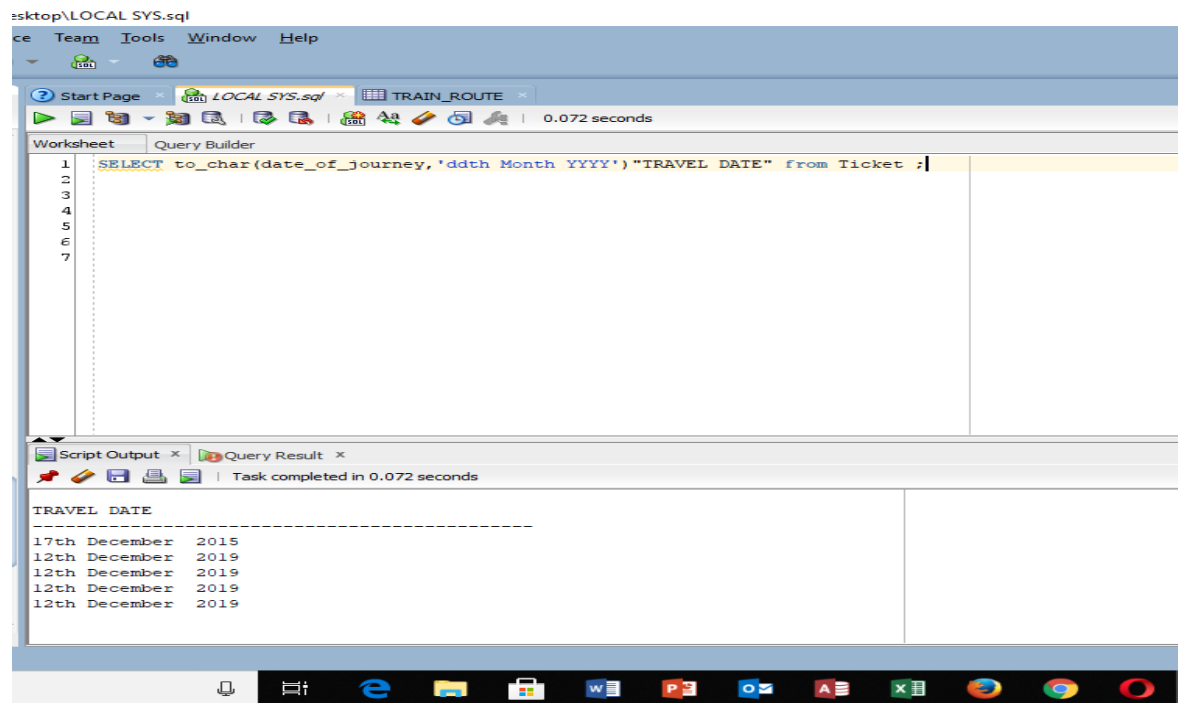
6. Display the fare details of all trains, if any value is ZERO, print as NULL value.



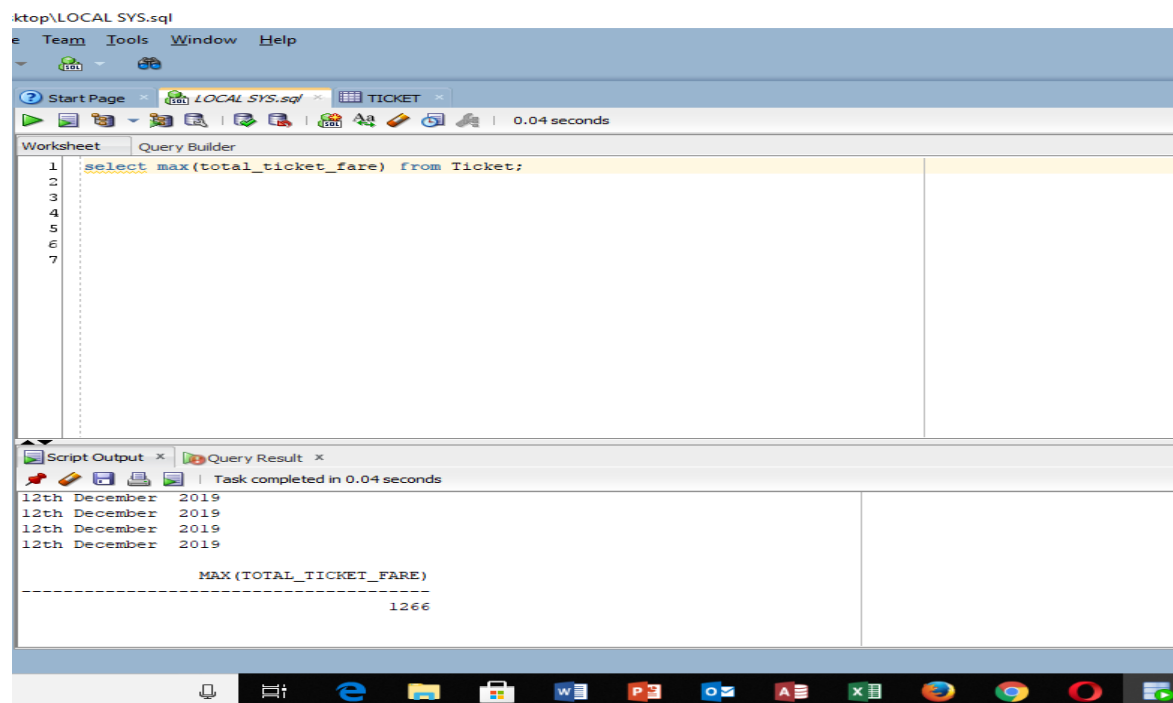
7. Display the pnrno and transaction id, if transaction id is null, print 'not generated'.



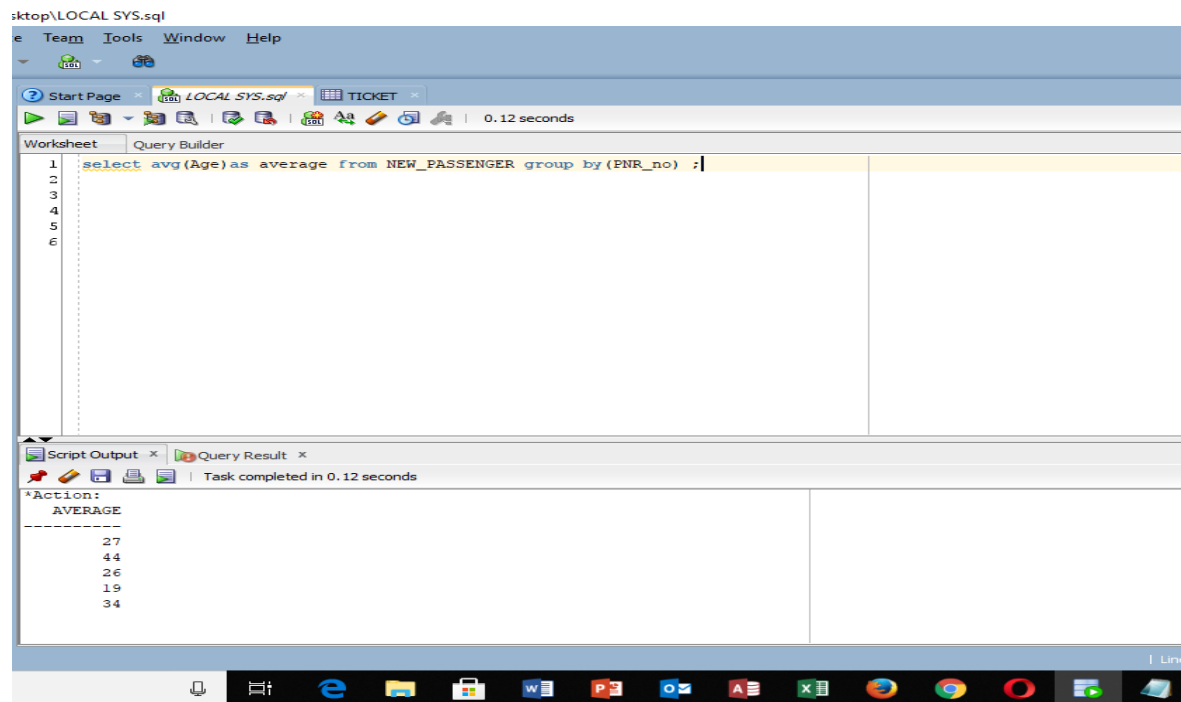
8. . Print the date_of_journey in the format '27th November 2010'



9. Find the maximum fare (total fare).



10. Find the average age of passengers in one ticket



11. Find the maximum length of station name available in the database.

ktop\LOCAL SYS.sql

Team Tools Window Help

Start Page LOCAL SYS.sql TICKET 0.139 seconds

Worksheet Query Builder

```
1 select max(length(name)) from train_route;
```

Script Output Query Result Task completed in 0.139 seconds

MAX (LENGTH (NAME))
11

Line 2

12. Print the fare amount of the passengers as rounded value.

ktop\LOCAL SYS.sql

Team Tools Window Help

Start Page LOCAL SYS.sql TICKET 0.124 seconds

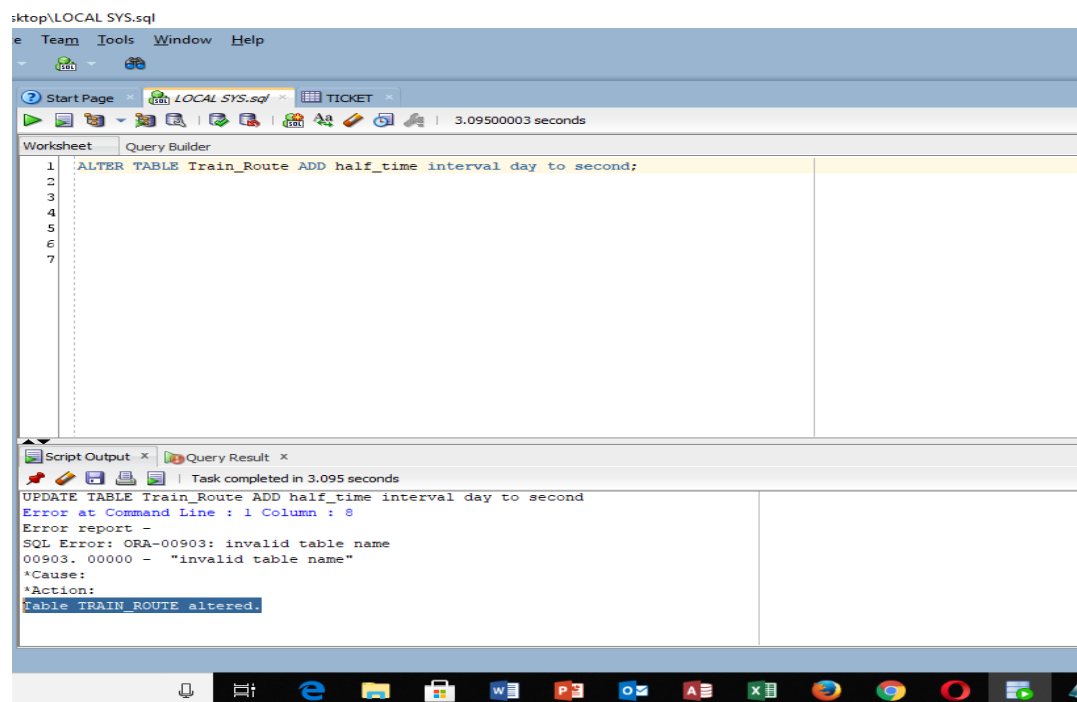
Worksheet Query Builder

```
1 select round(total_ticket_fare) from Ticket;
```

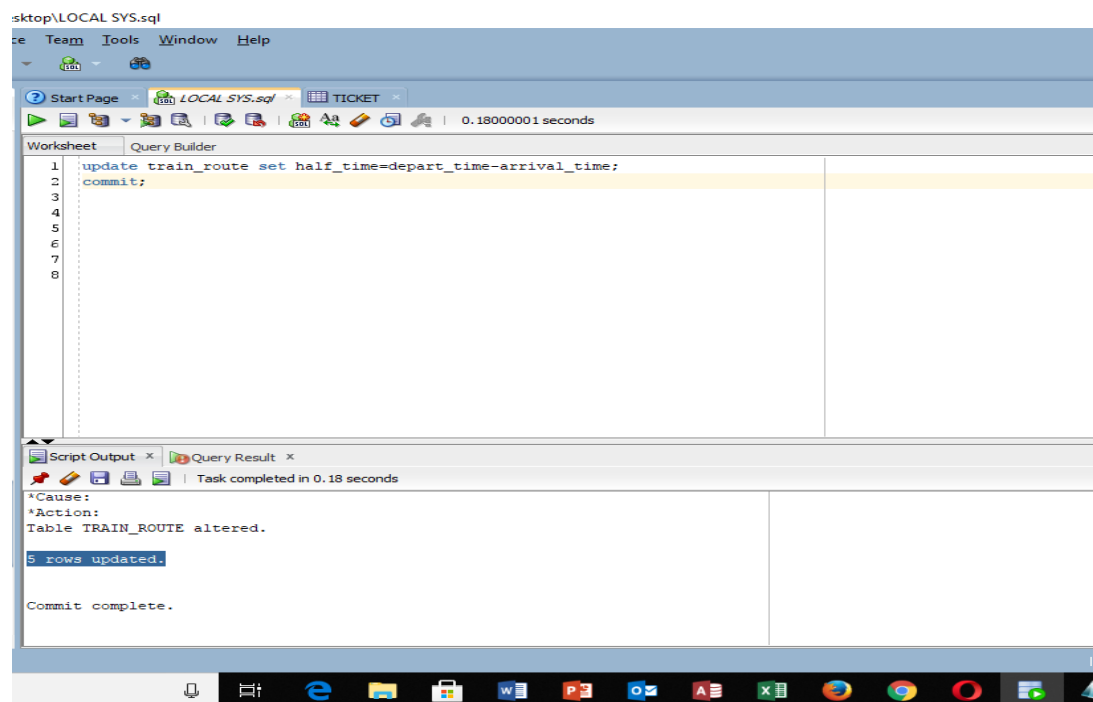
Script Output Query Result Task completed in 0.124 seconds

ROUND (TOTAL_TICKET_FARE)
123
123
125
1266
345

13. Add the column halt time to train route.



14. Update values to it from arrival time and depart time.



16. Display the arrival time, depart time in the format HH:MI (24 hours and minutes).

