

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System



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**Project Title:**  
**Car Pooling System**

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## **MILESTONE 1:**

## **DESIGN PHASE**

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## **Business Rules and Constraints**

At the time of new user registration, a user account will be created in the database and the details will be entered into the database. As this is a car-pooling system, so a user can either create a ride to become a creator or can request a ride to become a requester as per their requirement. However, once a ride creator, the user can become the ride requester at some other point of time and vice versa.

If the user is willing to create a ride, they will be required to provide extra details in order to be eligible to be a creator. In the same way, the extra details will be asked from the user if they want to request the ride.

### **1. Assumptions for business rules that are implemented into the database:**

- I. The scope of this application is within a city.
- II. Source and destination can never be same for a particular ride.
- III. Manufacturing date of the car should not be older than 5 years from the current date.
- IV. Every ride must map two users i.e. the creator and the requester. A ride creator will be mapped to a ride requester on the basis of the following conditions:
  - a. The luggage requirement of the requester should be less than or equal to the luggage limit set by the creator.
  - b. The seats requirement of the requester should be less than or equal to the seat limit set by the creator.
  - c. The source and destination should be same for both the creator and the requester.
  - d. If the creator allows the pet in the ride, then no need to check if the requestor requires to take the pet along or not. But if the creator does not allow the pet, then the requester should be the one who does not require to take a pet along with him.
  - e. The date of departure of the creator and requestor should be same.
  - f. The time of departure should be within the window of 1 hour for both.
- V. Every creator must have created at least 1 ride.
- VI. Creator cannot create a ride if the difference between his license expiry date and current date is less than 1.
- VII. A user is not allowed to request two rides at the same time or during the ride.

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- VIII. On ride completion, the final fare amount will be calculated as the sum of the route fare, waiting charges, tip amount and the waiver amount from the last ride (if applicable) will be deducted from the final fare amount.
  - IX. By default, the tip amount will be set to \$2.
  - X. In case of ride cancellation, the payable amount will be the cancellation fee.
  - XI. The mode of payment is always online bank transfer.

## **2. Assumptions for business rules that need to be programmed:**

- I. Creator and Requester must have different accessibility.
- II. The cancellation fee will be applied on the basis of following conditions:
  - a. If the waiting time exceeds 20 minutes from the time of departure and the requestor fails to reach the pickup spot where the creator is waiting, the ride will get cancelled automatically and requester will be liable to pay the cancellation fee to the creator which will be calculated as the sum of the waiting charges (\$10 in this case) and 40% of the route fare amount.
  - b. The requestee cannot cancel the ride once its confirmed, if they do so the cancellation fee will be 40% of the route fare amount.
  - c. No cancellation fee will be applied if the creator fails to pick up the requester within 10 minutes post the time of departure, herein the ride will be cancelled by the requester.
  - d. In case the creator cancels the ride or fails to pick up the requester within 10 minutes post the time of departure, then the requester will be mapped to the next available ride, in case any ride is not available then the requester will be entitled to get 40% waiver on the next future ride taken by the requester.
- III. \$1 waiting charge will be applied after 2 minutes of wait from the time of departure and post that it will keep on increasing with the rate of \$1 after every 2 minutes.
- IV. Personal contact number and email id of the creator will be visible to the requestee only after the ride is confirmed by the requester.
- V. Once the ride is completed the transaction id will be created and the transaction amount equivalent to the 90% of the final fare amount will be deposited in the creator's bank account and the remaining 10% goes to the company account.
- VI. In case of cancellation, the transaction if associated with the ride id will be created and the 80% of the cancellation fee will be deposited in the creator's account while the remaining 20% goes to the company account.

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### **Physical Database Constraints:**

The physical database constraints are mentioned in the below table schemas.

**Table: USER\_ACCOUNT**

Attribute Name	Data Type	Length	Null Capable	Constraints
user_id	Number	6	No	Primary Key
first_name	Character	20	No	
middle_initial	Character	1	Yes	
last_name	Character	20	No	
password	Varchar	10	No	<ul style="list-style-type: none"> <li>• Must be 8-10 characters long.</li> <li>• Must contain a special character from (@, #, \$, *, &amp;)</li> <li>• Must contain a digit and an alphabet.</li> <li>• Must contain both uppercase and lowercase characters.</li> </ul>
email	Varchar	30	No	
contact	Number	10	No	Between 0000000000 and 9999999999
bank_account_no	Number	10	No	Between 0000000000 and 9999999999

**Table: CREATE\_RIDE**

Attribute Name	Data Type	Length	Null Capable	Constraints
creator_id	Number	5	No	Primary Key
user_id	Number	6	No	Foreign Key
source_zip_code	Varchar	6	No	Must be a valid zip code.
destination_zip_code	Varchar	6	No	Must be a valid zip code.
car_no	Varchar	10	No	
car_model_name	Character	20	No	
car_type	Character	11	No	Must be 'Hatchback', 'Convertible', 'SUV', 'Sedan', 'XL'.
car_model_no	Varchar	20	No	

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car_manufacturing_date	Date		No	Must not be older than 5 years from current date.
car_insurance_no	Number	15	No	
date_of_departure	Date		No	
time_of_departure	Time	0	No	
luggage_limit	Number	2	No	Default='0'
seat_limit	Number	1	No	Default='1'
pet_allowed	Boolean	1	No	1=Yes, 0=No
license_no	Varchar	12	No	
license_expiry_date	Date		No	Must not be greater than or equal to current date.

**Table: REQUEST\_RIDE**

Attribute Name	Data Type	Length	Null Capable	Constraints
requester_id	Number	5	No	Primary Key
user_id	Number	6	No	Foreign Key
source_zip_code	Varchar	6	No	Must be a valid zip code
destination_zip_code	Varchar	6	No	Must be a valid zip code
date_of_departure	Date		No	
time_of_departure	Date		No	
lugages_required	Number	2	No	Default='0'
seats_required	Number	1	No	Default='1'
pet_required	Boolean	1	No	1=Yes, 0=No

**Table: ROUTE\_DETAILS**

Attribute Name	Data Type	Length	Null Capable	Constraints
source_zip_code	Varchar	6	No	Must be a valid zip code
source_city	Character	20	No	
destination_zip_code	Varchar	6	No	Must be a valid zip code
destination_city	Character	20	No	
route_fare	Number	4,2	No	

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**Table: RIDE\_CONFIRMATION**

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>ride_id</b>	Number	8	No	Primary Key
<i>creator_id</i>	Number	5	No	Foreign Key
<i>requester_id</i>	Number	5	No	Foreign Key
<i>source_zip_code</i>	Varchar	6	No	Foreign Key
<i>destination_zip_code</i>	Varchar	6	No	Foreign Key
<i>ride_date</i>	Date		No	
<i>ride_time</i>	Time	0	No	

**Table: RIDE\_COMPLETION**

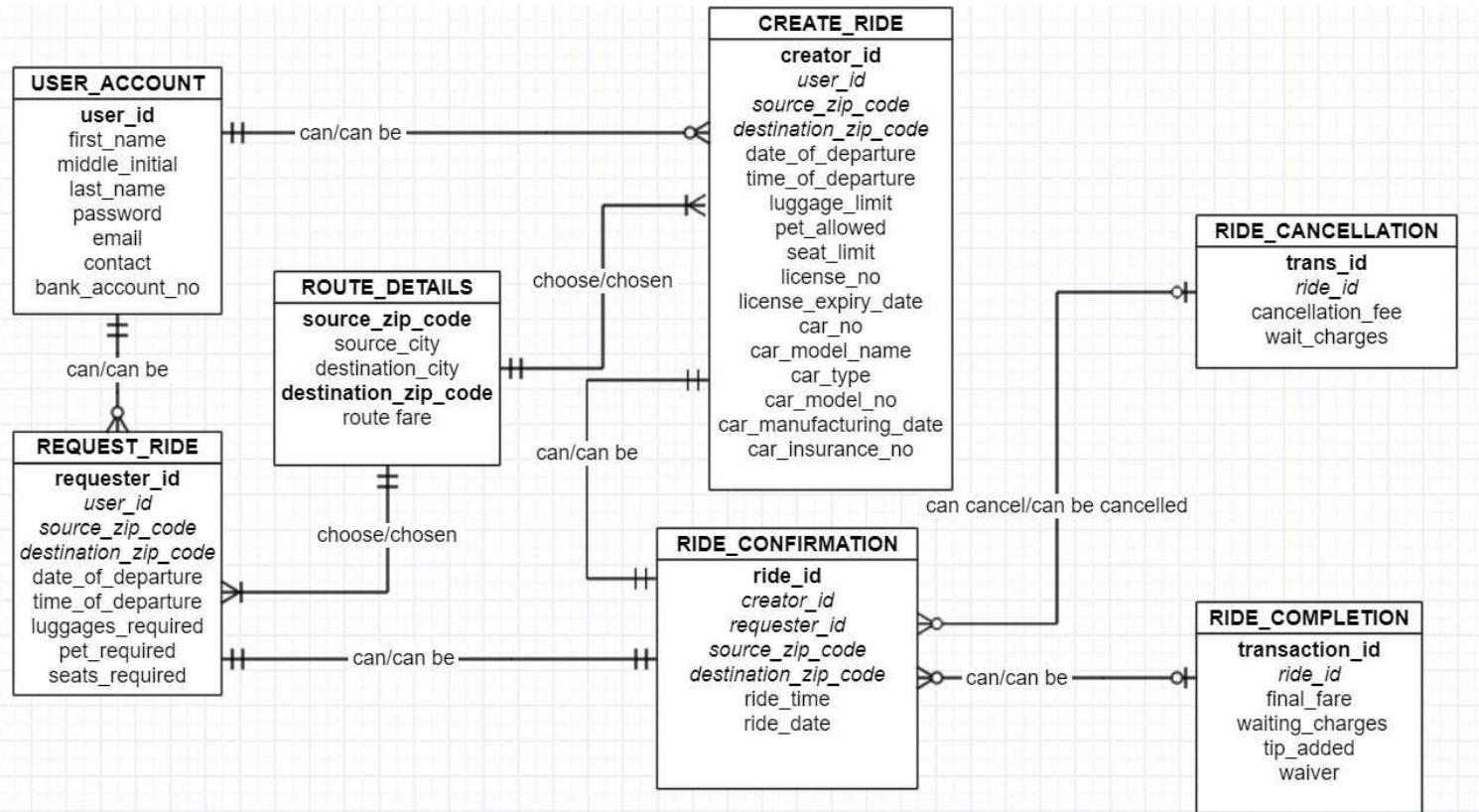
Attribute Name	Data Type	Length	Null Capable	Constraints
<b>transaction_id</b>	Number	10	No	Primary Key
<i>ride_id</i>	Number	8	No	Foreign Key
<i>waiting_charges</i>	Number	2,2	No	
<i>tip_added</i>	Number	2,2	No	Default='2'
<i>final_fare</i>	Number	4,2	No	Final_fare = Waiting_charges + route_fare + tip_added – waiver
<i>waiver</i>	Number	4,2	No	Default='0'

**Table: RIDE\_CANCELLATION**

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>trans_id</b>	Number	10	No	Primary Key
<i>ride_id</i>	Number	8	No	Foreign Key
<i>wait_charges</i>	Number	2,2	No	
<i>cancellation_fee</i>	Number	4,2	No	

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### Entity-Relationship Diagram:



### First Normal Form:

Since, all the tables have unique primary keys assigned and there are no multivalued columns or attributes with the same name in a table. Therefore, **the tables are already in the first normal form.**

### 1<sup>st</sup> Normal Form Relational Schema:

**USER\_ACCOUNT** (user\_id, first\_name, middle\_initial, last\_name, password, email, contact, bank\_account\_no)

**CREATE\_RIDE** (creator\_id, user\_id, source\_zip\_code, destination\_zip\_code, date\_of\_departure, time\_of\_departure, luggage\_limit, seat\_limit, pet\_allowed, license\_no, license\_expiry\_date, car\_no, car\_model\_name, car\_type, car\_model\_no, car\_manufacturing\_date, car\_insurance\_no)

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**REQUEST\_RIDE** (*requester\_id*, *user\_id*, *source\_zip\_code*, *destination\_zip\_code*,  
*date\_of\_departure*, *time\_of\_departure*, *luggages\_required*, *seats\_required*, *pet\_required*)

**ROUTE\_DETAILS** (*source\_zip\_code*, *source\_city*, **destination\_zip\_code**, *destination\_city*,  
*route\_fare*)

**RIDE\_CONFIRMATION** (*ride\_id*, *creator\_id*, *requester\_id*, *source\_zip\_code*,  
*destination\_zip\_code*, *ride\_time*, *ride\_date*)

**RIDE\_COMPLETION** (*transaction\_id*, *ride\_id*, *waiting\_charges*, *tip\_added*, *final\_fare*, *waiver*)

**RIDE\_CANCELLATION** (*trans\_id*, *ride\_id*, *wait\_charges*, *cancellation\_fee*)

## 2<sup>ND</sup> NORMAL FORM:

Remove partial dependencies from the table that contains composite key.

The table that have single primary keys are already in the second normal form and contains no partial dependencies.

The table that consists of a **composite primary key**:

- **ROUTE\_DETAILS**

Hence, this table will be normalized to the 2<sup>nd</sup> Normal Form. Rest all will remain same.

Table: ROUTE\_DETAILS in First Normal Form.

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>source_zip_code</b>	Varchar	6	No	Must be a valid zip code
<i>source_city</i>	Character	20	No	
<b>destination_zip_code</b>	Varchar	6	No	Must be a valid zip code
<i>destination_city</i>	Character	20	No	
<i>route_fare</i>	Number	4,2	No	

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**After Second Normal Form:**

Table: ROUTE\_DETAILS

Attribute Name	Data Type	Length	Null Capable	Constraints
source_zip_code	Varchar	6	No	Must be a valid zip code
destination_zip_code	Varchar	6	No	Must be a valid zip code
route_fare	Number	4,2	No	

Table: SOURCE\_LOCATION

Attribute Name	Data Type	Length	Null Capable	Constraints
source_zip_code	Varchar	6	No	Must be a valid zip code
source_city	Character	20	No	

Table: DESTINATION\_LOCATION

Attribute Name	Data Type	Length	Null Capable	Constraints
destination_zip_code	Varchar	6	No	Must be a valid zip code
destination_city	Character	20	No	

Table: USER\_ACCOUNT

Attribute Name	Data Type	Length	Null Capable	Constraints
user_id	Number	6	No	Primary Key
first_name	Character	20	No	
middle_initial	Character	1	Yes	
last_name	Character	20	No	
password	Varchar	10	No	<ul style="list-style-type: none"> <li>• Must be 8-10 characters long.</li> <li>• Must contain a special character from (@, #, \$, *, &amp;)</li> <li>• Must contain a digit and an alphabet.</li> </ul>

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				<ul style="list-style-type: none"> <li>Must contain both uppercase and lowercase characters.</li> </ul>
email	Varchar	30	No	
contact	Number	10	No	Between 0000000000 and 9999999999
bank_account_no	Number	10	No	Between 0000000000 and 9999999999

Table: CREATE\_RIDE

Attribute Name	Data Type	Length	Null Capable	Constraints
creator_id	Number	5	No	Primary Key
user_id	Number	6	No	Foreign Key
source_zip_code	Varchar	6	No	Must be a valid zip code.
destination_zip_code	Varchar	6	No	Must be a valid zip code.
car_no	Varchar	10	No	
car_model_name	Character	20	No	
car_type	Character	11	No	Must be 'Hatchback', 'Convertible', 'SUV', 'Sedan', 'XL'.
car_model_no	Varchar	20	No	
car_manufacturing_date	Date		No	Must not be older than 5 years from current date.
car_insurance_no	Number	15	No	
date_of_departure	Date		No	
time_of_departure	Time	0	No	
luggage_limit	Number	2	No	Default='0'
seat_limit	Number	1	No	Default='1'
pet_allowed	Boolean	1	No	1=Yes, 0=No
license_no	Varchar	12	No	
license_expiry_date	Date		No	Must not be greater than or equal to current date.

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Table: REQUEST\_RIDE

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>requester_id</b>	Number	5	No	Primary Key
<i>user_id</i>	Number	6	No	Foreign Key
<i>source_zip_code</i>	Varchar	6	No	Must be a valid zip code
<i>destination_zip_code</i>	Varchar	6	No	Must be a valid zip code
<i>date_of_departure</i>	Date		No	
<i>time_of_departure</i>	Date		No	
<i>luggages_required</i>	Number	2	No	Default='0'
<i>seats_required</i>	Number	1	No	Default='1'
<i>pet_required</i>	Boolean	1	No	1=Yes, 0=No

Table: RIDE\_CONFIRMATION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>ride_id</b>	Number	8	No	Primary Key
<i>creator_id</i>	Number	5	No	Foreign Key
<i>requester_id</i>	Number	5	No	Foreign Key
<i>source_zip_code</i>	Varchar	6	No	Foreign Key
<i>destination_zip_code</i>	Varchar	6	No	Foreign Key
<i>ride_date</i>	Date		No	
<i>ride_time</i>	Time	0	No	

Table: RIDE\_COMPLETION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>transaction_id</b>	Number	10	No	Primary Key
<i>ride_id</i>	Number	8	No	Foreign Key
<i>waiting_charges</i>	Number	2,2	No	
<i>tip_added</i>	Number	2,2	No	Default='2'
<i>final_fare</i>	Number	4,2	No	Final_fare = Waiting_charges + route_fare + tip_added - waiver
<i>waiver</i>	Number	4,2	No	Default='0'

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Table: RIDE\_CANCELLATION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>trans_id</b>	Number	10	No	Primary Key
<i>ride_id</i>	Number	8	No	Foreign Key
wait_charges	Number	2,2	No	
cancellation_fee	Number	4,2	No	

### **Relational Schema after 2NF:**

**ROUTE\_DETAILS (source\_zip\_code, destination\_zip\_code, route\_fare)**

**SOURCE\_LOCATION (source\_zip\_code, source\_city)**

**DESTINATION\_LOCATION (destination\_zip\_code, destination\_city)**

**USER\_ACCOUNT (user\_id, first\_name, middle\_initial, last\_name, password, email, contact, bank\_account\_no)**

**CREATE\_RIDE (creator\_id, user\_id, source\_zip\_code, destination\_zip\_code, date\_of\_departure, time\_of\_departure, luggage\_limit, seat\_limit, pet\_allowed, license\_no, license\_expiry\_date, car\_no, car\_model\_name, car\_type, car\_model\_no, car\_manufacturing\_date, car\_insurance\_no)**

**REQUEST\_RIDE (requester\_id, user\_id, source\_zip\_code, destination\_zip\_code, date\_of\_departure, time\_of\_departure, luggages\_required, seats\_required, pet\_required)**

**RIDE\_CONFIRMATION (ride\_id, creator\_id, requester\_id, source\_zip\_code, destination\_zip\_code, ride\_time, ride\_date)**

**RIDE\_COMPLETION (transaction\_id, ride\_id, waiting\_charges, tip\_added, final\_fare, waiver)**

**RIDE\_CANCELLATION (trans\_id, ride\_id, wait\_charges, cancellation\_fee)**

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### **Third Normal Form:**

Remove transitive dependencies from the table to convert them from the 2NF to 3NF.

**The table that contain transitive dependencies:**

- CREATE\_RIDE

Table: CREATE\_RIDE in 2NF.

Attribute Name	Data Type	Length	Null Capable	Constraints
<i>creator_id</i>	Number	5	No	Primary Key
<i>user_id</i>	Number	6	No	Foreign Key
<i>source_zip_code</i>	Varchar	6	No	Must be a valid zip code.
<i>destination_zip_code</i>	Varchar	6	No	Must be a valid zip code.
<i>car_no</i>	Varchar	10	No	
<i>car_model_name</i>	Character	20	No	
<i>car_type</i>	Character	11	No	Must be 'Hatchback', 'Convertible', 'SUV', 'Sedan', 'XL'.
<i>car_model_no</i>	Varchar	20	No	
<i>car_manufacturing_date</i>	Date		No	Must not be older than 5 years from current date.
<i>car_insurance_no</i>	Number	15	No	
<i>date_of_departure</i>	Date		No	
<i>time_of_departure</i>	Time	0	No	
<i>luggage_limit</i>	Number	2	No	Default='0'
<i>seat_limit</i>	Number	1	No	Default='1'
<i>pet_allowed</i>	Boolean	1	No	1=Yes, 0=No
<i>license_no</i>	Varchar	12	No	
<i>license_expiry_date</i>	Date		No	Must not be greater than or equal to current date.

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**After Third Normal Form:**

Table: LICENSE\_DETAILS

Attribute Name	Data Type	Length	Null Capable	Constraints
license_no	Varchar	12	No	
license_expiry_date	Date		No	Must not be greater than or equal to current date.

Table: CREATE\_RIDE

Attribute Name	Data Type	Length	Null Capable	Constraints
creator_id	Number	5	No	Primary Key
user_id	Number	6	No	Foreign Key
source_zip_code	Varchar	6	No	Must be a valid zip code.
destination_zip_code	Varchar	6	No	Must be a valid zip code.
car_no	Varchar	10	No	
date_of_departure	Date		No	
time_of_departure	Time	0	No	
luggage_limit	Number	2	No	Default='0'
seat_limit	Number	1	No	Default='1'
pet_allowed	Boolean	1	No	1=Yes, 0=No
license_no	Varchar	12	No	

Table: CAR\_DETAILS

Attribute Name	Data Type	Length	Null Capable	Constraints
car_no	Varchar	10	No	Primary Key
car_model_name	Character	20	No	
car_type	Character	11	No	Must be 'Hatchback', 'Convertible', 'SUV', 'Sedan', 'XL'.
car_model_no	Varchar	20	No	
car_manufacturing_date	Date		No	Must not be older than 5 years from current date.
car_insurance_no	Number	15	No	

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Table: ROUTE\_DETAILS

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>source_zip_code</b>	Varchar	6	No	Must be a valid zip code
<b>destination_zip_code</b>	Varchar	6	No	Must be a valid zip code
route_fare	Number	4,2	No	

Table: SOURCE\_LOCATION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>source_zip_code</b>	Varchar	6	No	Must be a valid zip code
source_city	Character	20	No	

Table: DESTINATION\_LOCATION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>destination_zip_code</b>	Varchar	6	No	Must be a valid zip code
destination_city	Character	20	No	

Table: USER\_ACCOUNT

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>user_id</b>	Number	6	No	Primary Key
first_name	Character	20	No	
middle_initial	Character	1	Yes	
last_name	Character	20	No	
password	Varchar	10	No	<ul style="list-style-type: none"> <li>• Must be 8-10 characters long.</li> <li>• Must contain a special character from (@, #, \$, *, &amp;)</li> <li>• Must contain a digit and an alphabet.</li> <li>• Must contain both uppercase and lowercase characters.</li> </ul>
email	Varchar	30	No	

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contact	Number	10	No	Between 0000000000 and 9999999999
bank_account_no	Number	10	No	Between 0000000000 and 9999999999

Table: REQUEST\_RIDE

Attribute Name	Data Type	Length	Null Capable	Constraints
requester_id	Number	5	No	Primary Key
user_id	Number	6	No	Foreign Key
source_zip_code	Varchar	6	No	Must be a valid zip code
destination_zip_code	Varchar	6	No	Must be a valid zip code
date_of_departure	Date		No	
time_of_departure	Date		No	
luggages_required	Number	2	No	Default='0'
seats_required	Number	1	No	Default='1'
pet_required	Boolean	1	No	1=Yes, 0=No

Table: RIDE\_CONFIRMATION

Attribute Name	Data Type	Length	Null Capable	Constraints
ride_id	Number	8	No	Primary Key
creator_id	Number	5	No	Foreign Key
requester_id	Number	5	No	Foreign Key
source_zip_code	Varchar	6	No	Foreign Key
destination_zip_code	Varchar	6	No	Foreign Key
ride_date	Date		No	
ride_time	Time	0	No	

Table: RIDE\_COMPLETION

Attribute Name	Data Type	Length	Null Capable	Constraints
transaction_id	Number	10	No	Primary Key
ride_id	Number	8	No	Foreign Key
waiting_charges	Number	2,2	No	
tip_added	Number	2,2	No	Default='2'

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final_fare	Number	4,2	No	Final_fare = Waiting_charges + route_fare + tip_added - waiver
waiver	Number	4,2	No	Default='0'

Table: RIDE\_CANCELLATION

Attribute Name	Data Type	Length	Null Capable	Constraints
<b>trans_id</b>	Number	10	No	Primary Key
<i>ride_id</i>	Number	8	No	Foreign Key
wait_charges	Number	2,2	No	
cancellation_fee	Number	4,2	No	

### **Relational Schema after 3NF:**

**ROUTE\_DETAILS (source\_zip\_code, destination\_zip\_code, route\_fare)**

**SOURCE\_LOCATION (source\_zip\_code, source\_city)**

**DESTINATION\_LOCATION (destination\_zip\_code, destination\_city)**

**USER\_ACCOUNT (user\_id, first\_name, middle\_initial, last\_name, password, email, contact, bank\_account\_no)**

**CREATE\_RIDE (creator\_id, user\_id, source\_zip\_code, destination\_zip\_code, date\_of\_departure, time\_of\_departure, luggage\_limit, seat\_limit, pet\_allowed, license\_no, car\_no, car\_model\_name, car\_type, car\_model\_no, car\_manufacturing\_date, car\_insurance\_no)**

**CAR\_DETAILS (car\_no, car\_model\_name, car\_type, car\_model\_no, car\_manufacturing\_date, car\_insurance\_no)**

**LICENSE\_DETAILS (license\_no, license\_expiry\_date)**

**REQUEST\_RIDE (requester\_id, user\_id, source\_zip\_code, destination\_zip\_code, date\_of\_departure, time\_of\_departure, luggages\_required, seats\_required, pet\_required)**

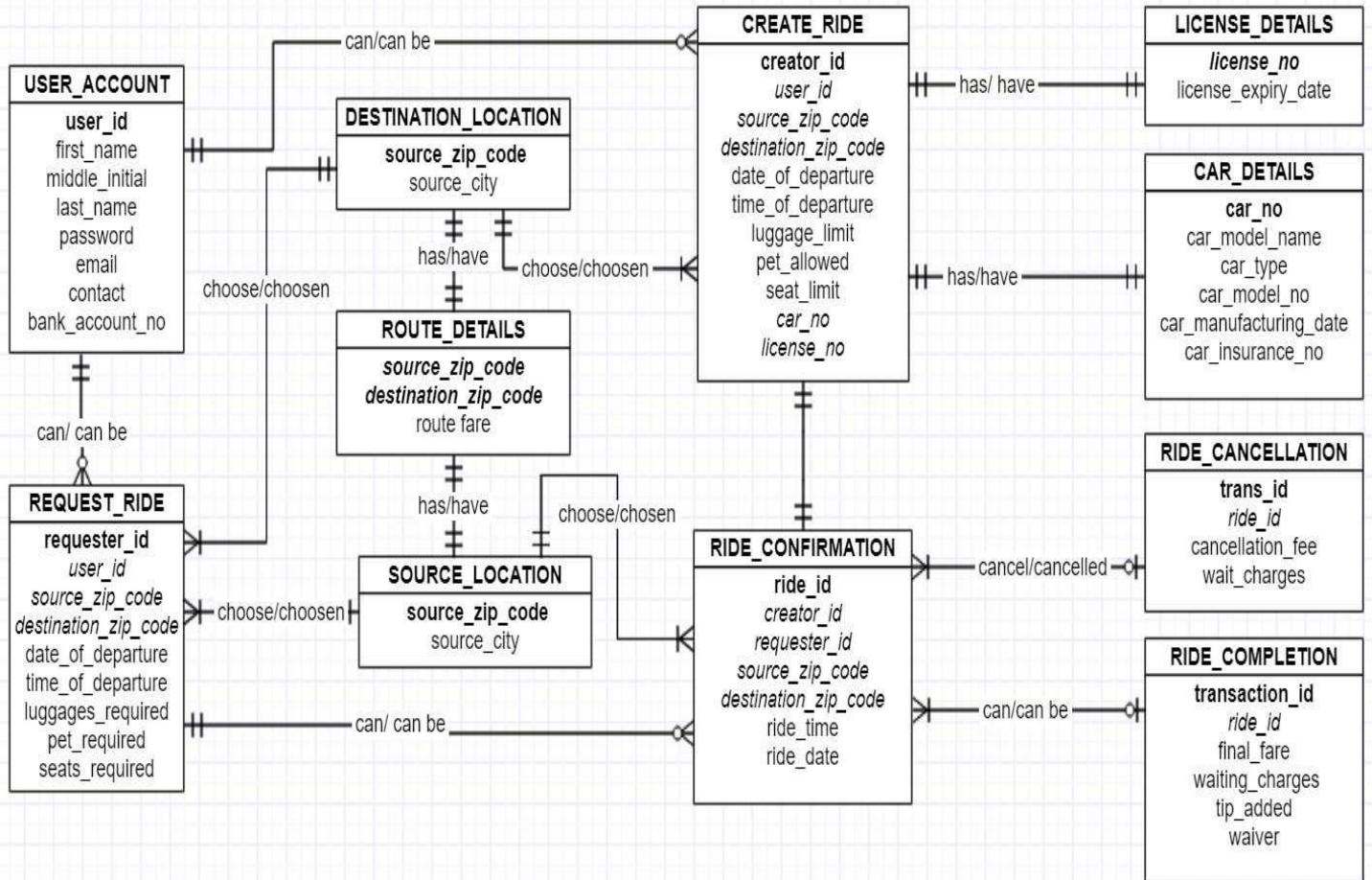
**RIDE\_CONFIRMATION (ride\_id, creator\_id, requester\_id, source\_zip\_code, destination\_zip\_code, ride\_time, ride\_date)**

**RIDE\_COMPLETION (transaction\_id, ride\_id, waiting\_charges, tip\_added, final\_fare, waiver)**

**RIDE\_CANCELLATION (trans\_id, ride\_id, wait\_charges, cancellation\_fee)**

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

### Entity Relationship Diagram after 3NF:



*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

## **MILESTONE 2:**

## **BUILD PHASE**

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

## **CREATE TABLE QUERIES:**

### **CREATE TABLE ROUTE\_DETAILS**

```
(SOURCE_ZIP_CODE      VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE VARCHAR(6)      NOT NULL,
ROUTE_FARE           DECIMAL(6,2)    NOT NULL,
PRIMARY KEY (SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE));
```

### **CREATE TABLE SOURCE\_LOCATION**

```
(SOURCE_ZIP_CODE      VARCHAR(6)      NOT NULL,
SOURCE_CITY          CHARACTER(20)   NOT NULL,
PRIMARY KEY (SOURCE_ZIP_CODE));
```

### **CREATE TABLE DESTINATION\_LOCATION**

```
(DESTINATION_ZIP_CODE VARCHAR(6)      NOT NULL,
DESTINATION_CITY      CHARACTER(20)   NOT NULL,
PRIMARY KEY (DESTINATION_ZIP_CODE));
```

### **CREATE TABLE USER\_ACCOUNT**

```
(USER_ID              NUMBER(6)      NOT NULL,
FIRST_NAME            CHARACTER(20)  NOT NULL,
MIDDLE_INITIAL        CHARACTER(1),
LAST_NAME             CHARACTER(20)  NOT NULL,
PASSWORD              VARCHAR(10)    NOT NULL,
EMAIL                 VARCHAR(30)    NOT NULL,
CONTACT               NUMBER(10)    NOT NULL,
BANK_ACCOUNT_NO       VARCHAR(10)    NOT NULL,
PRIMARY KEY (USER_ID));
```

### **CREATE TABLE CREATE\_RIDE**

```
(CREATOR_ID           NUMBER(5)      NOT NULL,
USER_ID               NUMBER(6)      NOT NULL,
SOURCE_ZIP_CODE       VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE  VARCHAR(6)      NOT NULL,
CAR_NO                VARCHAR(10)    NOT NULL,
DATE_OF_DEPARTURE    DATE          NOT NULL,
TIME_OF_DEPARTURE    TIMESTAMP     NOT NULL,
LUGGAGE_LIMIT         NUMBER(2)      NOT NULL,
SEAT_LIMIT             NUMBER(1)      NOT NULL,
PET_ALLOWED            NUMBER        NOT NULL,
LICENSE_NO             VARCHAR(12)    NOT NULL,
PRIMARY KEY (CREATOR_ID));
```

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

**CREATE TABLE CAR\_DETAILS**

```
(CAR_NO          VARCHAR(10)      NOT NULL,
CAR_MODEL_NAME  CHARACTER(20)    NOT NULL,
CAR_TYPE        CHARACTER(11)    NOT NULL,
CAR_MODEL_NO    VARCHAR(20)      NOT NULL,
CAR_MANUFACTURING_DATE DATE      NOT NULL,
CAR_INSURANCE_NO VARCHAR(15)     NOT NULL,
PRIMARY KEY (CAR_NO));
```

**CREATE TABLE LICENSE\_DETAILS**

```
(LICENSE_NO      VARCHAR (12)    NOT NULL,
LICENSE_EXPIRY_DATE DATE        NOT NULL,
PRIMARY KEY (LICENSE_NO));
```

**CREATE TABLE REQUEST\_RIDE**

```
(REQUESTER_ID    NUMBER(5)       NOT NULL,
USER_ID          NUMBER(6)       NOT NULL,
SOURCE_ZIP_CODE  VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE VARCHAR(6)  NOT NULL,
DATE_OF_DEPARTURE DATE          NOT NULL,
TIME_OF_DEPARTURE TIMESTAMP     NOT NULL,
LUGGAGES_REQUIRED NUMBER(2)      NOT NULL,
SEATS_REQUIRED   NUMBER(1)       NOT NULL,
PET_REQUIRED     NUMBER(1)       NOT NULL,
PRIMARY KEY (REQUESTER_ID));
```

**CREATE TABLE RIDE\_CONFIRMATION**

```
(RIDE_ID         NUMBER(8)       NOT NULL,
CREATOR_ID      NUMBER(5)       NOT NULL,
REQUESTER_ID    NUMBER(5)       NOT NULL,
SOURCE_ZIP_CODE  VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE VARCHAR(6)  NOT NULL,
RIDE_TIME       TIMESTAMP      NOT NULL,
RIDE_DATE        DATE          NOT NULL,
PRIMARY KEY (RIDE_ID));
```

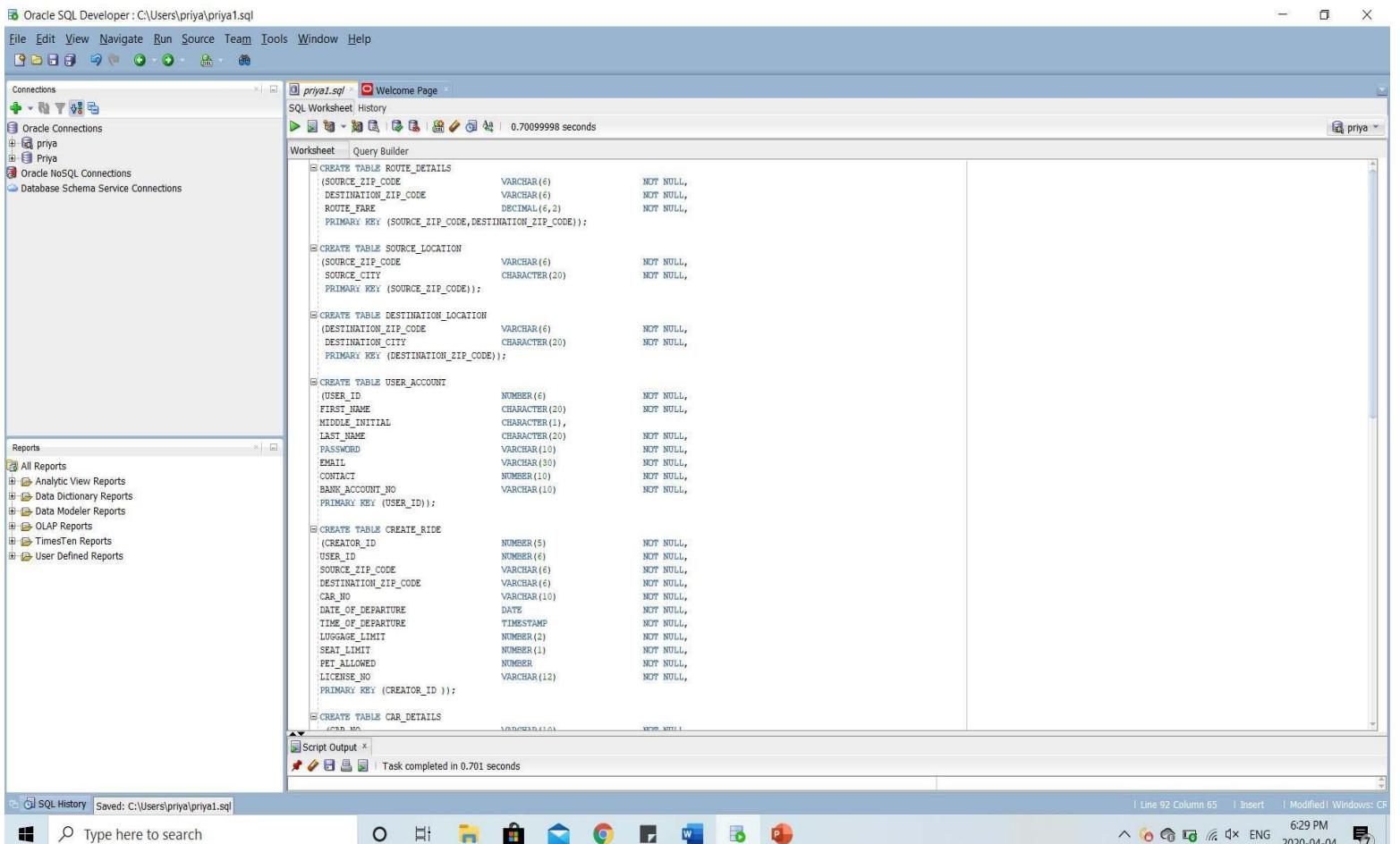
**CREATE TABLE RIDE\_COMPLETION**

```
(TRANSACTION_ID  NUMBER(10)      NOT NULL,
RIDE_ID          NUMBER(8)       NOT NULL,
WAITING_CHARGES DECIMAL(6,2)    NOT NULL,
TIP_ADDED        DECIMAL(6,2)    NOT NULL,
FINAL_FARE       DECIMAL(6,2)    NOT NULL,
WAIVER           DECIMAL(6,2)    NOT NULL,
PRIMARY KEY (TRANSACTION_ID));
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

**CREATE TABLE RIDE\_CANCELLATION**

```
(TRANS_ID          NUMBER(10)      NOT NULL,
RIDE_ID           NUMBER(8)       NOT NULL,
WAIT_CHARGES      DECIMAL(6,2)    NOT NULL,
CANCELLATION_FEE  DECIMAL(6,2)    NOT NULL,
PRIMARY KEY (TRANS_ID));
```



The screenshot shows the Oracle SQL Developer interface with several CREATE TABLE statements in the central workspace. The statements define tables for route details, source and destination locations, user accounts, rides, and car details. The 'priya1.sql' file is open in the workspace.

```

CREATE TABLE ROUTE_DETAILS
(SOURCE_ZIP_CODE          VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE       VARCHAR(6)     NOT NULL,
ROUTE_FARE                DECIMAL(6,2)   NOT NULL,
PRIMARY KEY (SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE);

CREATE TABLE SOURCE_LOCATION
(SOURCE_ZIP_CODE          VARCHAR(6)      NOT NULL,
SOURCE_CITY                CHARACTER(20)  NOT NULL,
PRIMARY KEY (SOURCE_ZIP_CODE);

CREATE TABLE DESTINATION_LOCATION
(DESTINATION_ZIP_CODE      VARCHAR(6)      NOT NULL,
DESTINATION_CITY           CHARACTER(20)  NOT NULL,
PRIMARY KEY (DESTINATION_ZIP_CODE);

CREATE TABLE USER_ACCOUNT
(USER_ID                   NUMBER(6)      NOT NULL,
FIRST_NAME                CHARACTER(20)  NOT NULL,
MIDDLE_INITIAL             CHARACTER(1),
LAST_NAME                 CHARACTER(20),
PASSWORD                  VARCHAR(10),
EMAIL                     VARCHAR(30),
CONTACT                  NUMBER(10),
BANK_ACCOUNT_NO            VARCHAR(10),
PRIMARY KEY (USER_ID));

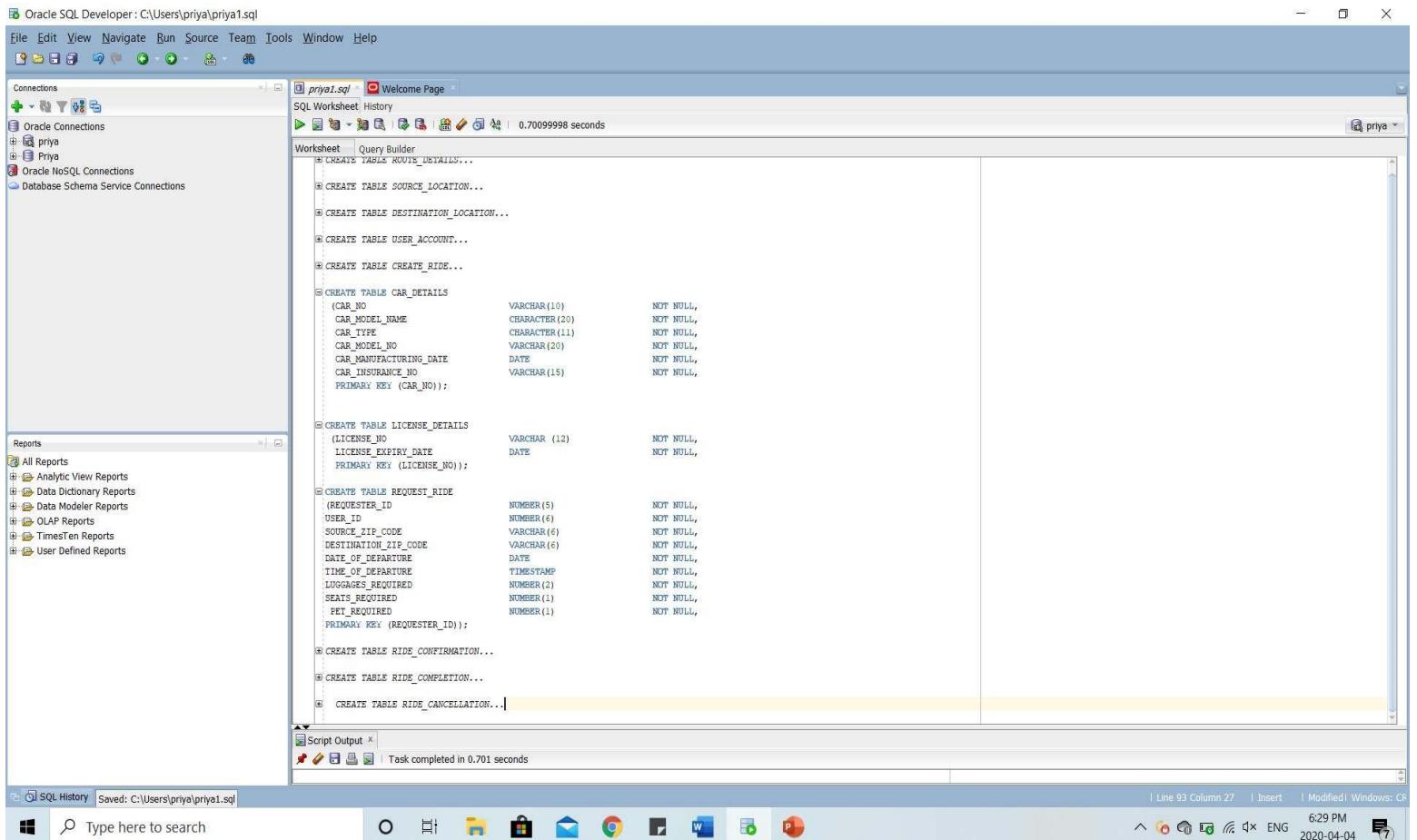
CREATE TABLE CREATE_RIDE
(CREATOR_ID               NUMBER(5)      NOT NULL,
USER_ID                   NUMBER(6)      NOT NULL,
SOURCE_ZIP_CODE           VARCHAR(6)      NOT NULL,
DESTINATION_ZIP_CODE       VARCHAR(6)     NOT NULL,
CAR_NO                    VARCHAR(10),
DATE_OF_DEPARTURE         DATE,
TIME_OF_DEPARTURE         TIMESTAMP,
LUGGAGE_LIMIT              NUMBER(2)      NOT NULL,
SEAT_LIMIT                NUMBER(1)      NOT NULL,
PET_ALLOWED                NUMBER,
LICENSE_NO                 VARCHAR(12),
PRIMARY KEY (CREATOR_ID));

CREATE TABLE CAR_DETAILS
(CAR_NO                    VARCHAR(10));
  
```

The 'Script Output' pane at the bottom indicates the task completed in 0.701 seconds. The status bar shows the date and time as 2020-04-04 6:29 PM.

**Program Title:**  
**Course Title:**  
**Project Title:**

Computer Software and Database Development  
 Database Design and SQL  
 Car Pooling System



The screenshot shows the Oracle SQL Developer interface with the following details:

- File Bar:** File Edit View Navigate Run Source Team Tools Window Help
- Connections:** priya
- Reports:** All Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports
- SQL Worksheet:** priya1.sql (Welcome Page)
  - SQL Worksheet History: 0.7009999 seconds
  - Worksheet: Query Builder
    - CREATE TABLE ROUTE\_DETAILS...
    - CREATE TABLE SOURCE\_LOCATION...
    - CREATE TABLE DESTINATION\_LOCATION...
    - CREATE TABLE USER\_ACCOUNT...
    - CREATE TABLE CREATE\_RIDE...
    - CREATE TABLE CAR\_DETAILS
 

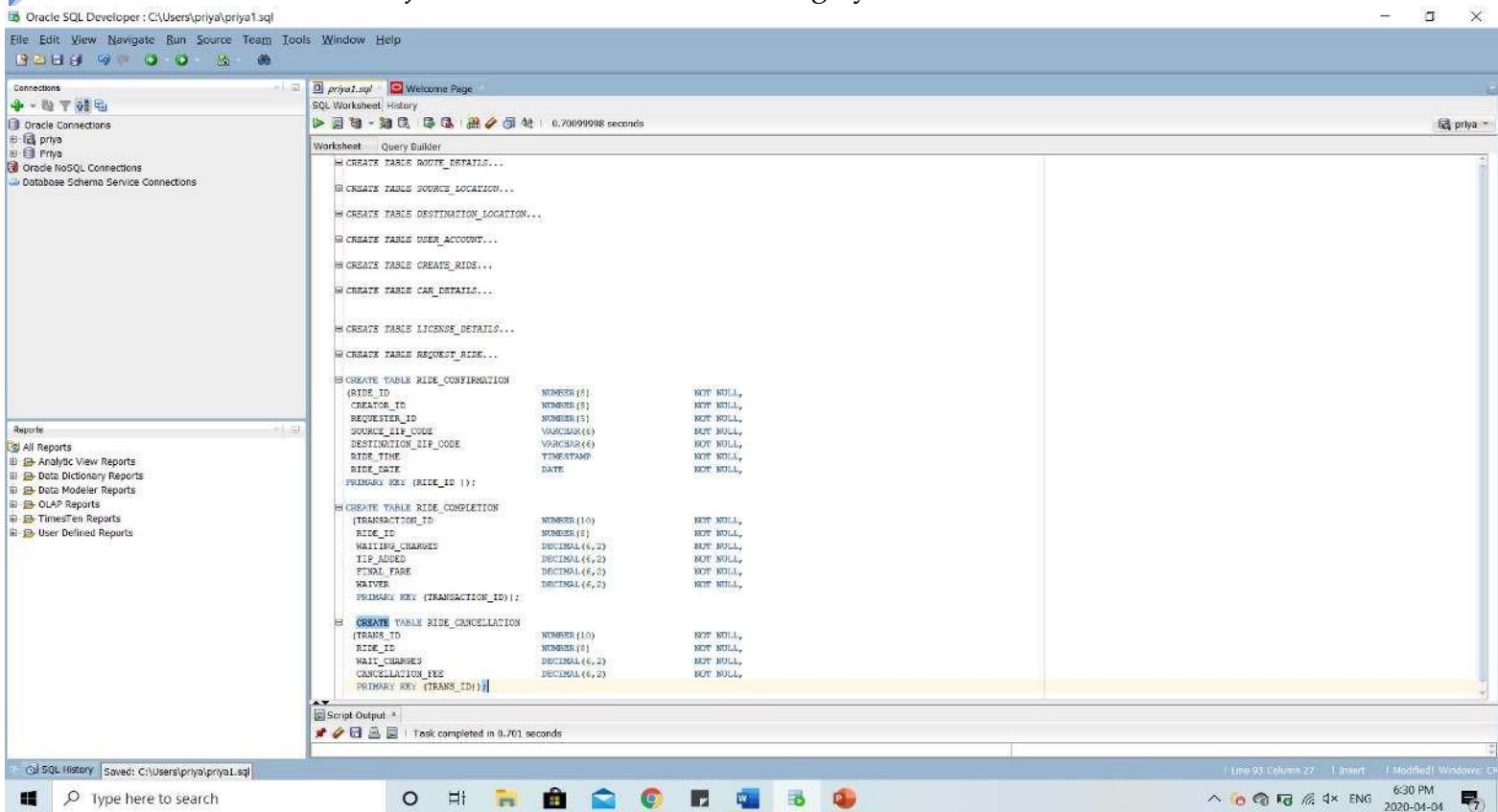
CAR_NO	VARCHAR(10)	NOT NULL,
CAR_MODEL_NAME	CHARACTER(20)	NOT NULL,
CAR_TYPE	CHARACTER(11)	NOT NULL,
CAR_MODEL_NO	VARCHAR(20)	NOT NULL,
CAR_MANUFACTURING_DATE	DATE	NOT NULL,
CAR_INSURANCE_NO	VARCHAR(15)	NOT NULL,
PRIMARY KEY (CAR_NO);		
    - CREATE TABLE LICENSE\_DETAILS
 

LICENSE_NO	VARCHAR (12)	NOT NULL,
LICENSE_EXPIRY_DATE	DATE	NOT NULL,
PRIMARY KEY (LICENSE_NO);		
    - CREATE TABLE REQUEST\_RIDE
 

REQUESTER_ID	NUMBER(5)	NOT NULL,
USER_ID	NUMBER(6)	NOT NULL,
SOURCE_ZIP_CODE	VARCHAR(6)	NOT NULL,
DESTINATION_ZIP_CODE	VARCHAR(6)	NOT NULL,
DATE_OF_DEPARTURE	DATE	NOT NULL,
TIME_OF_DEPARTURE	TIMESTAMP	NOT NULL,
LUGGAGES_REQUIRED	NUMBER(2)	NOT NULL,
SEATS_REQUIRED	NUMBER(1)	NOT NULL,
PET_REQUIRED	NUMBER(1)	NOT NULL,
PRIMARY KEY (REQUESTER_ID);		
    - CREATE TABLE RIDE\_CONFIRMATION...
    - CREATE TABLE RIDE\_COMPLETION...
    - CREATE TABLE RIDE\_CANCELLATION...
  - Script Output: Task completed in 0.701 seconds
- Bottom Bar:** SQL History (Saved: C:\Users\priya\priya1.sql), Type here to search, and various system icons.

**Program Title:**  
**Course Title:**  
**Project Title:**

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 Database Design and SQL  
 Car Pooling System



The screenshot shows the Oracle SQL Developer interface with the following details:

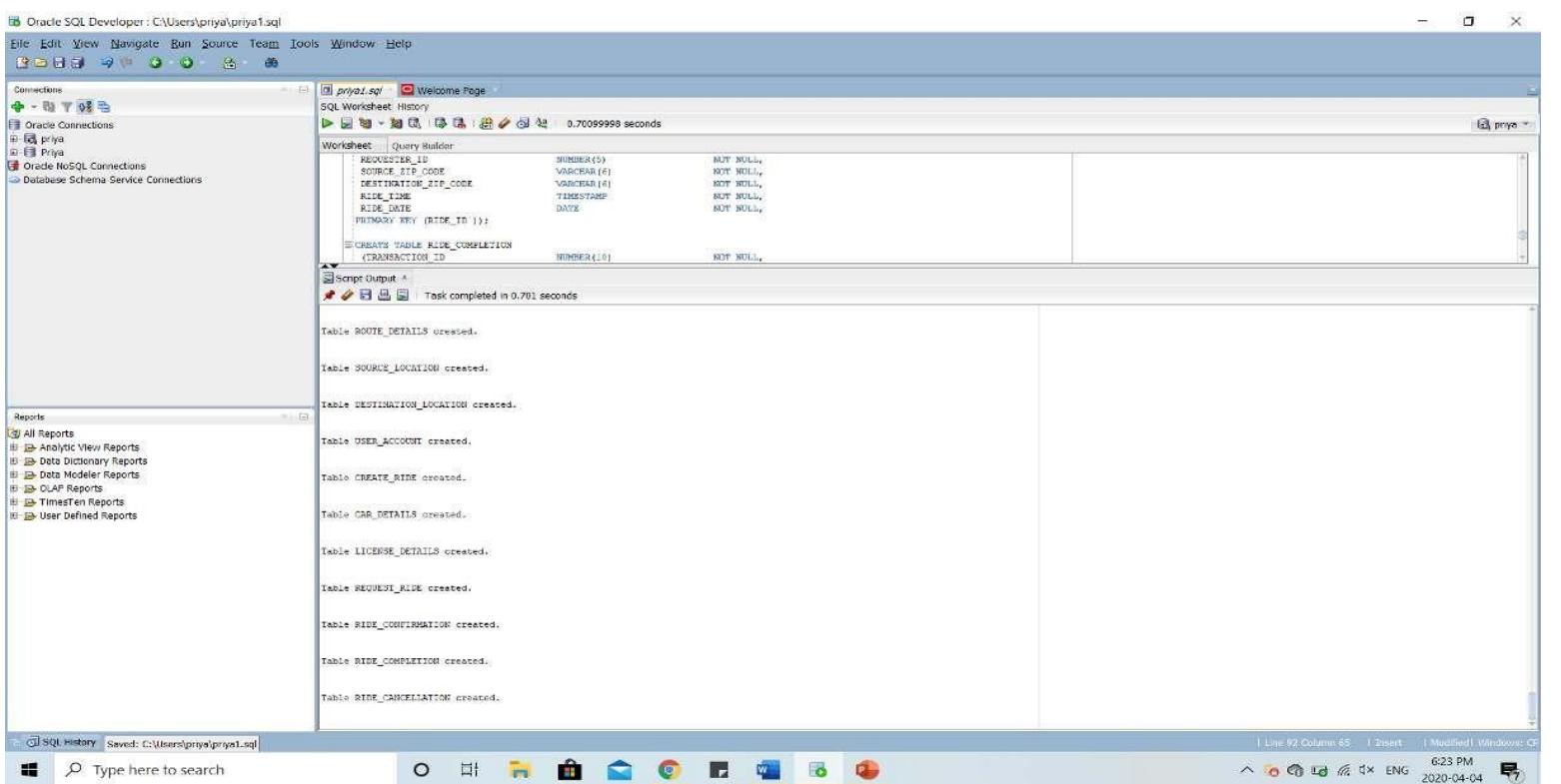
- Connections:** Oracle Connections (priya), Oracle NoSQL Connections, Database Schema Service Connections.
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- SQL Worksheet:** priya1.sql (Saved: C:\Users\priya\priya1.sql). The worksheet contains the following SQL code for creating tables:

```

CREATE TABLE ROUTE_DETAILS...
CREATE TABLE SOURCE_LOCATION...
CREATE TABLE DESTINATION_LOCATION...
CREATE TABLE USER_ACCOUNT...
CREATE TABLE CREATE_RIDE...
CREATE TABLE CAR_DETAILS...
CREATE TABLE LICENSE_DETAILS...
CREATE TABLE REQUEST_RIDE...
CREATE TABLE RIDE_CONFIRMATION
(
    RIDE_ID NUMBER(8),
    CREATOR_ID NUMBER(5),
    REQUESTER_ID NUMBER(5),
    SOURCE_ZIP_CODE VARCHAR(4),
    DESTINATION_ZIP_CODE VARCHAR(4),
    RIDE_TIME TIMESTAMP,
    RIDE_DATE DATE,
    PRIMARY KEY (RIDE_ID)
);
CREATE TABLE RIDE_COMPLETION
(
    TRANSACTION_ID NUMBER(10),
    RIDE_ID NUMBER(8),
    WAITING_CHARGES DECIMAL(4,2),
    TIP_AMOUNT DECIMAL(4,2),
    FINAL_FARE DECIMAL(4,2),
    WAITER DECIMAL(4,2),
    PRIMARY KEY (TRANSACTION_ID)
);
CREATE TABLE RIDE_CANCELLATION
(
    TRANS_ID NUMBER(10),
    RIDE_ID NUMBER(8),
    WAIT_CHARGES DECIMAL(4,2),
    CANCELLATION_FEE DECIMAL(4,2),
    PRIMARY KEY (TRANS_ID)
);

```

- Script Output:** Task completed in 0.701 seconds.
- System Status:** Line 93 Column 27, Insert, Modified, Windows, 6:30 PM, 2020-04-04.



The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** Oracle Connections (priya), Oracle NoSQL Connections, Database Schema Service Connections.
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- SQL Worksheet:** priya1.sql (Saved: C:\Users\priya\priya1.sql). The worksheet contains the same SQL code as the previous screenshot.
- Script Output:** Task completed in 0.701 seconds. The output shows the creation of each table:

```

Table ROUTE_DETAILS created.

Table SOURCE_LOCATION created.

Table DESTINATION_LOCATION created.

Table USER_ACCOUNT created.

Table CREATE_RIDE created.

Table CAR_DETAILS created.

Table LICENSE_DETAILS created.

Table REQUEST_RIDE created.

Table RIDE_CONFIRMATION created.

Table RIDE_COMPLETION created.

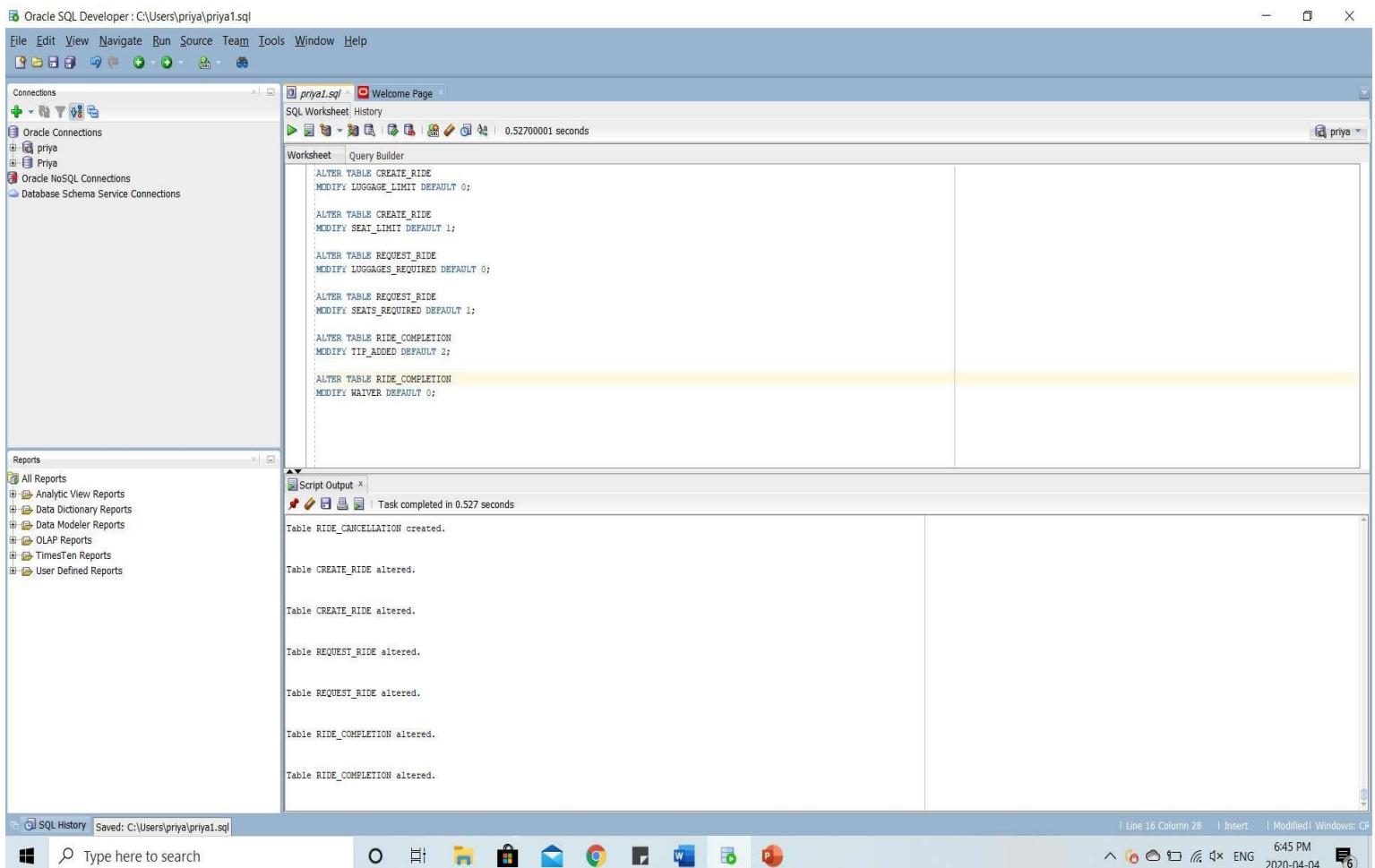
Table RIDE_CANCELLATION created.

```

- System Status:** Line 92 Column 65, Insert, Modified, Windows, 6:23 PM, 2020-04-04.

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

## **SET DEFAULT QUERIES (ALL TABLES):**



The screenshot shows the Oracle SQL Developer interface. The 'priya1.sql' file is open in the SQL Worksheet. The code consists of six ALTER TABLE statements, each modifying a specific column's default value. The 'Script Output' pane shows the results of the execution, indicating that each table was altered successfully. The status bar at the bottom right shows the date and time as 2020-04-04 6:45 PM.

```

ALTER TABLE CREATE_RIDE
MODIFY LUGGAGE_LIMIT DEFAULT 0;

ALTER TABLE CREATE_RIDE
MODIFY SEAT_LIMIT DEFAULT 1;

ALTER TABLE REQUEST_RIDE
MODIFY LUGGAGES_REQUIRED DEFAULT 0;

ALTER TABLE REQUEST_RIDE
MODIFY SEATS_REQUIRED DEFAULT 1;

ALTER TABLE RIDE_COMPLETION
MODIFY TIP_ADDED DEFAULT 2;

ALTER TABLE RIDE_COMPLETION
MODIFY WAIVER DEFAULT 0;

```

```

ALTER TABLE CREATE_RIDE
MODIFY LUGGAGE_LIMIT DEFAULT 0;

ALTER TABLE CREATE_RIDE
MODIFY SEAT_LIMIT DEFAULT 1;

ALTER TABLE REQUEST_RIDE
MODIFY LUGGAGES_REQUIRED DEFAULT 0;

ALTER TABLE REQUEST_RIDE
MODIFY SEATS_REQUIRED DEFAULT 1;

ALTER TABLE RIDE_COMPLETION
MODIFY TIP_ADDED DEFAULT 2;

ALTER TABLE RIDE_COMPLETION
MODIFY WAIVER DEFAULT 0;

```

**Program Title:**  
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 Database Design and SQL  
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```
ALTER TABLE RIDE_COMPLETION
MODIFY FINAL_FARE DEFAULT 0;
```

ADD CURRENT DATE COLUMN QUERIES:

```
ALTER TABLE CAR_DETAILS
ADD C_DATE DATE DEFAULT SYSDATE;
```

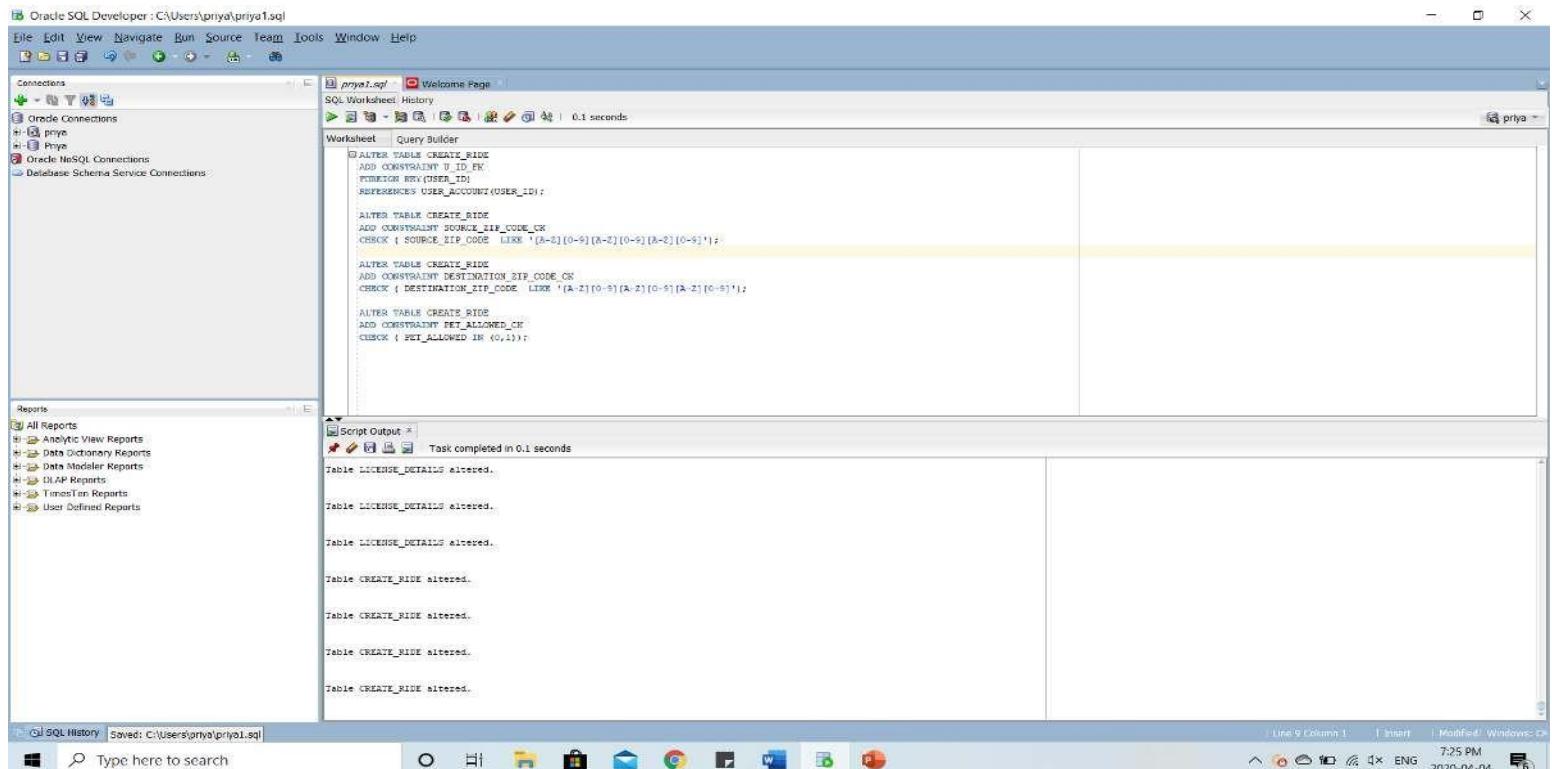
```
ALTER TABLE LICENSE_DETAILS
ADD C_DATE DATE DEFAULT SYSDATE;
```

## **CONSTRAINTS:**

### **1. LICENSE DETAILS**

```
ALTER TABLE LICENSE_DETAILS
ADD CONSTRAINT LIC_EXP_DATE
CHECK(LICENSE_EXPIRY_DATE > C_DATE);
```

### **2. CREATE\_RIDE**



The screenshot shows the Oracle SQL Developer interface with a query editor window titled 'priya1.sql'. The code in the editor creates three tables: CREATE\_RIDE, SOURCE\_ZIP\_CODE, and DESTINATION\_ZIP\_CODE, and then alters the CREATE\_RIDE table to add constraints. The 'Script Output' pane at the bottom shows the results of the execution.

```

ALTER TABLE CREATE_RIDE
ADD CONSTRAINT U_ID_FK
FOREIGN KEY(USER_ID)
REFERENCES USER_ACCOUNT(USER_ID);

ALTER TABLE CREATE_RIDE
ADD CONSTRAINT SOURCE_ZIP_CODE_CK
CHECK ( SOURCE_ZIP_CODE LIKE '(A-Z){0-9}(A-Z){0-9}(A-Z){0-9}' );

ALTER TABLE CREATE_RIDE
ADD CONSTRAINT DESTINATION_ZIP_CODE_CK
CHECK ( DESTINATION_ZIP_CODE LIKE '(A-Z){0-9}(A-Z){0-9}(A-Z){0-9}' );

ALTER TABLE CREATE_RIDE
ADD CONSTRAINT PET_ALLOWED_CK
CHECK ( PET_ALLOWED IN (0,1));

```

Script Output:

```

Table LICENSE_DETAILS altered.

Table LICENSE_DETAILS altered.

Table CREATE_RIDE altered.

Table CREATE_RIDE altered.

Table CREATE_RIDE altered.

Table CREATE_RIDE altered.

```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT U_ID_FK
FOREIGN KEY(USER_ID)
REFERENCES USER_ACCOUNT(USER_ID);
```

**Program Title:** Computer Software and Database Development  
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```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT S_ZIP_FK
FOREIGN KEY(SOURCE_ZIP_CODE) REFERENCES SOURCE_LOCATION(SOURCE_ZIP_CODE);
```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT D_ZIP_FK
FOREIGN KEY(DESTINATION_ZIP_CODE) REFERENCES DESTINATION_LOCATION(DESTINATION_ZIP_CODE);
```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT CAR_FK
FOREIGN KEY(CAR_NO) REFERENCES CAR_DETAILS(CAR_NO);
```

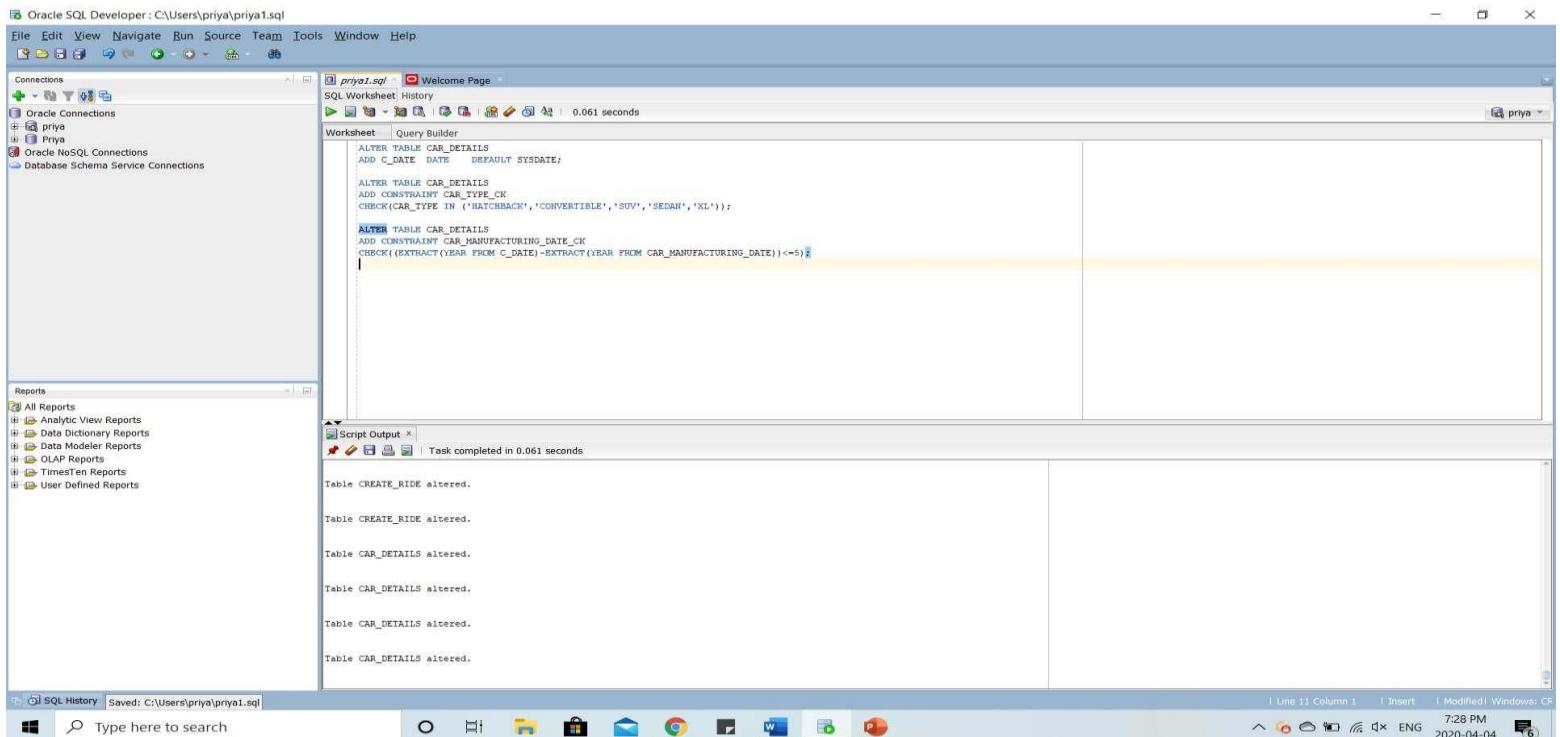
```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT LIC_NO_FK
FOREIGN KEY(LICENSE_NO) REFERENCES LICENSE_DETAILS(LICENSE_NO);
```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT SOURCE_ZIP_CODE_CK
CHECK (REGEXP_LIKE (SOURCE_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));
```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT DESTINATION_ZIP_CODE_CK
CHECK(REGEXP_LIKE(DESTINATION_ZIP_CODE,[A-Z][0-9][A-Z][0-9][A-Z][0-9]));
```

```
ALTER TABLE CREATE_RIDE
ADD CONSTRAINT PET_ALLOWED_CK
CHECK ( PET_ALLOWED IN (0,1));
```

### 3. CAR DETAILS



The screenshot shows the Oracle SQL Developer interface with the following details:

- File Bar:** File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help.
- Connections:** Oracle Connections (Priya), Oracle NoSQL Connections, Database Schema Service Connections.
- Script Editor:** priya1.sql - Welcome Page. The script contains the following code to alter the CAR\_DETAILS table and add constraints:

```
ALTER TABLE CAR_DETAILS
ADD C_DATE DATE DEFAULT SYSDATE;

ALTER TABLE CAR_DETAILS
ADD CONSTRAINT CAR_TYPE_CK
CHECK(CAR_TYPE IN ('HATCHBACK','CONVERTIBLE','SUV','SEDAN','XL'));

ALTER TABLE CAR_DETAILS
ADD CONSTRAINT CAR_MANUFACTURING_DATE_CK
CHECK((EXTRACT(YEAR FROM C_DATE)-EXTRACT(YEAR FROM CAR_MANUFACTURING_DATE))<=5);
```

- Script Output:** Task completed in 0.061 seconds. The output shows the results of the ALTER TABLE statements:

```
Table CREATE_RIDE altered.

Table CREATE_RIDE altered.

Table CAR_DETAILS altered.

Table CAR_DETAILS altered.

Table CAR_DETAILS altered.

Table CAR_DETAILS altered.
```

- Bottom Status Bar:** Line 11 Column 1, Insert, Modified, Windows: CF, 7:28 PM, 2020-04-04.

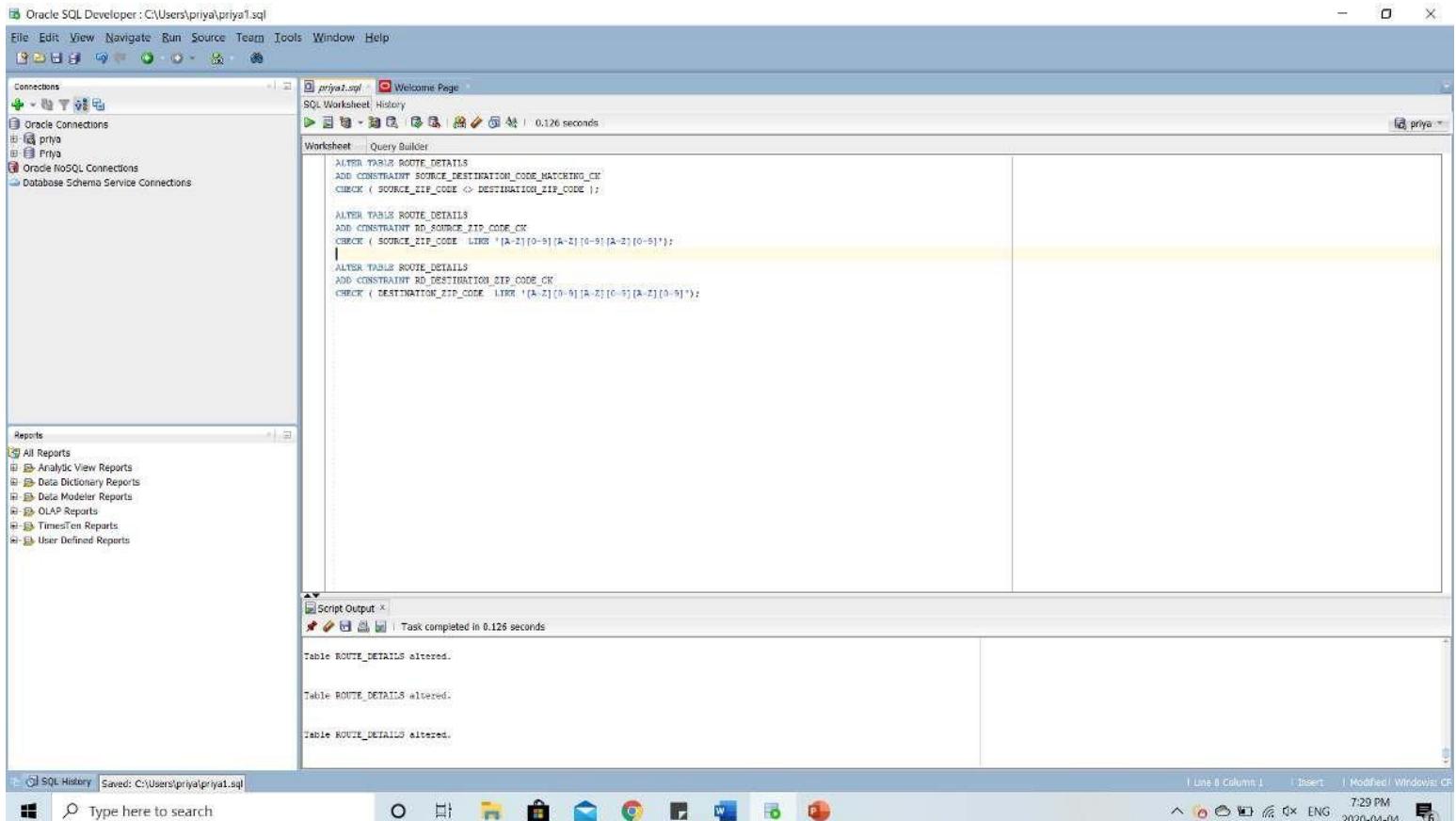
**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```
ALTER TABLE CAR_DETAILS
ADD C_DATE DATE DEFAULT SYSDATE;
```

```
ALTER TABLE CAR_DETAILS
ADD CONSTRAINT CAR_TYPE_CK
CHECK(CAR_TYPE IN ('HATCHBACK','CONVERTIBLE','SUV','SEDAN','XL'));
```

```
ALTER TABLE CAR_DETAILS
ADD CONSTRAINT CAR_MANUFACTURING_DATE_CK
CHECK((EXTRACT(YEAR FROM C_DATE)-EXTRACT(YEAR FROM CAR_MANUFACTURING_DATE))<=5);
```

#### 4. ROUTE DETAILS



The screenshot shows the Oracle SQL Developer interface with the following details:

- File Bar:** File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help.
- Connections:** Oracle Connections (priya), Oracle NoSQL Connections, Database Schema Service Connections.
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Worksheet:** Query Builder window containing three ALTER TABLE statements to add constraints to the ROUTE\_DETAILS table:
  - Constraint RD\_SOURCE\_ZIP\_CODE\_CK: CHECK ( SOURCE\_ZIP\_CODE REGEXP '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );
  - Constraint RD\_DESTINATION\_ZIP\_CODE\_CK: CHECK ( DESTINATION\_ZIP\_CODE REGEXP '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );
  - Constraint SOURCE\_DESTINATION\_CODE\_MATCHING\_CK: CHECK ( SOURCE\_ZIP\_CODE <> DESTINATION\_ZIP\_CODE );
- Script Output:** Task completed in 0.126 seconds. Shows three messages indicating the tables were altered.
- Bottom Status Bar:** Line 8 Column 1, Insert, Modified, Windows: CR, 7:29 PM, 2020-04-04.

```
ALTER TABLE ROUTE_DETAILS
ADD CONSTRAINT SOURCE_DESTINATION_CODE_MATCHING_CK
CHECK ( SOURCE_ZIP_CODE <> DESTINATION_ZIP_CODE );
```

```
ALTER TABLE ROUTE_DETAILS
ADD CONSTRAINT RD_SOURCE_ZIP_CODE_CK
CHECK (REGEXP_LIKE(SOURCE_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));
```

**Program Title:** Computer Software and Database Development  
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```
ALTER TABLE ROUTE_DETAILS
ADD CONSTRAINT RD_DESTINATION_ZIP_CODE_CK
CHECK(REGEXP_LIKE(DESTINATION_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));
```

```
ALTER TABLE ROUTE_DETAILS
ADD CONSTRAINT SRC_ZIP_FK
FOREIGN KEY(SOURCE_ZIP_CODE)
REFERENCES SOURCE_LOCATION(SOURCE_ZIP_CODE);
```

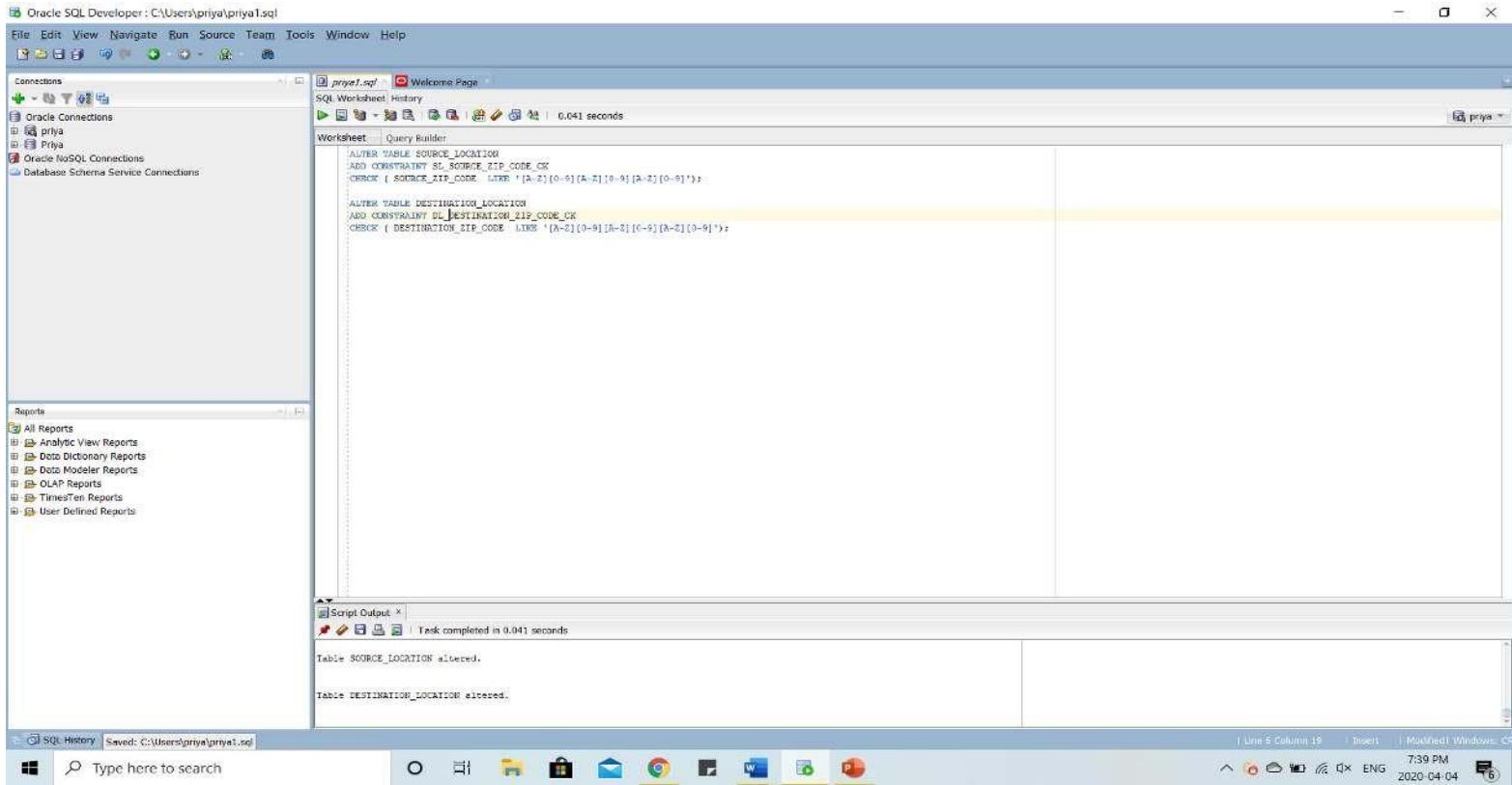
```
ALTER TABLE ROUTE_DETAILS
ADD CONSTRAINT DEST_ZIP_FK
FOREIGN KEY(DESTINATION_ZIP_CODE)
REFERENCES DESTINATION_LOCATION(DESTINATION_ZIP_CODE);
```

#### 5. SOURCE LOCATION

```
ALTER TABLE SOURCE_LOCATION
ADD CONSTRAINT SL_SOURCE_ZIP_CODE_CK
CHECK (REGEXP_LIKE(SOURCE_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));
```

#### 6. DESTINATION LOCATION

```
ALTER TABLE DESTINATION_LOCATION
ADD CONSTRAINT DL_DESTINATION_ZIP_CODE_CK
CHECK(REGEXP_LIKE(DESTINATION_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));
```



The screenshot shows the Oracle SQL Developer interface with the following details:

- File Path:** C:\Users\priya\priya1.sql
- Connections:** Oracle Connections (Priya) is selected.
- Script:**

```
ALTER TABLE SOURCE_LOCATION
ADD CONSTRAINT SL_SOURCE_ZIP_CODE_CK
CHECK ( SOURCE_ZIP_CODE LIKE '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );

ALTER TABLE DESTINATION_LOCATION
ADD CONSTRAINT DL_DESTINATION_ZIP_CODE_CK
CHECK ( DESTINATION_ZIP_CODE LIKE '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );
```
- Output:**

```
Table SOURCE_LOCATION altered.

Table DESTINATION_LOCATION altered.
```

The output window shows the completion message: "Task completed in 0.041 seconds".
- Bottom Status Bar:**
  - Line 5 Column 19
  - Insert
  - Modified
  - Windows OS
  - 7:39 PM
  - 2020-04-04

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

## **7. USER ACCOUNT**

The screenshot shows the Oracle SQL Developer interface with the following details:

- Top Bar:** Oracle SQL Developer : C:\Users\priya\priya1.sql. Menus: File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help.
- Left Sidebar:**
  - Connections:** Oracle Connections (priya, Priya), Oracle NoSQL Connections, Database Schema Service Connections.
  - Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Central Area:**
  - SQL Worksheet:** priya1.sql, Welcome Page. History: 0.087 seconds.
  - Worksheet:** Query Builder. Contains three ALTER TABLE statements for the USER\_ACCOUNT table, each adding a constraint (PASSWORD\_RULES\_CK, USER\_ACCOUNT\_EMAIL\_CK, and USER\_ACCOUNT\_CONTACT\_CK) with various CHECK clauses.
  - Script Output:** Task completed in 0.087 seconds. Log output:
    - Table DESTINATION\_LOCATION altered.
    - Table USER\_ACCOUNT altered.
    - Table USER\_ACCOUNT altered.
    - Table USER\_ACCOUNT altered.
    - Table USER\_ACCOUNT altered.
- Bottom Bar:** SQL History: Saved: C:\Users\priya\priya1.sql. Status: Line 17 Column 1, Insert, Modified, Windows, ENG. Date: 7:41 PM 2020-04-04.

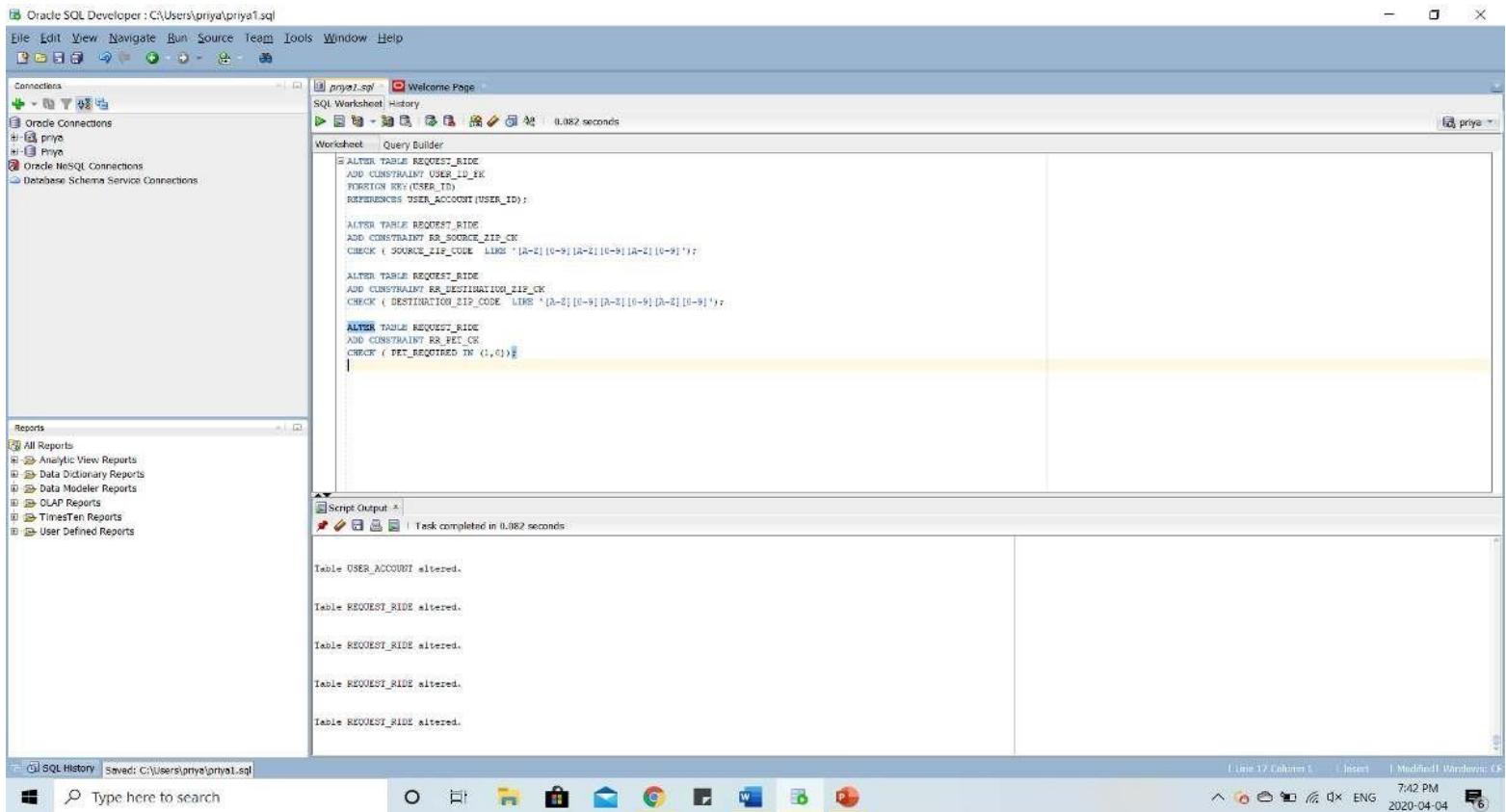
```
ALTER TABLE USER_ACCOUNT  
ADD CONSTRAINT USER_ACCOUNT_EMAIL_CK  
CHECK (EMAIL LIKE '%@%.%');
```

```
ALTER TABLE USER_ACCOUNT
ADD CONSTRAINT USER_ACCOUNT_CONTACT_CK
CHECK (REGEXP_LIKE(CONTACT,'[1-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'));
```

```
ALTER TABLE USER_ACCOUNT
ADD CONSTRAINT USER_ACCOUNT_BANK_ACCOUNT_CK
CHECK (REGEXP_LIKE(BANK_ACCOUNT_NO, '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'));
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

### 8. REQUEST RIDE



The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' window contains the following SQL code:

```

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT USER_ID_FK
FOREIGN KEY(USER_ID)
REFERENCES USER_ACCOUNT(USER_ID);

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_SOURCE_ZIP_CODE_CK
CHECK ( SOURCE_ZIP_CODE LIKE '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_DESTINATION_ZIP_CODE_CK
CHECK ( DESTINATION_ZIP_CODE LIKE '[A-Z][0-9][A-Z][0-9][A-Z][0-9]' );

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_PET_CK
CHECK ( PET_REQUIRED IN (1,0) );

```

The 'Script Output' window shows the results of the executed statements:

```

Table USER_ACCOUNT altered.

Table REQUEST_RIDE altered.

Table REQUEST_RIDE altered.

Table REQUEST_RIDE altered.

Table REQUEST_RIDE altered.

```

```

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT USER_ID_FK
FOREIGN KEY(USER_ID)
REFERENCES USER_ACCOUNT(USER_ID);

```

```

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_SOURCE_ZIP_CODE_CK
CHECK (REGEXP_LIKE(SOURCE_ZIP_CODE, '[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));

```

```

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_DESTINATION_ZIP_CODE_CK
CHECK(REGEXP_LIKE(DESTINATION_ZIP_CODE,'[A-Z][0-9][A-Z][0-9][A-Z][0-9]'));

```

```

ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT RR_PET_CK
CHECK ( PET_REQUIRED IN (1,0));

```

```

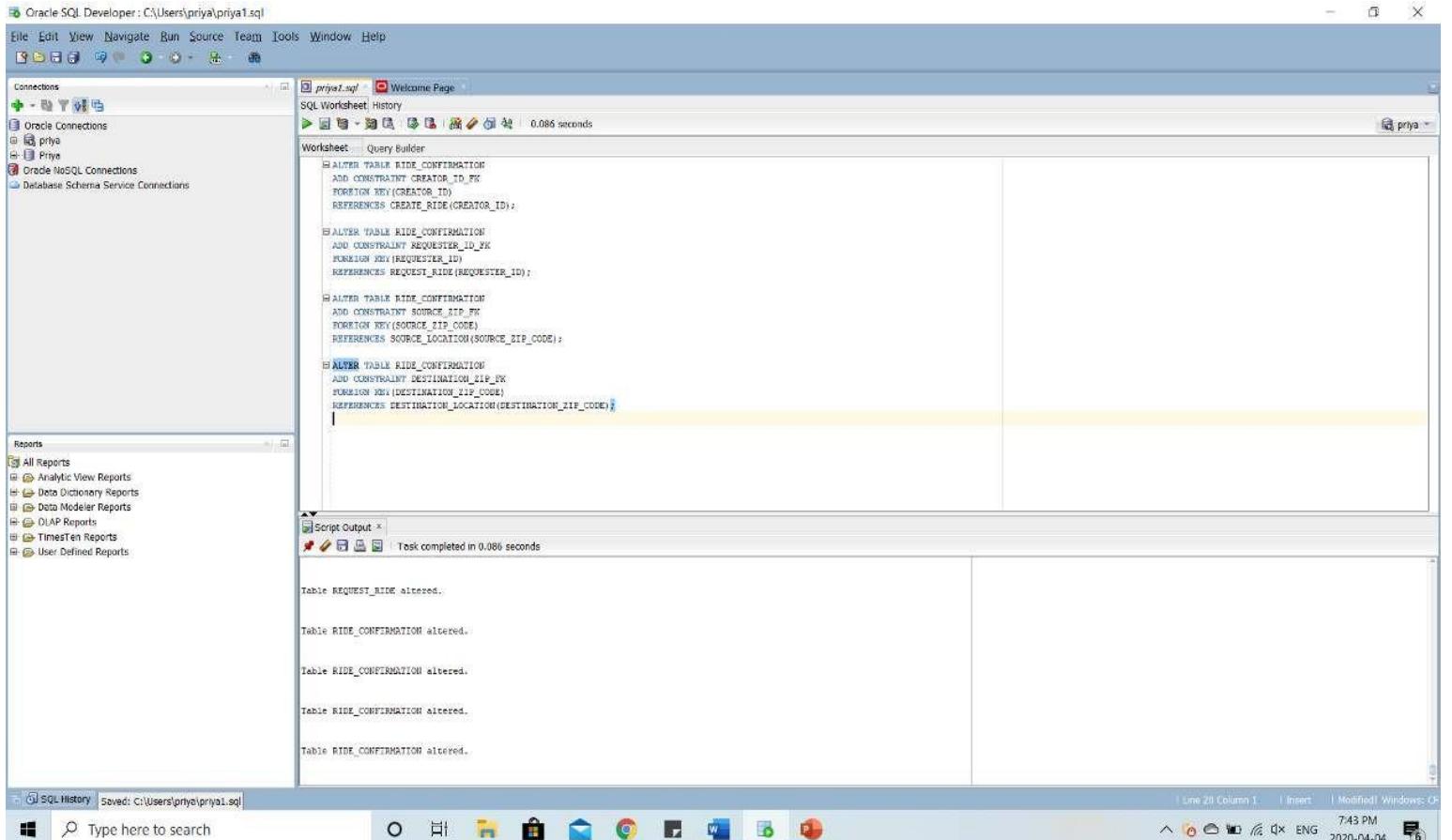
ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT SR_ZIP_FK
FOREIGN KEY(SOURCE_ZIP_CODE)
REFERENCES SOURCE_LOCATION(SOURCE_ZIP_CODE);

```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```
ALTER TABLE REQUEST_RIDE
ADD CONSTRAINT DR_ZIP_FK
FOREIGN KEY(DESTINATION_ZIP_CODE)
REFERENCES DESTINATION_LOCATION(DESTINATION_ZIP_CODE);
```

#### 9. RIDE CONFIRMATION



The screenshot shows the Oracle SQL Developer interface with a script editor window containing SQL code to alter the RIDE\_CONFIRMATION table. The code adds three foreign key constraints: one referencing the CREATOR\_ID column in the CREATE\_RIDE table, another referencing the REQUESTER\_ID column in the REQUEST\_RIDE table, and a third referencing the SOURCE\_ZIP\_CODE column in the SOURCE\_LOCATION table.

```

ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT CREATOR_ID_FK
FOREIGN KEY(CREATOR_ID)
REFERENCES CREATE_RIDE(CREATOR_ID);

ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT REQUESTER_ID_FK
FOREIGN KEY(REQUESTER_ID)
REFERENCES REQUEST_RIDE(REQUESTER_ID);

ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT SOURCE_ZIP_FK
FOREIGN KEY(SOURCE_ZIP_CODE)
REFERENCES SOURCE_LOCATION(SOURCE_ZIP_CODE);

```

The 'Script Output' pane shows the results of the execution, indicating that the table was altered successfully five times, corresponding to each of the three foreign key additions.

Table REQUEST\_RIDE altered.  
Table RIDE\_CONFIRMATION altered.  
Table RIDE\_CONFIRMATION altered.  
Table RIDE\_CONFIRMATION altered.  
Table RIDE\_CONFIRMATION altered.

```
ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT CREATOR_ID_FK
FOREIGN KEY(CREATOR_ID)
REFERENCES CREATE_RIDE(CREATOR_ID);
```

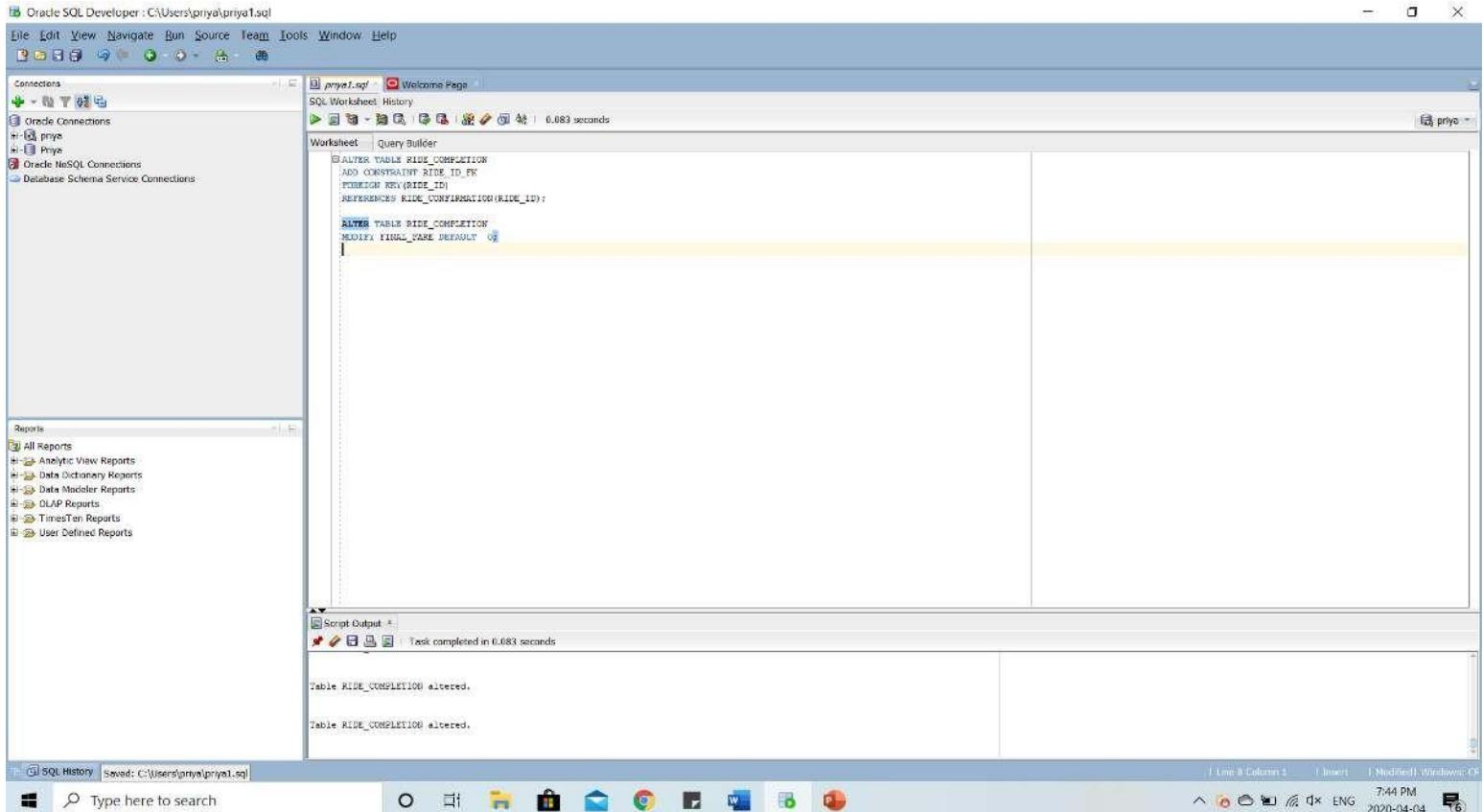
```
ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT REQUESTER_ID_FK
FOREIGN KEY(REQUESTER_ID)
REFERENCES REQUEST_RIDE(REQUESTER_ID);
```

```
ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT SOURCE_ZIP_FK
FOREIGN KEY(SOURCE_ZIP_CODE)
REFERENCES SOURCE_LOCATION(SOURCE_ZIP_CODE);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
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```
ALTER TABLE RIDE_CONFIRMATION
ADD CONSTRAINT DESTINATION_ZIP_FK
FOREIGN KEY(DESTINATION_ZIP_CODE)
REFERENCES DESTINATION_LOCATION(DESTINATION_ZIP_CODE);
```

#### 10. RIDE COMPLETION



The screenshot shows the Oracle SQL Developer interface. The left sidebar displays connections and reports. The main workspace contains a worksheet with the following SQL code:

```
ALTER TABLE RIDE_COMPLETION
ADD CONSTRAINT RIDE_ID_FK
FOREIGN KEY(RIDE_ID)
REFERENCES RIDE_CONFIRMATION(RIDE_ID);

ALTER TABLE RIDE_COMPLETION
MODIFY FINAL_FARE DEFAULT 0;
```

The script output window below shows the results of the execution:

```
Table RIDE_COMPLETION altered.
Table RIDE_COMPLETION altered.
```

```
ALTER TABLE RIDE_COMPLETION
ADD CONSTRAINT RIDE_ID_FK
FOREIGN KEY(RIDE_ID)
REFERENCES RIDE_CONFIRMATION(RIDE_ID);
```

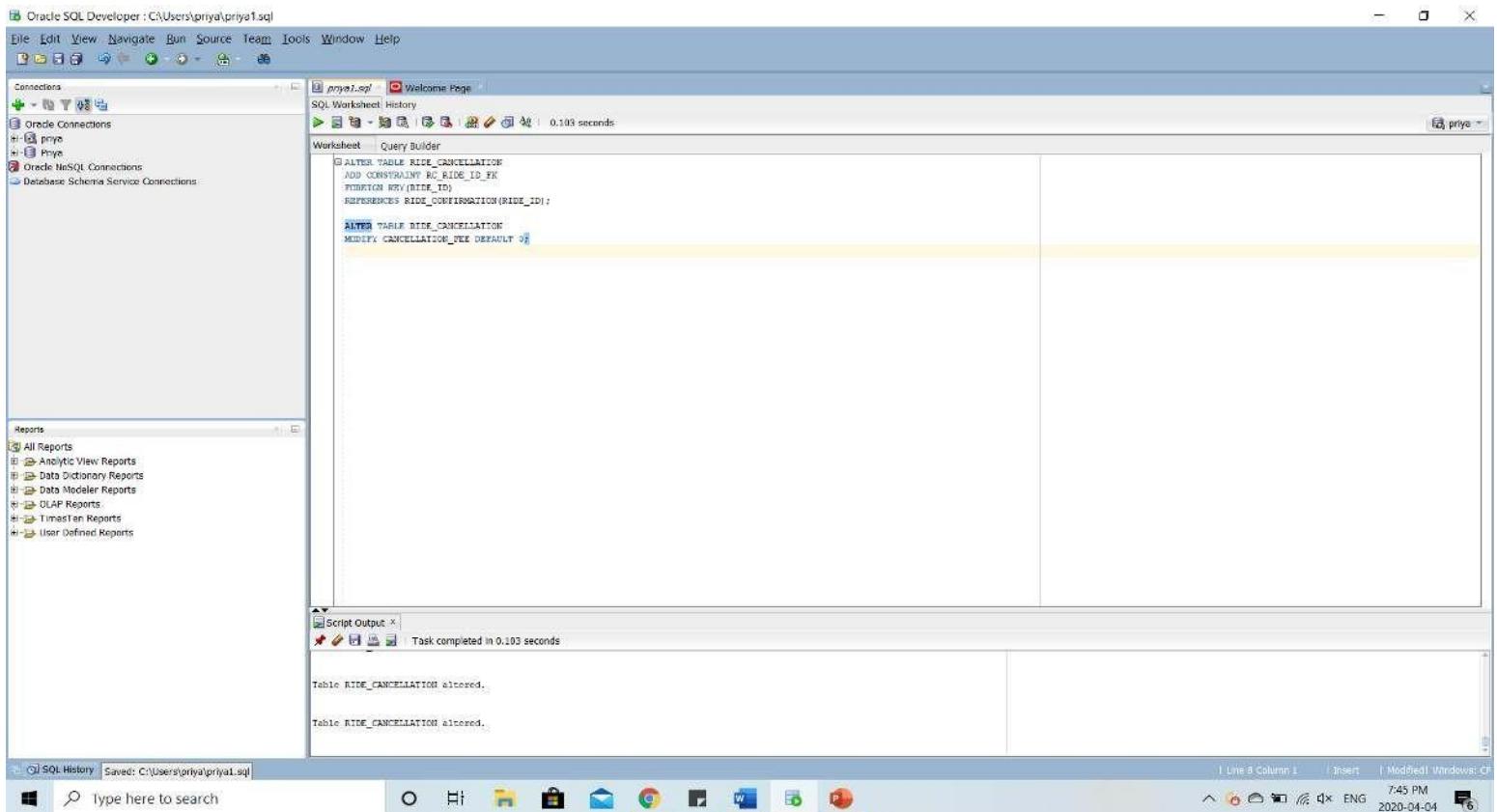
```
ALTER TABLE RIDE_COMPLETION
MODIFY FINAL_FARE DEFAULT 0;
```

#### 11. RIDE CANCELLATION

```
ALTER TABLE RIDE_CANCELLATION
ADD CONSTRAINT RC_RIDE_ID_FK
FOREIGN KEY(RIDE_ID)
REFERENCES RIDE_CONFIRMATION(RIDE_ID);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```
ALTER TABLE RIDE_CANCELLATION
MODIFY CANCELLATION_FEE DEFAULT 0;
```



## **DATA INSERTION QUERIES:**

### 1. LICENSE DETAILS

```
INSERT INTO LICENSE_DETAILS
```

```
VALUES ( 'HU7485964575' , '2024-01-25' , DEFAULT);
```

```
INSERT INTO LICENSE_DETAILS
```

```
VALUES ( 'YY1452789563' , '2021-01-22' , DEFAULT);
```

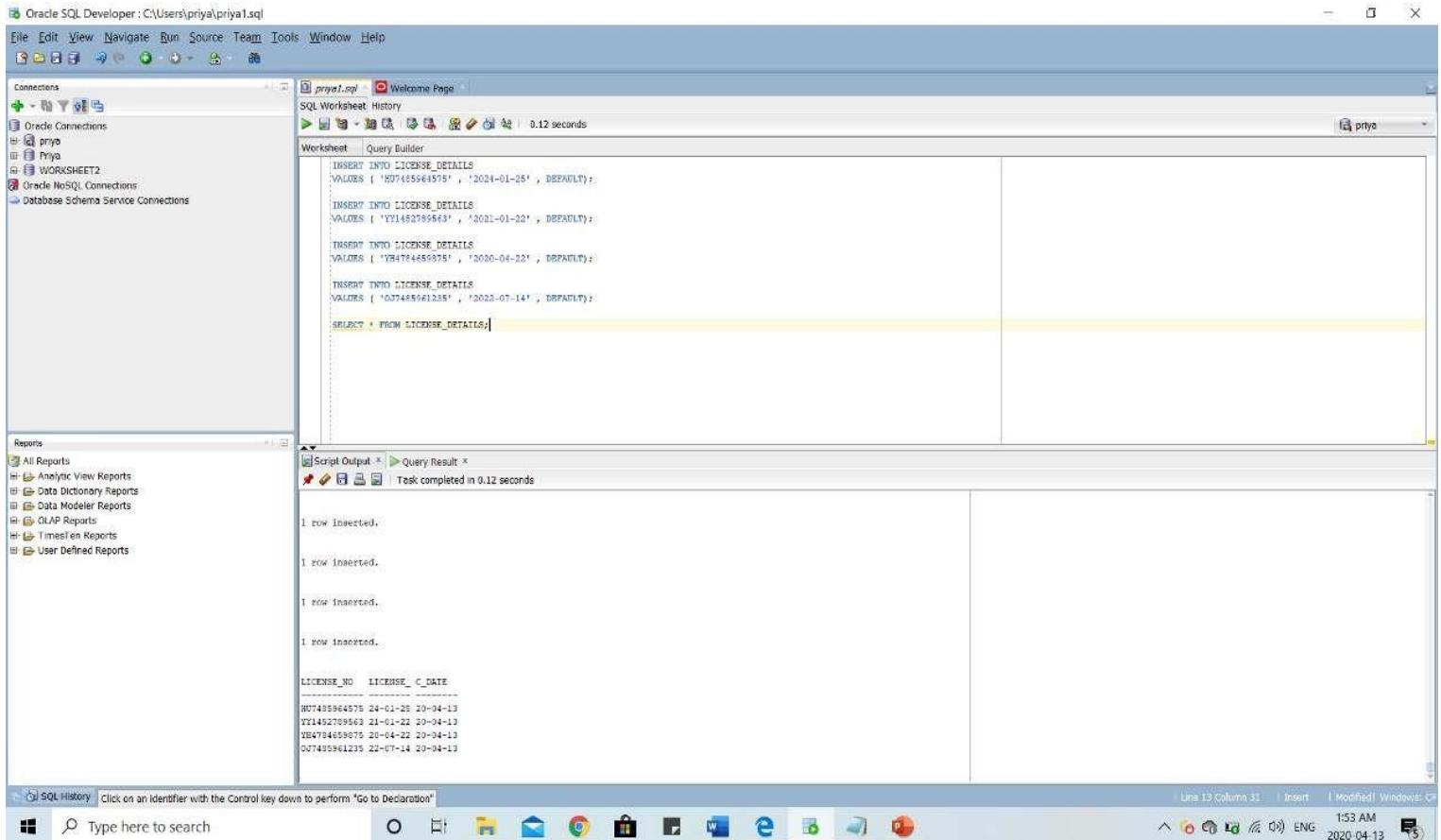
```
INSERT INTO LICENSE_DETAILS
```

```
VALUES ( 'YH4784659875' , '2020-04-22' , DEFAULT);
```

```
INSERT INTO LICENSE_DETAILS
```

```
VALUES ( 'OJ7485961235' , '2022-07-14' , DEFAULT);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar has sections for Connections (with entries for 'priyo' and 'WORKSHEET2'), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports), and SQL History. The main workspace shows a worksheet titled 'priy1.sql' with the following SQL code:

```

INSERT INTO LICENSE_DETAILS
VALUES ('H07405964575', '2024-01-25', DEFAULT);

INSERT INTO LICENSE_DETAILS
VALUES ('Y11452709563', '2021-01-22', DEFAULT);

INSERT INTO LICENSE_DETAILS
VALUES ('Y84784585975', '2020-04-22', DEFAULT);

INSERT INTO LICENSE_DETAILS
VALUES ('D074485961235', '2022-07-14', DEFAULT);

SELECT * FROM LICENSE_DETAILS;

```

The 'Script Output' tab shows the results of the execution:

```

1 row inserted.

LICENSER_NO    LICENSE_C_DATE
-----  -----
H07405964575 24-01-25 20-34-13
Y11452709563 21-01-22 20-34-13
Y84784585975 20-04-22 20-34-13
D074485961235 22-07-14 20-34-13

```

The bottom status bar shows 'Line 13 Column 31' and 'Modified'. The task bar at the bottom includes icons for Start, Task View, File, Home, Favorites, Mail, Google, Shopping, Windows, Internet Explorer, Word, Excel, and Powerpoint.

## 2. USER ACCOUNT

```

INSERT INTO USER_ACCOUNT
VALUES
(654321 , 'ANSHU' , " , 'ANSHU' , 'ANSHU@ANSH' , 'ANSHUOHLYAN999@GMAIL.COM' , 4152637485 , 9854712365);

INSERT INTO USER_ACCOUNT
VALUES
(478596 , 'PRIYA' , " , 'PRIYA' , '345@#$ASKI' , 'PRIYABEDI@GMAIL.COM' , 4859697895 , 7859654152);

INSERT INTO USER_ACCOUNT
VALUES
(845674 , 'ANKITA' , 'A' , 'SHARMA' , '745JUHY@74' , 'ANKITASHARMA76@GMAIL.COM' , 7845956231 , 1011223344);

INSERT INTO USER_ACCOUNT
VALUES
(748565 , 'SUPREET' , 'K' , 'KAUR' , '748596*UUH' , 'SUPREETKAUR@HOTMAIL.COM' , 4526317456 , 1020456235);

INSERT INTO USER_ACCOUNT
VALUES
(154236 , 'NITHUSHA' , 'K' , 'BONDILI' , 'NITU&@1423' , 'NITHUSHAB@GMAIL.COM' , 7484569525 , 1020456985);

```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```
INSERT INTO USER_ACCOUNT  
VALUES  
(458456 , 'ARVIND' , 'M' , 'GOHEL' , 'JIIJIJ@78' , 'ARVINDGOHEL99@GMAIL.COM' , 6254789535 , 1457895623);
```

```
INSERT INTO USER_ACCOUNT  
VALUES  
(748596 , 'NITIN' , '' , 'MUKHIJA' , 'HUHULO4@74' , 'NITINMUKHIJA987@GMAIL.COM' , 5412364574 , 1457859525);
```

```
INSERT INTO USER_ACCOUNT  
VALUES  
(154725 , 'SACHIN' , 'K' , 'MISTRY' , '47512LJU7@' , 'SACHINKMISTRY9@GMAIL.COM' , 4587456214 , 1451210141);
```

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** Oracle Connections (priya), WORKSHEET2.
- SQL Worksheet:** History, Worksheet Query Builder. The query inserted 15 rows into the USER\_ACCOUNT table. The inserted data includes columns: USER\_ID, FIRST\_NAME, LAST\_NAME, PASSWORD, EMAIL, and CONTACT\_PHONE\_NUMBER.
- Script Output:** Task completed in 0.245 seconds. The output shows 1 row inserted.
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Status Bar:** Click on an identifier with the Control key down to perform "Go to Declaration". Line 17 Column 1, Insert, Modified: Windows/CF, 156 AM, 2020-04-13.

USER_ID	FIRST_NAME	LAST_NAME	PASSWORD	EMAIL	CONTACT_PHONE_NUMBER
654321	ANSHU		ANSHUHORELYAN9998GMAIL.COM		4152637485 9854712365
478596	PRIYA		ANSHUHORELYAN9998GMAIL.COM		4152637485 9854712365
845674	AMITTA	A SHARMA	745JUNE74 AMITTAHARSHAMA4GMAIL.COM		7845956231 1011223344
740565	SUREET	K KAUR	7459564WCH SUREETKAUR@HOTMAIL.COM		4526317456 1023456235
154236	NITHISHA	K BONILLI	811281L23 NITHISHABONILL.COM		7004569525 1023456950
458456	ARVIND	M GOREL	J31310673 ARVINDGOREL999GMAIL.COM		6554795535 1657895633
748596	NIITIN	M HIRJIJA	HURJIJA4974 NIITINMHIRJIJA8878GMAIL.COM		541334574 1457855825
154725	SACHIN	K MISTRY	47512LJU76 SACHINMISTRY999GMAIL.COM		4587456214 1451210141

### **3. DESTINATION LOCATION**

```
INSERT INTO DESTINATION_LOCATION  
VALUES  
('M1B1Z6','TORONTO');
```

```
INSERT INTO DESTINATION_LOCATION  
VALUES  
('Y1R2U3','HAMILTON');
```

**Program Title:**  
**Course Title:**  
**Project Title:**

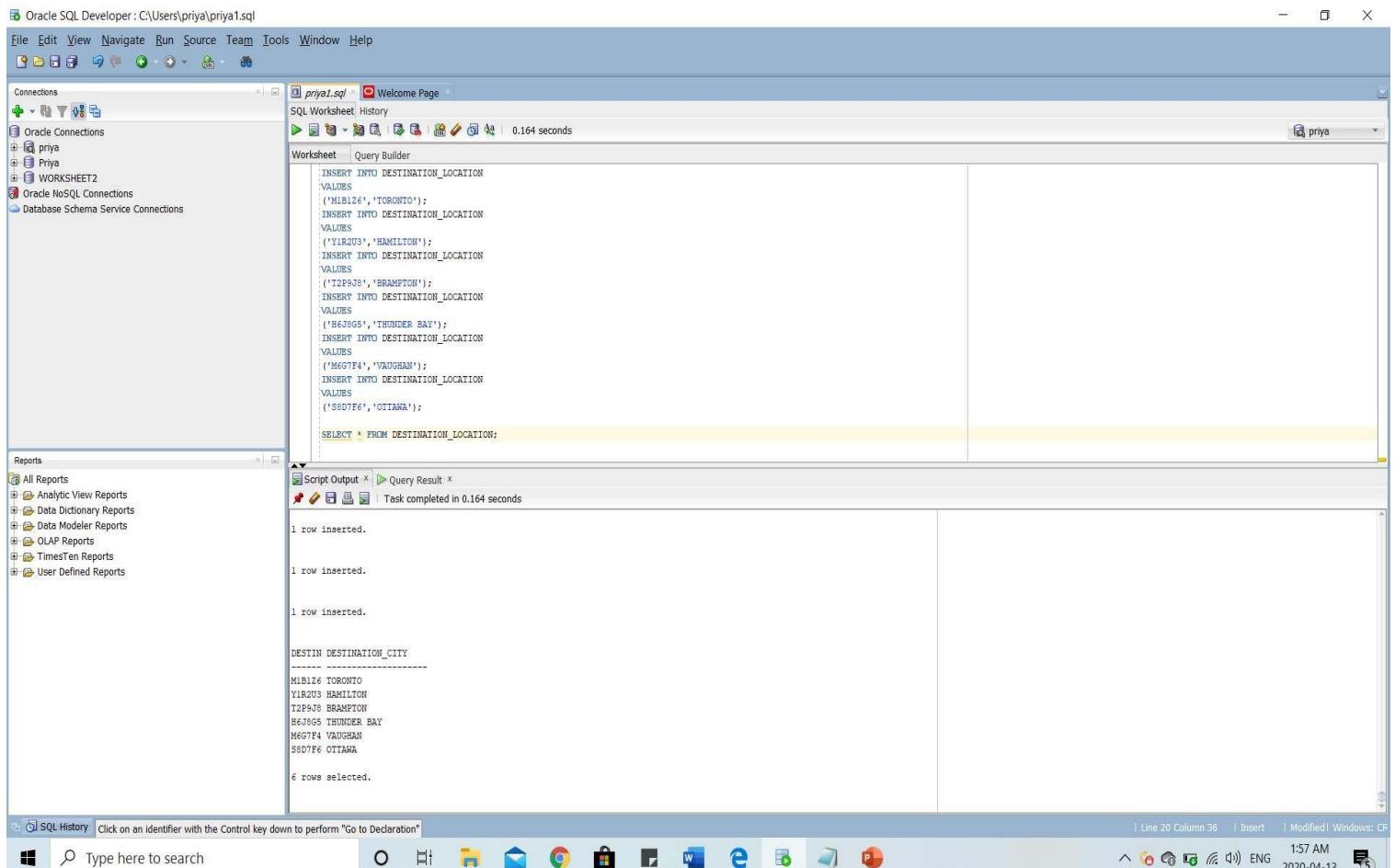
Computer Software and Database Development  
 Database Design and SQL  
 Car Pooling System

```
INSERT INTO DESTINATION_LOCATION
VALUES
('T2P9J8','BRAMPTON');
```

```
INSERT INTO DESTINATION_LOCATION
VALUES
('H6J8G5','THUNDER BAY');
```

```
INSERT INTO DESTINATION_LOCATION
VALUES
('M6G7F4','VAUGHAN');
```

```
INSERT INTO DESTINATION_LOCATION
VALUES
('S8D7F6','OTTAWA');
```



Oracle SQL Developer : C:\Users\priya\priya1.sql

File Edit View Navigate Run Source Team Window Help

Connections

- Oracle Connections
  - priya
  - Priya
  - WORKSHEET2
  - Oracle NoSQL Connections
  - Database Schema Service Connections

Reports

- All Reports
  - Analytic View Reports
  - Data Dictionary Reports
  - Data Modeler Reports
  - OLAP Reports
  - TimesTen Reports
  - User Defined Reports

SQL Worksheet History

Worksheet Query Builder

```
INSERT INTO DESTINATION_LOCATION
VALUES
('M1B1Z6','TORONTO');
INSERT INTO DESTINATION_LOCATION
VALUES
('Y1R2U3','HAMILTON');
INSERT INTO DESTINATION_LOCATION
VALUES
('T2P9J8','BRAMPTON');
INSERT INTO DESTINATION_LOCATION
VALUES
('H6J8G5','THUNDER BAY');
INSERT INTO DESTINATION_LOCATION
VALUES
('M6G7F4','VAUGHAN');
INSERT INTO DESTINATION_LOCATION
VALUES
('S8D7F6','OTTAWA');

SELECT * FROM DESTINATION_LOCATION;
```

Script Output

Query Result

Task completed in 0.164 seconds

```
1 row inserted.
1 row inserted.
1 row inserted.

DESTIN DESTINATION_CITY
-----
M1B1Z6 TORONTO
Y1R2U3 HAMILTON
T2P9J8 BRAMPTON
H6J8G5 THUNDER BAY
M6G7F4 VAUGHAN
S8D7F6 OTTAWA
6 rows selected.
```

SQL History Click on an identifier with the Control key down to perform "Go to Declaration"

Type here to search

Line 20 Column 36 Insert Modified Windows: CR

157 AM ENG 2020-04-13

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

4. **SOURCE LOCATION:**

```
INSERT INTO SOURCE_LOCATION
VALUES
('M1B1Z6','TORONTO');
```

```
INSERT INTO SOURCE_LOCATION
VALUES
('Y1R2U3','HAMILTON');
```

```
INSERT INTO SOURCE_LOCATION
VALUES
('T2P9J8','BRAMPTON');
```

```
INSERT INTO SOURCE_LOCATION
VALUES
('H6J8G5','THUNDER BAY');
```

```
INSERT INTO SOURCE_LOCATION
VALUES
('M6G7F4','VAUGHAN');
```

```
INSERT INTO SOURCE_LOCATION
VALUES
('S8D7F6','OTTAWA');
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```

File Edit View Navigate Run Source Team Tools Window Help
Connections Oracle Connections priya WORKSHEET2 Oracle NoSQL Connections Database Schema Service Connections
Connections priya WORKSHEET2 Oracle NoSQL Connections Database Schema Service Connections
Worksheet Query Builder
SQL Worksheet: History 0.1800001 seconds
priya.sql Welcome Page
INSERT INTO SOURCE_LOCATION
VALUES
('M1B1Z4', 'TORONTO');
INSERT INTO SOURCE_LOCATION
VALUES
('V1R1D5', 'HAMILTON');
INSERT INTO SOURCE_LOCATION
VALUES
('T2P1K9', 'BRAMPTON');
INSERT INTO SOURCE_LOCATION
VALUES
('M4J6W9', 'THUNDER BAY');
INSERT INTO SOURCE_LOCATION
VALUES
('M6G7P4', 'VAUGHAN');
INSERT INTO SOURCE_LOCATION
VALUES
('S6D7F4', 'OTTAWA');

SELECT * FROM SOURCE_LOCATION;

```

Reports All Reports Analytic View Reports Data Dictionary Reports Data Modeler Reports OLAP Reports TimesTen Reports User Defined Reports

Script Output X Query Result X Task completed in 0.18 seconds

```

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

SOURCE_SOURCE_CITY
-----
M1B1Z4 TORONTO
V1R1D5 HAMILTON
T2P1K9 BRAMPTON
M4J6W9 THUNDER BAY
M6G7P4 VAUGHAN
S6D7F4 OTTAWA
6 rows selected.

```

SQL History Click on an identifier with the Control key down to perform "Go to Declaration" Line 26 Column 31 Insert Modified Windows: CR

Type here to search

##### 5. CAR DETAILS:

```
INSERT INTO CAR_DETAILS
VALUES
('CJXY123456', 'TOYOTA', 'SUV', 'TR1425849563', '2017-05-28', '451565253515', DEFAULT);
```

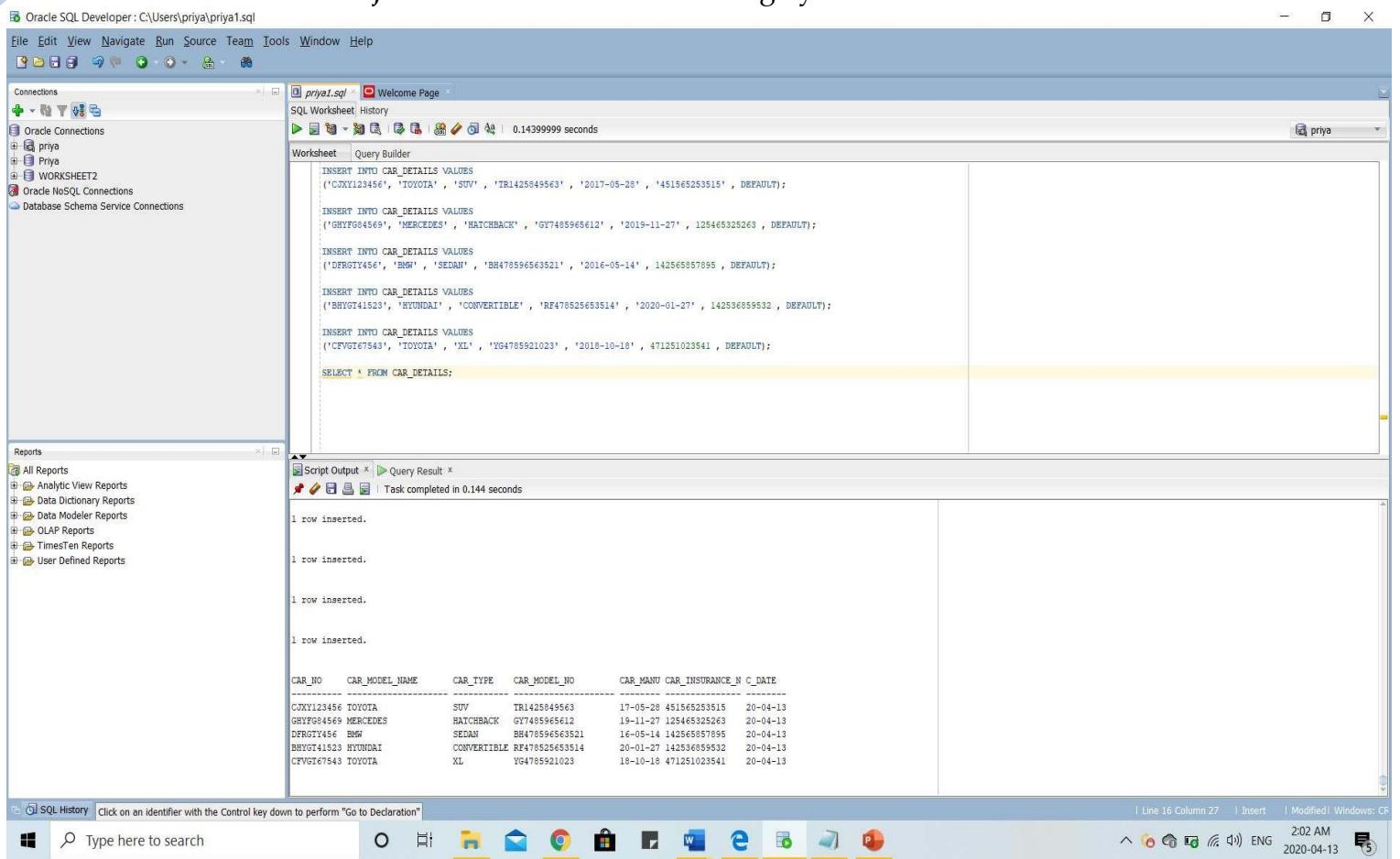
```
INSERT INTO CAR_DETAILS
VALUES
('GHYFG84569', 'MERCEDES', 'HATCHBACK', 'GY7485965612', '2019-11-27', 125465325263, DEFAULT);
```

```
INSERT INTO CAR_DETAILS
VALUES
('DFRGTY456', 'BMW', 'SEDAN', 'BH478596563521', '2016-05-14', 142565857895, DEFAULT);
```

```
INSERT INTO CAR_DETAILS
VALUES
('BHYGT41523', 'HYUNDAI', 'CONVERTIBLE', 'RF478525653514', '2020-01-27', 142536859532, DEFAULT);
```

```
INSERT INTO CAR_DETAILS
VALUES
('CFVGT67543', 'TOYOTA', 'XL', 'YG4785921023', '2018-10-18', 471251023541, DEFAULT);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The title bar indicates the file path: Oracle SQL Developer : C:\Users\priya\priya1.sql. The left sidebar has sections for Connections (Oracle Connections, priya, WORKSHEET2) and Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports). The main workspace contains a SQL Worksheet tab with the following SQL code:

```

INSERT INTO CAR_DETAILS VALUES
('CJXY123456', 'TOYOTA', 'SUV', 'TR1425849563', '2017-05-28', '451565253515', DEFAULT);

INSERT INTO CAR_DETAILS VALUES
('GHYFG84569', 'MERCEDES', 'HATCHBACK', 'GY7485965612', '2019-11-27', 125465325263, DEFAULT);

INSERT INTO CAR_DETAILS VALUES
('DFRGT456', 'BMW', 'SEDAN', 'BH478596563521', '2016-05-14', 142565857895, DEFAULT);

INSERT INTO CAR_DETAILS VALUES
('BHYGT41523', 'HYUNDAI', 'CONVERTIBLE', 'RF478562565314', '2020-01-27', 14253689532, DEFAULT);

INSERT INTO CAR_DETAILS VALUES
('CFVGT67543', 'TOYOTA', 'XL', 'YG4785921023', '2018-10-18', 471251023541, DEFAULT);

SELECT * FROM CAR_DETAILS;

```

The bottom pane shows the results of the query execution:

```

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

CAR_NO    CAR_MODEL_NAME   CAR_TYPE   CAR_MODEL_NO   CAR_MANU   CAR_INSURANCE_N C_DATE
-----    -----          -----      -----        -----       -----      -----
CJXY123456 TOYOTA        SUV        TR1425849563  17-05-28  451565253515  20-04-13
GHYFG84569 MERCEDES     HATCHBACK  GY7485965612  19-11-27  125465325263  20-04-13
DFRGT456   BMW           SEDAN     BH478596563521 16-05-14  142565857895  20-04-13
BHYGT41523 HYUNDAI      CONVERTIBLE RF478562565314 20-01-27  14253689532  20-04-13
CFVGT67543 TOYOTA        XL         YG4785921023  18-10-18  471251023541  20-04-13

```

The status bar at the bottom right shows the line number (Line 16), column number (Column 27), and timestamp (202 AM, 2020-04-13).

## 6. CREATE\_RIDE

```

INSERT INTO CREATE_RIDE
VALUES
(45142 , 845674 , 'T2P9J8' , 'Y1R2U3' , 'DFRGTY456' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13-00-00','YYYY-MM-DD
HH24-MI-SS') , 1 , 2 , 1 , 'YY1452789563' );

INSERT INTO CREATE_RIDE
VALUES
(12475 , 748565 , 'H6J8G5' , 'M1B1Z6' , 'GHYFG84569' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 12-00-00','YYYY-MM-DD
HH24-MI-SS') , 0 , 3 , 0 , 'YH4784659875' );

INSERT INTO CREATE_RIDE
VALUES
(12345 , 654321 , 'M1B1Z6' , 'H6J8G5' , 'CJXY123456' , '2020-04-05' , TO_TIMESTAMP('2020-04-05 08-00-00','YYYY-MM-DD
HH24-MI-SS') , 2 , 3 , 0 , 'HU7485964575' );

INSERT INTO CREATE_RIDE
VALUES
(41785 , 748596 , 'T2P9J8' , 'M1B1Z6' , 'CFVGT67543' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 15-00-00','YYYY-MM-DD
HH24-MI-SS') , 0 , 4 , 1 , 'OJ7485961235' );

```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

```

INSERT INTO CREATE_RIDE
VALUES
(45142 , 445674 , 'T2P9J8' , 'Y1R2U3' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13:00:00','YYYY-MM-DD HH24:MI:SS') , 1 , 2 , 1 , 'YY145278963' );
INSERT INTO CREATE_RIDE
VALUES
(13478 , 748565 , 'H6J8G5' , 'M1B1Z6' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 13:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 3 , 0 , 'H07485964575' );
INSERT INTO CREATE_RIDE
VALUES
(13248 , 654321 , 'M1B1Z6' , 'H6J8G5' , 'CJXY123456' , '2020-04-05' , TO_TIMESTAMP('2020-04-05 08:00:00','YYYY-MM-DD HH24:MI:SS') , 2 , 3 , 0 , 'H07485964575' );
INSERT INTO CREATE_RIDE
VALUES
(41788 , 748566 , 'T2P9J8' , 'M1B1Z6' , 'CJVG767543' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 15:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 4 , 1 , '007485961235' );
SELECT * FROM CREATE_RIDE;

```

CREATOR_ID	USER_ID	SOURCE	DESTIN	CAR_NO	DATE_OF_TIME_OF_DEPARTURE	LUGGAGE_LIMIT	SEAT_LIMIT	PET_ALLOWED	LICENSE_NO
45142	845674	T2P9J8	Y1R2U3	DPFG7456	20-04-06 20-04-06 13:00:00.000000000	1	2	1	YY145278963
13478	748565	H6J8G5	M1B1Z6	CJYF014569	20-04-10 20-04-10 12:00:00.000000000	0	3	0	Y047485964575
13248	654321	M1B1Z6	H6J8G5	CJXY123456	20-04-05 20-04-05 08:00:00.000000000	2	3	0	H07485964575
41788	748566	T2P9J8	M1B1Z6	CJVG767543	20-04-12 20-04-12 15:00:00.000000000	0	4	1	007485961235

## 7. REQUEST RIDE:

```

INSERT INTO REQUEST_RIDE
VALUES
(41523 , 478596 , 'T2P9J8' , 'Y1R2U3' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 2 ,
1);

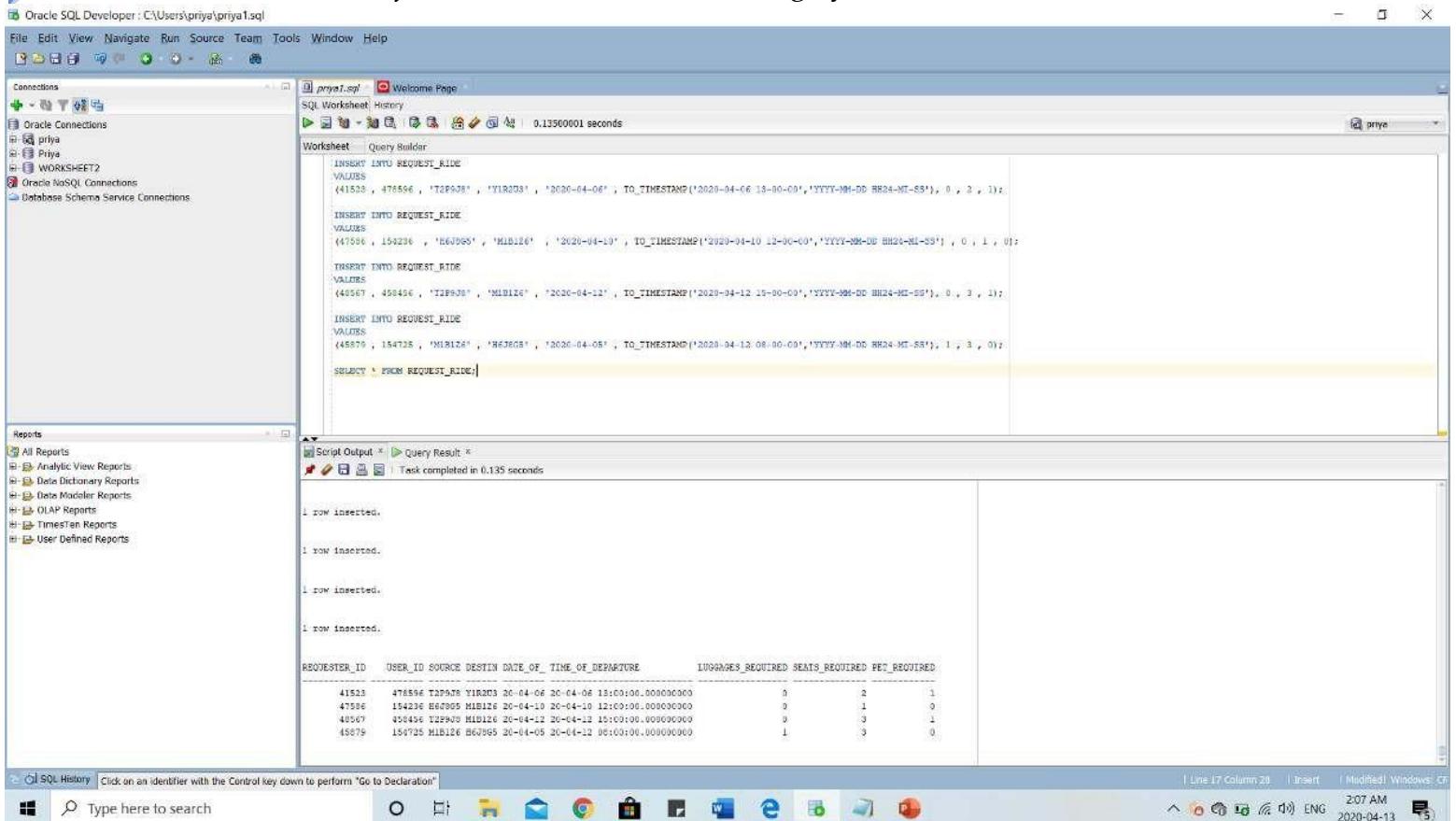
INSERT INTO REQUEST_RIDE
VALUES
(47586 , 154236 , 'H6J8G5' , 'M1B1Z6' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 12:00:00','YYYY-MM-DD HH24:MI:SS') , 0 ,
1 , 0);

INSERT INTO REQUEST_RIDE
VALUES
(48567 , 458456 , 'T2P9J8' , 'M1B1Z6' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 15:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 3 ,
1);

INSERT INTO REQUEST_RIDE
VALUES
(45879 , 154725 , 'M1B1Z6' , 'H6J8G5' , '2020-04-05' , TO_TIMESTAMP('2020-04-12 08:00:00','YYYY-MM-DD HH24:MI:SS') , 1 , 3 ,
0);

```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help. The left sidebar has sections for Connections (Oracle Connections, WORKSHEET2), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimeSeries Reports, User Defined Reports), and SQL History.

In the main area, the Worksheet tab is active, displaying a script named 'priya1.sql' with the following content:

```

INSERT INTO REQUEST_RIDE
VALUES
(41523 , 476596 , 'T2P9J8' , 'Y1R2U3' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 2 , 1);
INSERT INTO REQUEST_RIDE
VALUES
(47596 , 154236 , 'H6J8G5' , 'M1B1Z6' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 12:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 1 , 0);
INSERT INTO REQUEST_RIDE
VALUES
(48567 , 450456 , 'T2F9J9' , 'M1B1Z6' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 19:00:00','YYYY-MM-DD HH24:MI:SS') , 0 , 3 , 1);
INSERT INTO REQUEST_RIDE
VALUES
(48579 , 154725 , 'M1B1Z6' , 'H6J8G5' , '2020-04-05' , TO_TIMESTAMP('2020-04-12 08:00:00','YYYY-MM-DD HH24:MI:SS') , 1 , 3 , 0);
SELECT * FROM REQUEST_RIDE;

```

The Script Output tab shows the results of the execution:

```

1 row inserted.

REQUESTER_ID USER_ID SOURCE DESTIN DATE_OF_ TIME_OF_DEPARTURE LUGGAGES_REQUIRED SEATS_REQUIRED PET_REQUIRED
41523 476596 T2P9J8 Y1R2U3 20-04-06 13:00:00.000000000 0 2 1
47596 154236 H6J8G5 M1B1Z6 20-04-10 12:00:00.000000000 0 1 0
48567 450456 T2F9J9 M1B1Z6 20-04-12 15:00:00.000000000 0 3 1
48579 154725 M1B1Z6 H6J8G5 20-04-05 08:00:00.000000000 1 3 0

```

The status bar at the bottom indicates: Line 17 Column 28 | Insert | Modified | Windows: CF | 207 AM | 2020-04-13 | [User icon]

### 8. ROUTE DETAILS

```
INSERT INTO ROUTE_DETAILS
VALUES
('T2P9J8', 'Y1R2U3', 60.50);
```

```
INSERT INTO ROUTE_DETAILS
VALUES
('H6J8G5', 'M1B1Z6', 56.50);
```

```
INSERT INTO ROUTE_DETAILS
VALUES
('M1B1Z6', 'H6J8G5', 75.10);
```

```
INSERT INTO ROUTE_DETAILS
VALUES
('T2P9J8', 'M1B1Z6', 35.60);
```

```
INSERT INTO ROUTE_DETAILS
VALUES
('Y1R2U3', 'M6G7F4', 40.00);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar contains sections for Connections (with Oracle Connections, WORKSHEET1, and WORKSHEET2), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports), and a search bar at the bottom.

The main workspace has tabs for priya1.sql and Welcome Page. The SQL Worksheet tab is active, showing a query builder with the following SQL script:

```
INSERT INTO ROUTE_DETAILS
VALUES
('T2P9J8', 'YR2023', 60.50);

INSERT INTO ROUTE_DETAILS
VALUES
('H4J9JS', 'M1B126', 56.50);

INSERT INTO ROUTE_DETAILS
VALUES
('M1B126', 'H67965', 25.10);

INSERT INTO ROUTE_DETAILS
VALUES
('T2P9J8', 'M1B126', 35.60);

INSERT INTO ROUTE_DETAILS
VALUES
('YR2023', 'H67965', 60.00);

SELECT * FROM ROUTE_DETAILS;
```

The Script Output tab shows the results of the execution:

```
1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.
```

The Query Result tab displays the final output of the SELECT statement:

SOURCE	DESTIN	ROUTE_FARE
T2P9J8	YR2023	60.5
H4J9JS	M1B126	56.5
M1B126	H67965	25.1
T2P9J8	M1B126	35.6
YR2023	H67965	40

## **9. RIDE CONFIRMATION:**

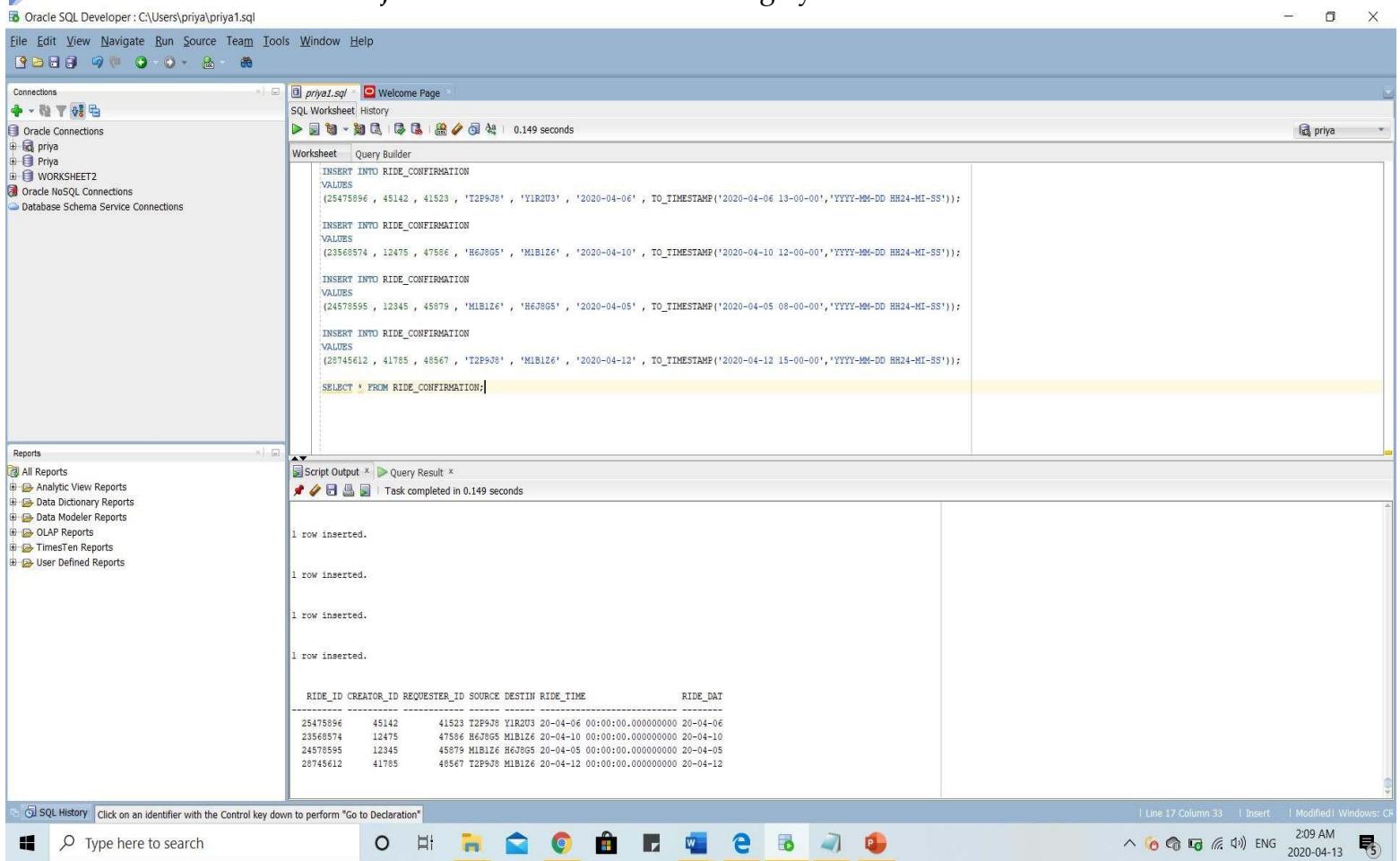
```
INSERT INTO RIDE_CONFIRMATION  
VALUES  
(25475896 , 45142 , 41523 , 'T2P9J8' , 'Y1R2U3' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13:00:00','YYYY-MM-DD HH24:MI:SS'));
```

```
INSERT INTO RIDE_CONFIRMATION  
VALUES  
(23568574 , 12475 , 47586 , 'H6J8G5' , 'M1B1Z6' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 12:00:00','YYYY-MM-DD HH24-MI-SS'));
```

```
INSERT INTO RIDE_CONFIRMATION  
VALUES  
(24578595 , 12345 , 45879 , 'M1B1Z6' , 'H6J8G5' , '2020-04-05' , TO_TIMESTAMP('2020-04-05 08:00:00','YYYY-MM-DD HH24-MI-SS'));
```

```
INSERT INTO RIDE_CONFIRMATION  
VALUES  
(28745612 , 41785 , 48567 , 'T2P9J8' , 'M1B1Z6' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 15:00:00','YYYY-MM-DD HH24:MI:SS'));
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar has sections for Connections (Oracle Connections, WORKSHEET2), Reports (All Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimeTen Reports, User Defined Reports), and SQL History. The main workspace has tabs for 'priya1.sql' and 'Welcome Page'. The 'priya1.sql' tab is active, showing a query builder with the following SQL code:

```

INSERT INTO RIDE_CONFIRMATION
VALUES
(25475896 , 45142 , 41523 , 'T2P9J8' , 'Y1R2U3' , '2020-04-06' , TO_TIMESTAMP('2020-04-06 13:00:00','YYYY-MM-DD HH24:MI:SS'));

INSERT INTO RIDE_CONFIRMATION
VALUES
(23568574 , 12475 , 47586 , 'H6J8G5' , 'M1B1Z6' , '2020-04-10' , TO_TIMESTAMP('2020-04-10 12:00:00','YYYY-MM-DD HH24:MI:SS'));

INSERT INTO RIDE_CONFIRMATION
VALUES
(24578595 , 12345 , 45879 , 'M1B1Z6' , 'H6J8G5' , '2020-04-05' , TO_TIMESTAMP('2020-04-05 08:00:00','YYYY-MM-DD HH24:MI:SS'));

INSERT INTO RIDE_CONFIRMATION
VALUES
(28745612 , 41785 , 48567 , 'T2P9J8' , 'M1B1Z6' , '2020-04-12' , TO_TIMESTAMP('2020-04-12 15:00:00','YYYY-MM-DD HH24:MI:SS'));

SELECT * FROM RIDE_CONFIRMATION;

```

The 'Script Output' tab shows the results of the execution:

```

1 row inserted.

RIDE_ID CREATOR_ID REQUESTER_ID SOURCE DESTIN RIDE_TIME          RIDE_DAT
----- ----- ----- ----- ----- ----- -----
25475896  45142   41523  T2P9J8  Y1R2U3  20-04-06 00:00:00.000000000 20-04-06
23568574  12475   47586  H6J8G5  M1B1Z6  20-04-10 00:00:00.000000000 20-04-10
24578595  12345   45879  M1B1Z6  H6J8G5  20-04-05 00:00:00.000000000 20-04-05
28745612  41785   48567  T2P9J8  M1B1Z6  20-04-12 00:00:00.000000000 20-04-12

```

The bottom status bar indicates 'Line 17 Column 33' and 'Modified Windows: CR'.

## 10. RIDE COMPLETION

```
INSERT INTO RIDE_COMPLETION VALUES
(9856321474 , 25475896 , 2.00 , 2.00 , 68.50 , DEFAULT);
```

```
INSERT INTO RIDE_COMPLETION VALUES
(9475132584 , 28745612 , 1.50 , 4.50 , 92.90 , 15);
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar has sections for Connections (Oracle Connections, priya, WORKSHEET2), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports), and SQL History.

The main workspace contains a Worksheet tab with the following SQL code:

```

INSERT INTO RIDE_COMPLETION
VALUES
(9856321474 , 25475896 , 2.00 , 2.00 , 68.50 , DEFAULT);

INSERT INTO RIDE_COMPLETION
VALUES
(9475132584 , 28745612 , 1.50 , 4.50 , 92.90 , 15);

SELECT * FROM RIDE_COMPLETION;

```

The Script Output tab shows the results of the execution:

```

Task completed in 0.137 seconds
28745612 41785 48567 T2P9J8 MIB1Z6 20-04-12 00:00:00.000000000 20-04-12
1 row inserted.

1 row inserted.

TRANSACTION_ID RIDE_ID WAITING_CHARGES TIP_ADDED FINAL_FARE WAIVER
----- -----
9856321474 25475896 2 2 68.5 0
9475132584 28745612 1.5 4.5 92.9 15

```

The bottom status bar shows the current line (Line 9), column (Column 31), and other system information like Insert, Modified, Windows, CR, and the date/time (2020-04-13 2:10 AM).

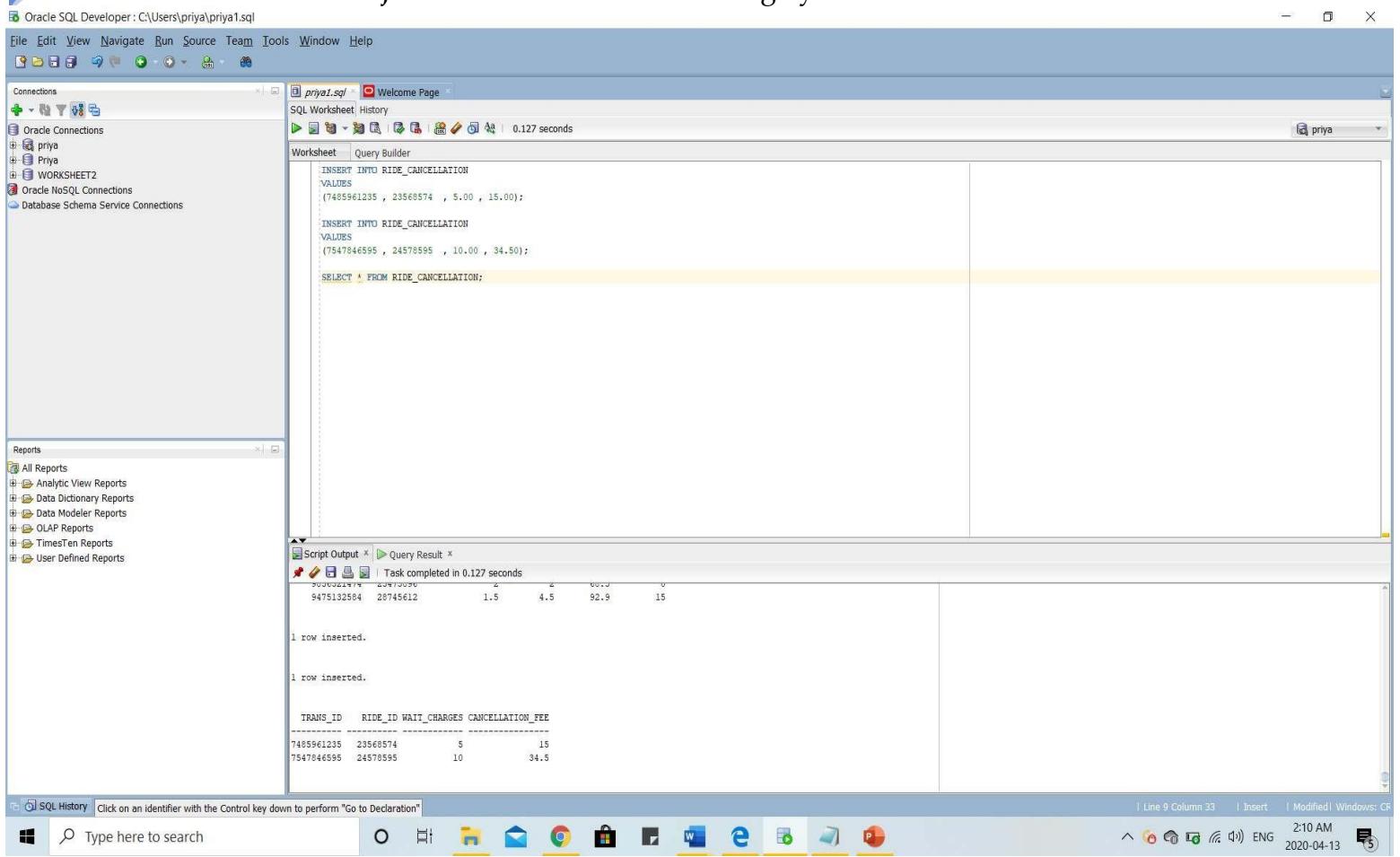
## 11. RIDE CANCELLATION

```
INSERT INTO RIDE_CANCELLATION VALUES
(7485961235 , 23568574 , 5.00 , 15.00);
```

```
INSERT INTO RIDE_CANCELLATION VALUES
(7547846595 , 24578595 , 10.00 , 34.50);
```

**Program Title:**  
**Course Title:**  
**Project Title:**

Computer Software and Database Development  
 Database Design and SQL  
 Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar has sections for Connections (Oracle Connections, WORKSHEET2), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimeTen Reports, User Defined Reports), and a search bar. The main workspace has a Worksheet tab open with the following SQL code:

```

INSERT INTO RIDE_CANCELLATION
VALUES
(7405961235 , 23560574 , 5.00 , 15.00);

INSERT INTO RIDE_CANCELLATION
VALUES
(7547846595 , 24578595 , 10.00 , 34.50);

SELECT * FROM RIDE_CANCELLATION;

```

The Script Output pane shows the results of the first two INSERT statements:

TRANS_ID	RIDE_ID	WAIT_CHARGES	CANCELLATION_FEE
9475132584	28745612	1.5	4.5
7405961235	23560574	5	15
7547846595	24578595	10	34.5

Below the table, the message "1 row inserted." is displayed twice. The final output shows the data from the SELECT statement:

TRANS_ID	RIDE_ID	WAIT_CHARGES	CANCELLATION_FEE
7405961235	23560574	5	15
7547846595	24578595	10	34.5

The bottom status bar indicates "Line 9 Column 33" and "Modified". The taskbar at the bottom shows various application icons.

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

**MILESTONE 3:**

**QUERY PHASE**

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

A.

## JOIN BASED QUERIES.

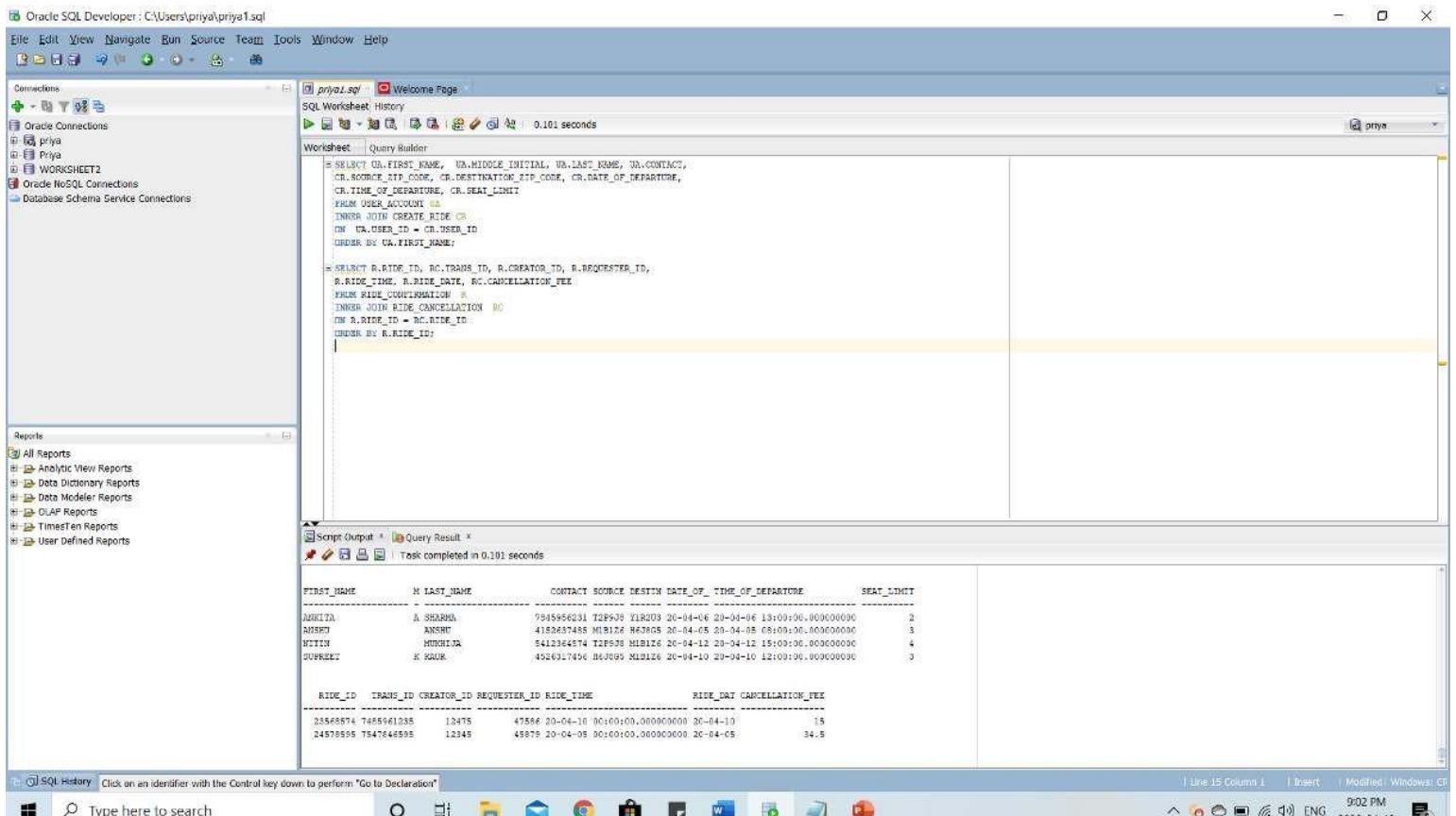
- Provide the list of users who created a ride. List first name, middle initial, last name, contact, source and destination zip code, date and time of departure, seats available with them.

```
SELECT UA.FIRST_NAME, UA.MIDDLE_INITIAL, UA.LAST_NAME, UA.CONTACT,
CR.SOURCE_ZIP_CODE, CR.DESTINATION_ZIP_CODE, CR.DATE_OF_DEPARTURE,
CR.TIME_OF_DEPARTURE, CR.SEAT_LIMIT
FROM USER_ACCOUNT UA
INNER JOIN CREATE_RIDE CR ON UA.USER_ID = CR.USER_ID
ORDER BY UA.FIRST_NAME;
```

- Provide the list of all the ride id's which got cancelled. Provide the list of ride id , transaction id, creator id , requestor id, ride time and date cancellation fee.

```
SELECT R.RIDE_ID, RC.TRANS_ID, R.CREATOR_ID, R.REQUESTER_ID, R.RIDE_TIME, R.RIDE_DATE, RC.CANCELLATION_FEE
FROM RIDE_CONFIRMATION R
INNER JOIN RIDE_CANCELLATION RC ON R.RIDE_ID = RC.RIDE_ID
ORDER BY R.RIDE_ID;
```

Output 1 & 2:



The screenshot shows the Oracle SQL Developer interface with two queries entered in the Worksheet tab and their results displayed in the Query Result tab.

**Query 1 (Worksheet):**

```
SELECT UA.FIRST_NAME, UA.MIDDLE_INITIAL, UA.LAST_NAME, UA.CONTACT,
CR.SOURCE_ZIP_CODE, CR.DESTINATION_ZIP_CODE, CR.DATE_OF_DEPARTURE,
CR.TIME_OF_DEPARTURE, CR.SEAT_LIMIT
FROM USER_ACCOUNT UA
INNER JOIN CREATE_RIDE CR
ON UA.USER_ID = CR.USER_ID
ORDER BY UA.FIRST_NAME;
```

**Query 2 (Worksheet):**

```
= SELECT R.RIDE_ID, RC.TRANS_ID, R.CREATOR_ID, R.REQUESTER_ID,
R.RIDE_TIME, R.RIDE_DATE, RC.CANCELLATION_FEE
FROM RIDE_CONFIRMATION R
INNER JOIN RIDE_CANCELLATION RC
ON R.RIDE_ID = RC.RIDE_ID
ORDER BY R.RIDE_ID;
```

**Query Result (Query Result Tab):**

FIRST_NAME	MIDDLE_INITIAL	LAST_NAME	CONTACT	SOURCE_ZIP_CODE	DESTIN_ZIP_CODE	DATE_OF_DEPARTURE	TIME_OF_DEPARTURE	SEAT_LIMIT
AMRITA	A	SHARMA	9845656231	T28638	Y18203	20-04-06	13:00:00.000000000	2
AMRITA	A	SHARMA	4152937485	M18174	M23055	20-04-05	20:34:05.001000000	3
NITIN		MISHRA	5412334574	T2F538	M18176	20-04-12	15:03:00.000000000	4
SUREKET	K	EGURU	4026317496	M6J095	M18176	20-04-10	20:34:10.000000000	3

RIDE_ID	TRANS_ID	CREATOR_ID	REQUESTER_ID	RIDE_TIME	RIDE_DATE	CANCELLATION_FEE
23565874	T48561235	12475	47558	20-04-10 00:00:00.000000000	20-04-10	15
24576595	T547646595	12348	48879	20-04-05 00:00:03.000000000	20-04-05	34.5

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

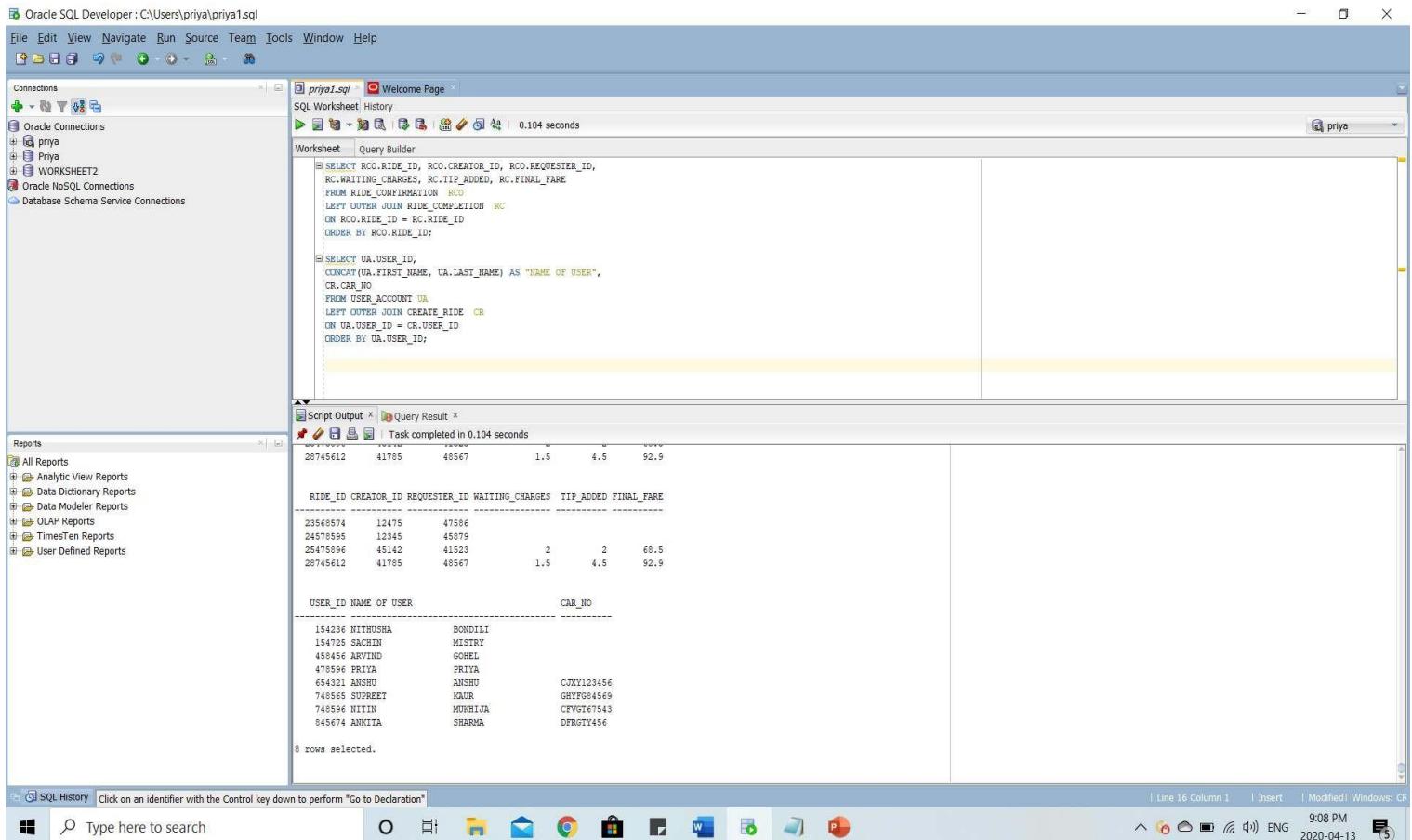
3. Provide the list of all the ride id's which got confirmed whether got completed or not. List ride id, creator id, requestor id, waiting charges (if any), tip added and final fare.

```
SELECT RCO.RIDE_ID, RCO.CREATOR_ID, RCO.REQUESTER_ID,
RC.WAITING_CHARGES, RC.TIP_ADDED, RC.FINAL_FARE
FROM RIDE_CONFIRMATION RCO
LEFT OUTER JOIN RIDE_COMPLETION RC
ON RCO.RIDE_ID = RC.RIDE_ID
ORDER BY RCO.RIDE_ID;
```

4. Provide the list of all the users whether they have registered car or not. List user id, first name, last name and car no.

```
SELECT UA.USER_ID,
CONCAT(UA.FIRST_NAME, UA.LAST_NAME) AS "NAME OF USER",
CR.CAR_NO
FROM USER_ACCOUNT UA
LEFT OUTER JOIN CREATE_RIDE CR
ON UA.USER_ID = CR.USER_ID
ORDER BY UA.USER_ID;
```

Output 3 & 4:



The screenshot shows the Oracle SQL Developer interface with two queries entered in the worksheet pane and their results displayed in the query result pane.

**Query 1 (Top):**

```
SELECT RCO.RIDE_ID, RCO.CREATOR_ID, RCO.REQUESTER_ID,
RC.WAITING_CHARGES, RC.TIP_ADDED, RC.FINAL_FARE
FROM RIDE_CONFIRMATION RCO
LEFT OUTER JOIN RIDE_COMPLETION RC
ON RCO.RIDE_ID = RC.RIDE_ID
ORDER BY RCO.RIDE_ID;
```

**Query 2 (Bottom):**

```
SELECT UA.USER_ID,
CONCAT(UA.FIRST_NAME, UA.LAST_NAME) AS "NAME OF USER",
CR.CAR_NO
FROM USER_ACCOUNT UA
LEFT OUTER JOIN CREATE_RIDE CR
ON UA.USER_ID = CR.USER_ID
ORDER BY UA.USER_ID;
```

**Query Result (Top):**

RIDE_ID	CREATOR_ID	REQUESTER_ID	WAITING_CHARGES	TIP_ADDED	FINAL_FARE
23568574	12475	47586			
24578595	12345	45879			
25478596	45142	41523	2	2	68.5
28745612	41785	48567	1.5	4.5	92.9

**Query Result (Bottom):**

USER_ID	NAME OF USER	CAR_NO
154236	NITHUSHA	BONDILI
154725	SACHIN	MISTRY
458456	ARVIND	GOHEL
478596	PRIYA	FRIYA
654321	ANSHU	ANSHU
748565	SUREET	KAUR
748596	NITIN	MUKHLJA
845674	ANKITA	SHARMA

8 rows selected.

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

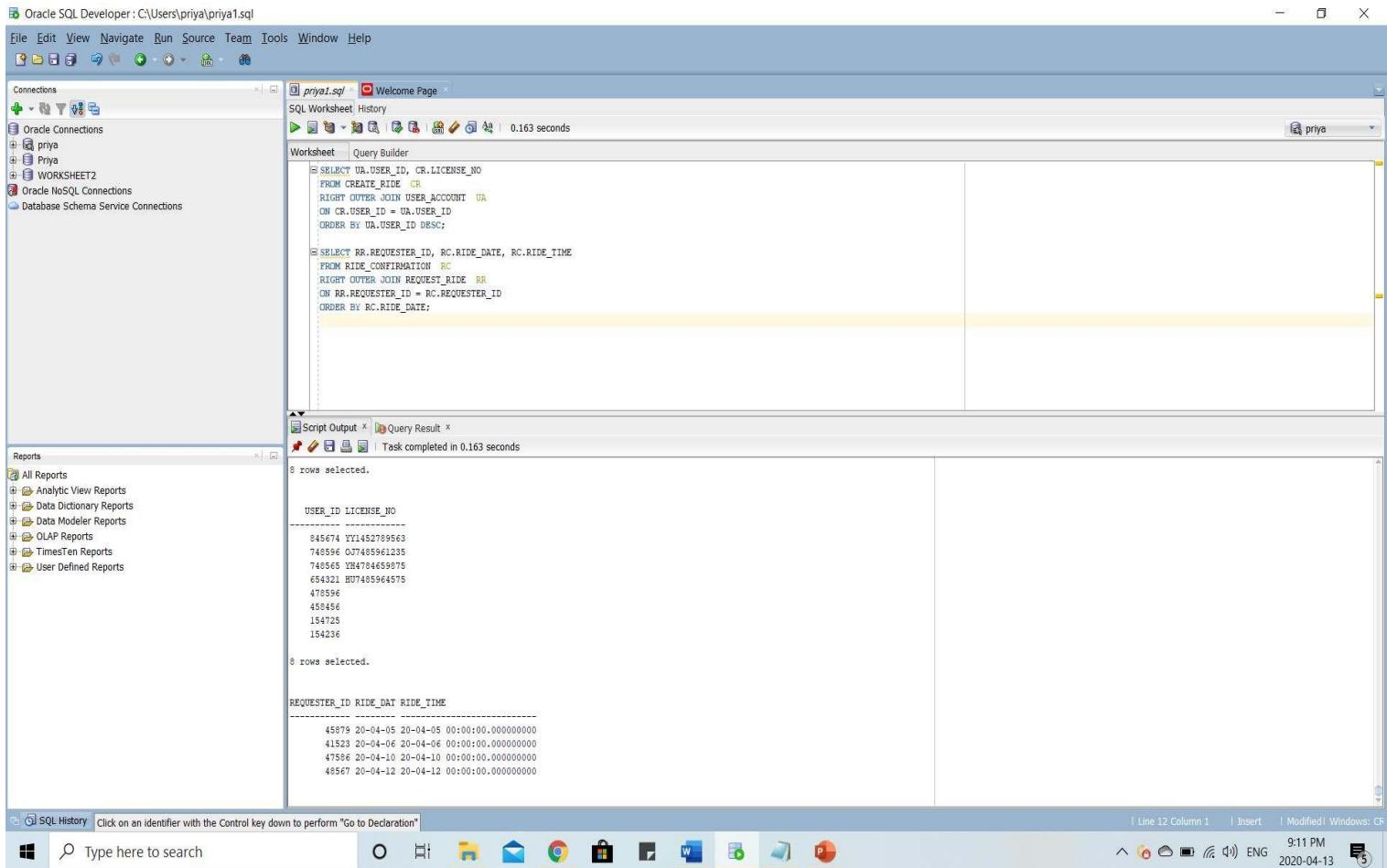
5. Provide the list of all the user id's whether they have any license information or not. List user id and their license numbers.

```
SELECT UA.USER_ID, CR.LICENSE_NO
FROM CREATE_RIDE CR
RIGHT OUTER JOIN USER_ACCOUNT UA
ON CR.USER_ID = UA.USER_ID
ORDER BY UA.USER_ID DESC;
```

6. Provide the list of all the requesters id's whether the ride got confirmed or not. List requester id and if the ride confirmed then list the date and time of confirmation.

```
SELECT RR.REQUESTER_ID, RC.RIDE_DATE, RC.RIDE_TIME
FROM RIDE_CONFIRMATION RC
RIGHT OUTER JOIN REQUEST_RIDE RR
ON RR.REQUESTER_ID = RC.REQUESTER_ID
ORDER BY RC.RIDE_DATE;
```

Output 5 & 6:



The screenshot shows the Oracle SQL Developer interface with two queries run in the Worksheet tab and their results displayed in the Script Output and Query Result tabs.

**Query 1 (Worksheet):**

```
SELECT UA.USER_ID, CR.LICENSE_NO
FROM CREATE_RIDE CR
RIGHT OUTER JOIN USER_ACCOUNT UA
ON CR.USER_ID = UA.USER_ID
ORDER BY UA.USER_ID DESC;
```

**Query 2 (Worksheet):**

```
SELECT RR.REQUESTER_ID, RC.RIDE_DATE, RC.RIDE_TIME
FROM RIDE_CONFIRMATION RC
RIGHT OUTER JOIN REQUEST_RIDE RR
ON RR.REQUESTER_ID = RC.REQUESTER_ID
ORDER BY RC.RIDE_DATE;
```

**Script Output Tab (Results of Query 1):**

```
8 rows selected.

USER_ID LICENSE_NO
-----
845674 YY1452789563
748594 OJ7485961235
748565 YB4784659875
654321 HU7485964575
478596
458456
154725
154236
```

**Query Result Tab (Results of Query 2):**

```
8 rows selected.

REQUESTER_ID RIDE_DATE RIDE_TIME
-----
45879 20-04-05 20-04-05 00:00:00.000000000
41523 20-04-06 20-04-06 00:00:00.000000000
47586 20-04-10 20-04-10 00:00:00.000000000
48567 20-04-12 20-04-12 00:00:00.000000000
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

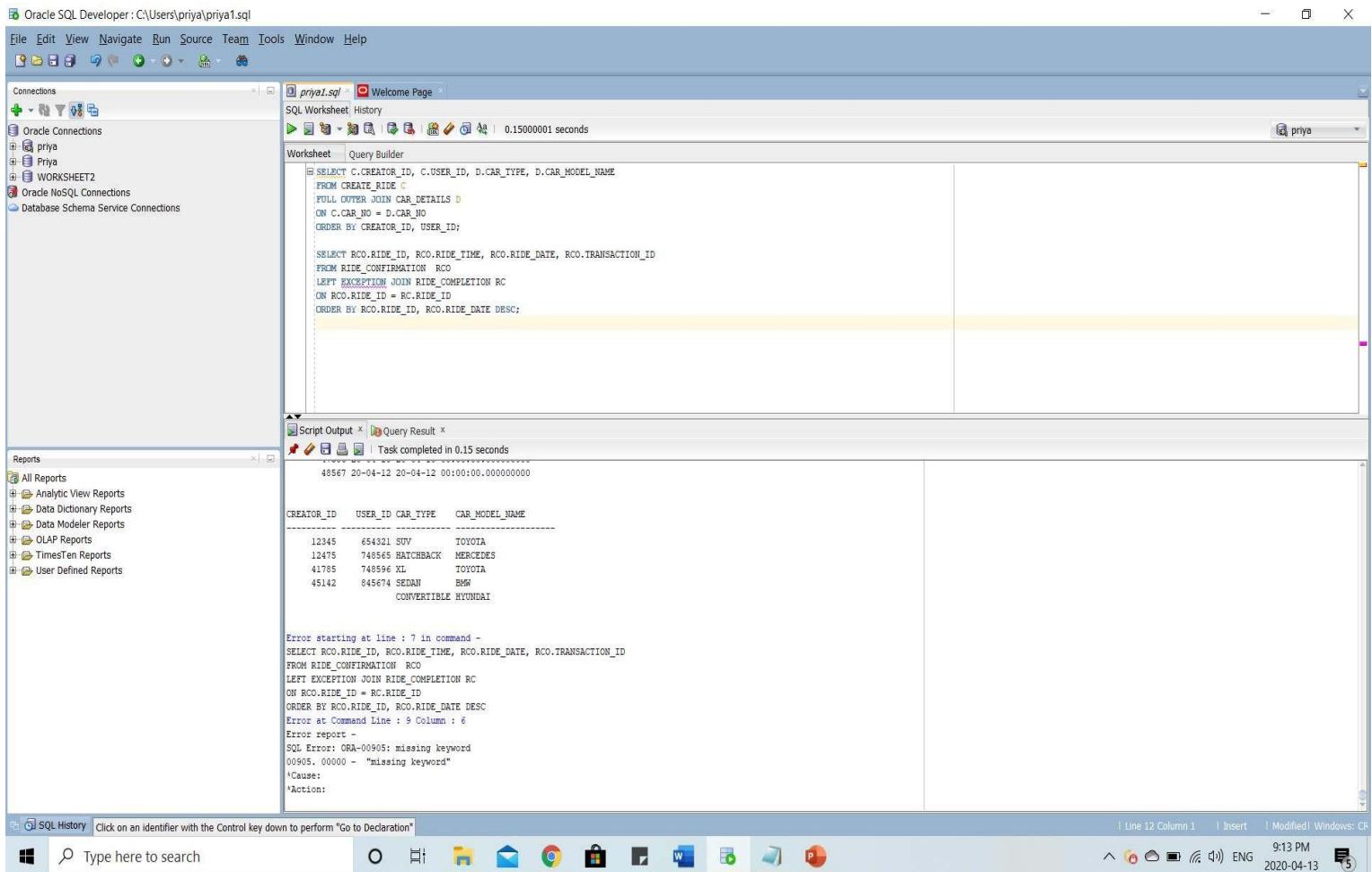
7. Provide the list of creator's id, user id, car type and model name for the users that owns a car order by creator\_id and user\_id.

```
SELECT C.CREATOR_ID, C.USER_ID, D.CAR_TYPE, D.CAR_MODEL_NAME
FROM CREATE_RIDE C
FULL OUTER JOIN CAR_DETAILS D
ON C.CAR_NO = D.CAR_NO
ORDER BY CREATOR_ID, USER_ID;
```

8. Provide the list of all the ride id's which not got completed or got cancelled. List , ride id, date and time of confirmation of ride.

```
SELECT RCO.RIDE_ID, RCO.RIDE_TIME, RCO.RIDE_DATE, RCO.TRANSACTION_ID
FROM RIDE_CONFIRMATION RCO
LEFT EXCEPTION JOIN RIDE_COMPLETION RC
ON RCO.RIDE_ID = RC.RIDE_ID
ORDER BY RCO.RIDE_ID, RCO.RIDE_DATE DESC;
```

Output 7 & 8:



The screenshot shows the Oracle SQL Developer interface with two queries run in separate tabs.

**Query 1 (Tab 1):**

```
SELECT C.CREATOR_ID, C.USER_ID, D.CAR_TYPE, D.CAR_MODEL_NAME
FROM CREATE_RIDE C
FULL OUTER JOIN CAR_DETAILS D
ON C.CAR_NO = D.CAR_NO
ORDER BY CREATOR_ID, USER_ID;
```

**Query 2 (Tab 2):**

```
SELECT RCO.RIDE_ID, RCO.RIDE_TIME, RCO.RIDE_DATE, RCO.TRANSACTION_ID
FROM RIDE_CONFIRMATION RCO
LEFT EXCEPTION JOIN RIDE_COMPLETION RC
ON RCO.RIDE_ID = RC.RIDE_ID
ORDER BY RCO.RIDE_ID, RCO.RIDE_DATE DESC;
```

**Script Output (Bottom Left):**

```
48567 20-04-12 20-04-12 00:00:00.000000000
```

**Query Result (Bottom Right):**

CREATOR_ID	USER_ID	CAR_TYPE	CAR_MODEL_NAME
12345	654321	SUV	TOYOTA
12475	748565	HATCHBACK	MERCEDES
41785	748596	XL	TOYOTA
45142	845674	SEDAN	BMW
			CONVERTIBLE HYUNDAI

**Error Message:**

```
Error starting at line : 7 in command -
SELECT RCO.RIDE_ID, RCO.RIDE_TIME, RCO.RIDE_DATE, RCO.TRANSACTION_ID
FROM RIDE_CONFIRMATION RCO
LEFT EXCEPTION JOIN RIDE_COMPLETION RC
ON RCO.RIDE_ID = RC.RIDE_ID
ORDER BY RCO.RIDE_ID, RCO.RIDE_DATE DESC
Error at Command Line : 9 Column : 6
Error report -
SQL Error: ORA-00905: missing keyword
00905. 00000 -  "missing keyword"
*Cause:
*Action:
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

9. Provide the list of all the user id's who are not requestors. List , user id, first name, last name, contact , requester id's.

```
SELECT UA.USER_ID, UA.FIRST_NAME, UA.LAST_NAME, UA.CONTACT, RR.REQUESTER_ID
FROM USER_ACCOUNT UA
LEFT EXCEPTION JOIN REQUEST_RIDE RR ON UA.USER_ID = RR.USER_ID
ORDER BY UA.USER_ID;
```

10. Provide the list of all the ride id's which not got cancelled or got confirmed. List , ride id, date and time of confirmation of ride.

```
SELECT R.RIDE_ID, R.RIDE_TIME, R.RIDE_DATE, RC.TRANSACTION_ID
FROM RIDE_COMPLETION RC
RIGHT EXCEPTION JOIN RIDE_CONFIRMATION R ON R.RIDE_ID = RC.RIDE_ID
ORDER BY R.RIDE_ID;
```

11. Provide the list of all the user id's who are not creators. List , user id, first name, last name, contact , creator id's.

```
SELECT UA.USER_ID, UA.FIRST_NAME, UA.LAST_NAME, UA.CONTACT, CR.REQUESTER_ID
FROM CREATE_RIDE CR
RIGHT EXCEPTION JOIN USER_ACCOUNT UA ON CR.USER_ID = UA.USER_ID
ORDER BY UA.USER_ID DESC;
```

Output 9, 10 & 11:

```
priya1.sql
SELECT UA.USER_ID, UA.FIRST_NAME, UA.LAST_NAME, UA.CONTACT, RR.REQUESTER_ID
FROM USER_ACCOUNT UA
LEFT EXCEPTION JOIN REQUEST_RIDE RR ON UA.USER_ID = RR.USER_ID
ORDER BY UA.USER_ID;

SELECT R.RIDE_ID, R.RIDE_TIME, R.RIDE_DATE, RC.TRANSACTION_ID
FROM RIDE_COMPLETION RC
RIGHT EXCEPTION JOIN RIDE_CONFIRMATION R ON R.RIDE_ID = RC.RIDE_ID
ORDER BY R.RIDE_ID;

SELECT UA.USER_ID, UA.FIRST_NAME, UA.LAST_NAME, UA.CONTACT, CR.REQUESTER_ID
FROM CREATE_RIDE CR
RIGHT EXCEPTION JOIN USER_ACCOUNT UA ON CR.USER_ID = UA.USER_ID
ORDER BY UA.USER_ID DESC;

Script Output | Query Result | Task completed in 0.241 seconds
Error at Command Line : 3 Column : 6
Error report -
SQL Error: ORA-00905: missing keyword
00905. 00000 - "missing keyword"
*Cause:
*Action:

Error starting at line : 6 in command -
SELECT R.RIDE_ID, R.RIDE_TIME, R.RIDE_DATE, RC.TRANSACTION_ID
FROM RIDE_COMPLETION RC
RIGHT EXCEPTION JOIN RIDE_CONFIRMATION R ON R.RIDE_ID = RC.RIDE_ID
ORDER BY R.RIDE_ID
Error at Command Line : 8 Column : 7
Error report -
SQL Error: ORA-00905: missing keyword
00905. 00000 - "missing keyword"
*Cause:
*Action:

Error starting at line : 11 in command -
SELECT UA.USER_ID, UA.FIRST_NAME, UA.LAST_NAME, UA.CONTACT, CR.REQUESTER_ID
FROM CREATE_RIDE CR
RIGHT EXCEPTION JOIN USER_ACCOUNT UA ON CR.USER_ID = UA.USER_ID
ORDER BY UA.USER_ID DESC
Error at Command Line : 13 Column : 7
Error report -
SQL Error: ORA-00905: missing keyword
00905. 00000 - "missing keyword"
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

12. Provides source and destination zip code, source and destination city and route fare from route details where route fare is greater than equal to 40.

```
SELECT R.SOURCE_ZIP_CODE, S.SOURCE_CITY,
R.DESTINATION_ZIP_CODE, D.DESTINATION_CITY, R.ROUTE_FARE
FROM ROUTE_DETAILS R
INNER JOIN SOURCE_LOCATION S
ON S.SOURCE_ZIP_CODE = R.SOURCE_ZIP_CODE
INNER JOIN DESTINATION_LOCATION D
ON R.DESTINATION_ZIP_CODE = D.DESTINATION_ZIP_CODE
WHERE R.ROUTE_FARE >= 40;
```

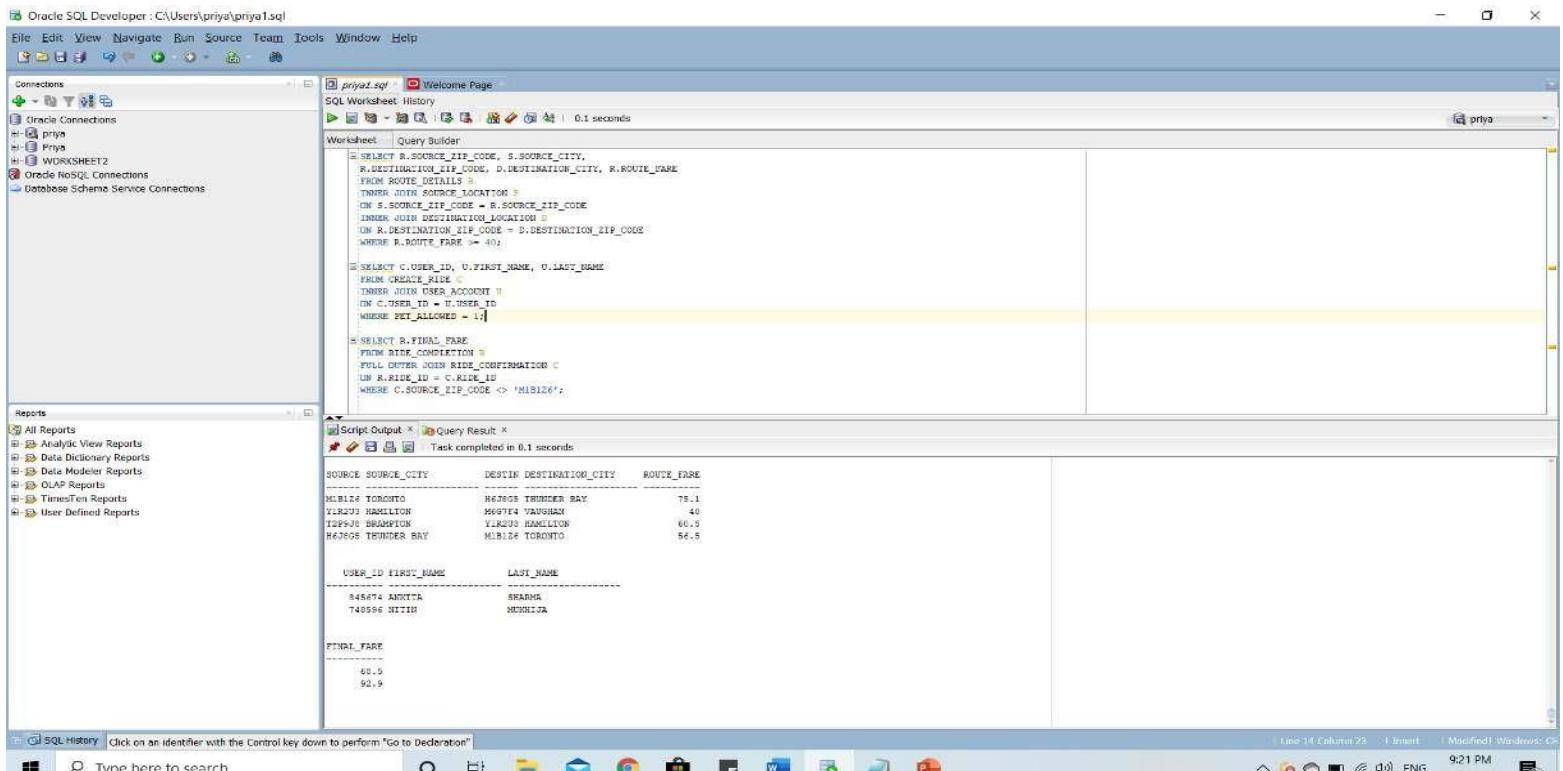
13. Provides user id, first name, last name from create ride and user account where pet allowed is 1.

```
SELECT C.USER_ID, U.FIRST_NAME, U.LAST_NAME
FROM CREATE_RIDE C
INNER JOIN USER_ACCOUNT U
ON C.USER_ID = U.USER_ID
WHERE PET_ALLOWED = 1;
```

14. Provides final fare from ride completion and ride confirmation where source zip code is not equal to 'M1B1Z6'.

```
SELECT R.FINAL_FARE
FROM RIDE_COMPLETION R
FULL OUTER JOIN RIDE_CONFIRMATION C
ON R.RIDE_ID = C.RIDE_ID
WHERE C.SOURCE_ZIP_CODE <> 'M1B1Z6';
```

Output 12, 13 & 14:



The screenshot shows the Oracle SQL Developer interface with three queries run in separate panes:

- Query 1 (Top):** Selects source and destination zip codes, cities, and route fares from ROUTE\_DETAILS, JOINED with SOURCE\_LOCATION and DESTINATION\_LOCATION, filtering by route fare >= 40.
- Query 2 (Middle):** Selects user id, first name, and last name from CREATE\_RIDE and USER\_ACCOUNT, filtered by PET\_ALLOWED = 1.
- Query 3 (Bottom):** Selects FINAL\_FARE from RIDE\_COMPLETION and RIDE\_CONFIRMATION, filtered by C.SOURCE\_ZIP\_CODE <> 'M1B1Z6'.

The results pane displays the output for each query:

SOURCE_ZIP_CODE	SOURCE_CITY	DESTINATION_ZIP_CODE	DESTINATION_CITY	ROUTE_FARE
M1B1Z6	TORONTO	M6J9S3	THUNDER BAY	78.1
T1L2V3	HAMILTON	M6V3T4	VANCOUVER	40
T1P2V0	BRAMPTON	T1R2V0	HAMILTON	60.5
M6J0S6	THUNDER BAY	M1B1Z6	TORONTO	54.5

USER_ID	FIRST_NAME	LAST_NAME
845674	ANITA	SHARMA
740596	NITIN	MEHTA

FINAL_FARE
60.5
54.5

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

## **B. AGGREGATE FUNCTIONS BASED QUERIES USING GROUP BY AND HAVING KEYWORDS:**

### **AVERAGE (AVG)**

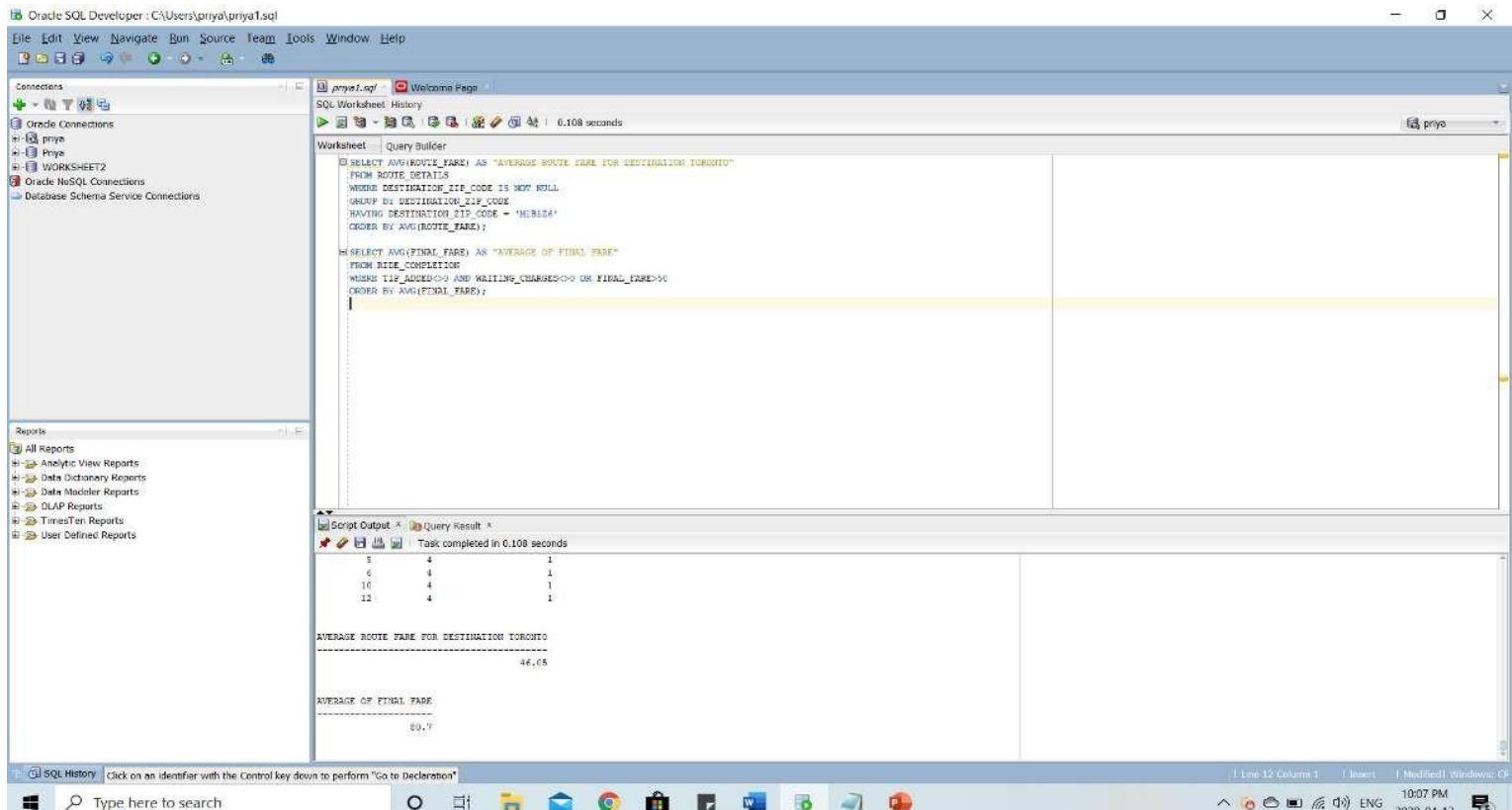
- Provides average of route fare as "average route fare for destination Toronto" from route details where destination zip code is not null and is 'M1B1Z6'.

```
SELECT AVG(ROUTE_FARE) AS "AVERAGE ROUTE FARE FOR DESTINATION TORONTO"
FROM ROUTE_DETAILS
WHERE DESTINATION_ZIP_CODE IS NOT NULL
GROUP BY DESTINATION_ZIP_CODE
HAVING DESTINATION_ZIP_CODE = 'M1B1Z6'
ORDER BY AVG(ROUTE_FARE);
```

- Provides average of final fare as "average of final fare" from ride completion where tip added and waiting charges are not zero OR final fare is greater than 50.

```
SELECT AVG(FINAL_FARE) AS "AVERAGE OF FINAL FARE"
FROM RIDE_COMPLETION
WHERE TIP_ADDED<>0 AND WAITING_CHARGES<>0 OR FINAL_FARE>50
ORDER BY AVG(FINAL_FARE);
```

Output 1 & 2:



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help. The left sidebar has sections for Connections (with Oracle Connections, WORKSHEET1, and Oracle NoSQL Connections), Reports (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports), and SQL History. The main area has a 'prya1.sql' file open in the Worksheet tab. The worksheet contains two SQL queries. The first query selects the average route fare for destination Toronto, grouped by destination zip code, having destination zip code as 'M1B1Z6'. The second query selects the average of final fare from ride completion, filtering by tip added or waiting charges not equal to zero, or final fare greater than 50. Both queries are run and show results in the Script Output tab. The output for the first query shows a single row with values 5, 4, and 1. The output for the second query shows a single row with values 46.65 and 60.7.

```
SELECT AVG(ROUTE_FARE) AS "AVERAGE ROUTE FARE FOR DESTINATION TORONTO"
FROM ROUTE_DETAILS
WHERE DESTINATION_ZIP_CODE IS NOT NULL
GROUP BY DESTINATION_ZIP_CODE
HAVING DESTINATION_ZIP_CODE = 'M1B1Z6'
ORDER BY AVG(ROUTE_FARE);

SELECT AVG(FINAL_FARE) AS "AVERAGE OF FINAL FARE"
FROM RIDE_COMPLETION
WHERE TIP_ADDED<>0 AND WAITING_CHARGES<>0 OR FINAL_FARE>50
ORDER BY AVG(FINAL_FARE);
```

5	4	1
10	4	1
12	4	1

AVERAGE ROUTE FARE FOR DESTINATION TORONTO

-----

46.65

AVERAGE OF FINAL FARE

-----

60.7

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

## COUNT

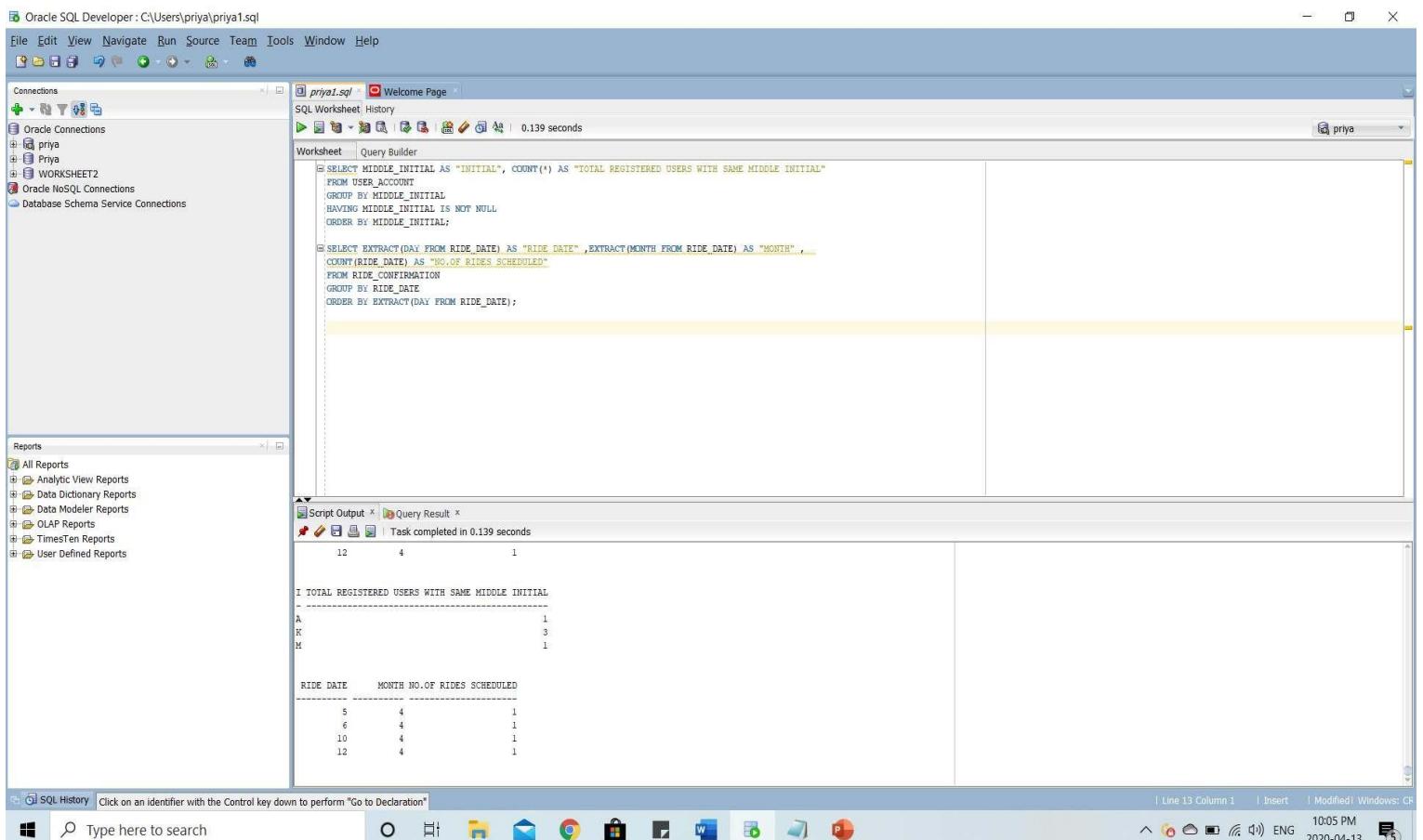
- Provides middle initial and count of middle initial as “total registered users with same middle initial” from user account, group by middle initial and it is not null.

```
SELECT MIDDLE_INITIAL AS "INITIAL", COUNT(*) AS "TOTAL REGISTERED USERS WITH SAME MIDDLE INITIAL"
FROM USER_ACCOUNT
GROUP BY MIDDLE_INITIAL
HAVING MIDDLE_INITIAL IS NOT NULL
ORDER BY MIDDLE_INITIAL;
```

- Provides ride date, month of the ride date as “month” and count number of rises scheduled from ride confirmation, group by ride date.

```
SELECT EXTRACT(DAY FROM RIDE_DATE) AS "RIDE DATE", EXTRACT(MONTH FROM RIDE_DATE) AS "MONTH",
COUNT(RIDE_DATE) AS "NO.OF RIDES SCHEDULED"
FROM RIDE_CONFIRMATION
GROUP BY RIDE_DATE
ORDER BY EXTRACT(DAY FROM RIDE_DATE);
```

Output 3 & 4:



The screenshot shows the Oracle SQL Developer interface with two queries run in the Worksheet tab.

**Query 1 (Top):**

```
SELECT MIDDLE_INITIAL AS "INITIAL", COUNT(*) AS "TOTAL REGISTERED USERS WITH SAME MIDDLE INITIAL"
FROM USER_ACCOUNT
GROUP BY MIDDLE_INITIAL
HAVING MIDDLE_INITIAL IS NOT NULL
ORDER BY MIDDLE_INITIAL;
```

**Query 2 (Bottom):**

```
SELECT EXTRACT(DAY FROM RIDE_DATE) AS "RIDE DATE", EXTRACT(MONTH FROM RIDE_DATE) AS "MONTH",
COUNT(RIDE_DATE) AS "NO.OF RIDES SCHEDULED"
FROM RIDE_CONFIRMATION
GROUP BY RIDE_DATE
ORDER BY EXTRACT(DAY FROM RIDE_DATE);
```

**Script Output (Bottom Left):**

RIDE DATE	MONTH	NO.OF RIDES SCHEDULED
5	4	1
6	4	1
10	4	1
12	4	1

**Query Result (Bottom Right):**

INITIAL	TOTAL REGISTERED USERS WITH SAME MIDDLE INITIAL
A	1
K	3
M	1

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**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

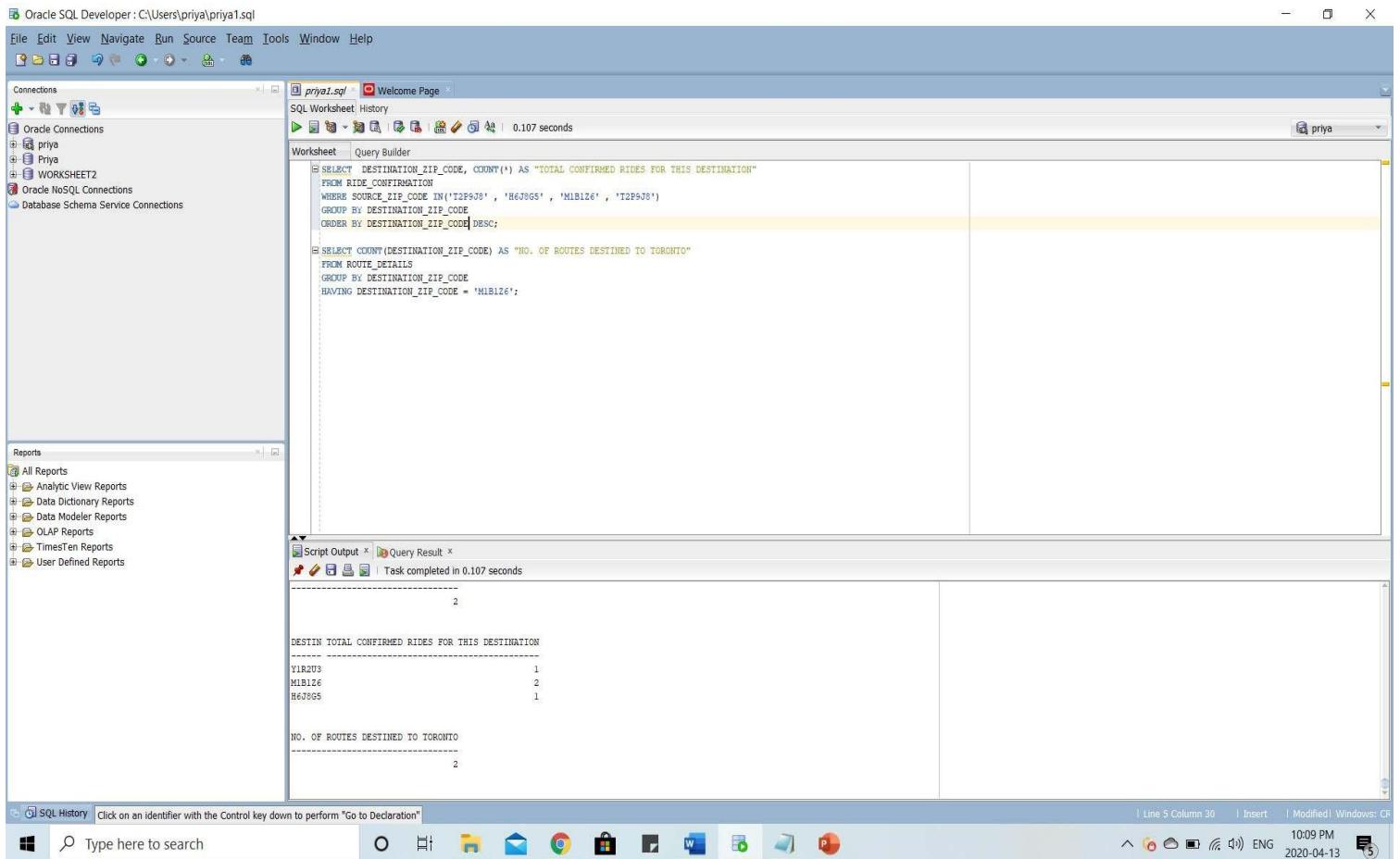
5. Provides destination zip code and total count of rows as "total confirmed rides for the destination" from ride confirmation where source zip code is in 'T2P9J8' , 'H6J8G5' , 'M1B1Z6' , 'T2P9J8'), and group by destination zip code.

```
SELECT DESTINATION_ZIP_CODE, COUNT(*) AS "TOTAL CONFIRMED RIDES FOR THIS DESTINATION"
FROM RIDE_CONFIRMATION
WHERE SOURCE_ZIP_CODE IN('T2P9J8', 'H6J8G5', 'M1B1Z6', 'T2P9J8')
GROUP BY DESTINATION_ZIP_CODE
ORDER BY DESTINATION_ZIP_CODE DESC;
```

6. Provides count of destination zip code as "no of routes destined to toronto" from route details, group by destination zip code and having 'M1B1Z6'.

```
SELECT COUNT(DESTINATION_ZIP_CODE) AS "NO. OF ROUTES DESTINED TO TORONTO"
FROM ROUTE_DETAILS
GROUP BY DESTINATION_ZIP_CODE
HAVING DESTINATION_ZIP_CODE = 'M1B1Z6';
```

Output 5 & 6:



The screenshot shows the Oracle SQL Developer interface with two queries entered in the Worksheet tab and their results displayed in the Script Output tab.

**Worksheet Tab:**

```
SELECT DESTINATION_ZIP_CODE, COUNT(*) AS "TOTAL CONFIRMED RIDES FOR THIS DESTINATION"
FROM RIDE_CONFIRMATION
WHERE SOURCE_ZIP_CODE IN('T2P9J8', 'H6J8G5', 'M1B1Z6', 'T2P9J8')
GROUP BY DESTINATION_ZIP_CODE
ORDER BY DESTINATION_ZIP_CODE DESC;

SELECT COUNT(DESTINATION_ZIP_CODE) AS "NO. OF ROUTES DESTINED TO TORONTO"
FROM ROUTE_DETAILS
GROUP BY DESTINATION_ZIP_CODE
HAVING DESTINATION_ZIP_CODE = 'M1B1Z6';
```

**Script Output Tab:**

```
2

DESTIN TOTAL CONFIRMED RIDES FOR THIS DESTINATION
-----
Y1R2D3      1
M1B1Z6      2
H6J8G5      1

NO. OF ROUTES DESTINED TO TORONTO
-----
2
```

*Program Title:* Computer Software and Database Development  
*Course Title:* Database Design and SQL  
*Project Title:* Car Pooling System

### MAX

7. Provides the maximum route fare as “maximum fare among all available routes” from route details.

```
SELECT MAX(ROUTE_FARE) AS "MAXIMUM FARE AMONG ALL AVAILABLE ROUTES"
FROM ROUTE_DETAILS
ORDER BY MAX(ROUTE_FARE);
```

8. Provides source zip code, maximum of route fare as “maximum fare for a route consisting of Brampton” from route details where source code is ‘T2P9J8’ or destination code is ‘T2P9J8’.

```
SELECT SOURCE_ZIP_CODE, MAX(ROUTE_FARE) AS "MAXIMUM FARE FOR A ROUTE CONSISTING OF BRAMPTON"
FROM ROUTE_DETAILS
WHERE SOURCE_ZIP_CODE = 'T2P9J8' OR DESTINATION_ZIP_CODE = 'T2P9J8'
GROUP BY SOURCE_ZIP_CODE
HAVING SOURCE_ZIP_CODE = 'T2P9J8';
```

9. Provides source zip code, maximum route fare as “maximum fare for a route consisting of Toronto” from route details where source zip code or destination zip code is ‘M1B1Z6’.

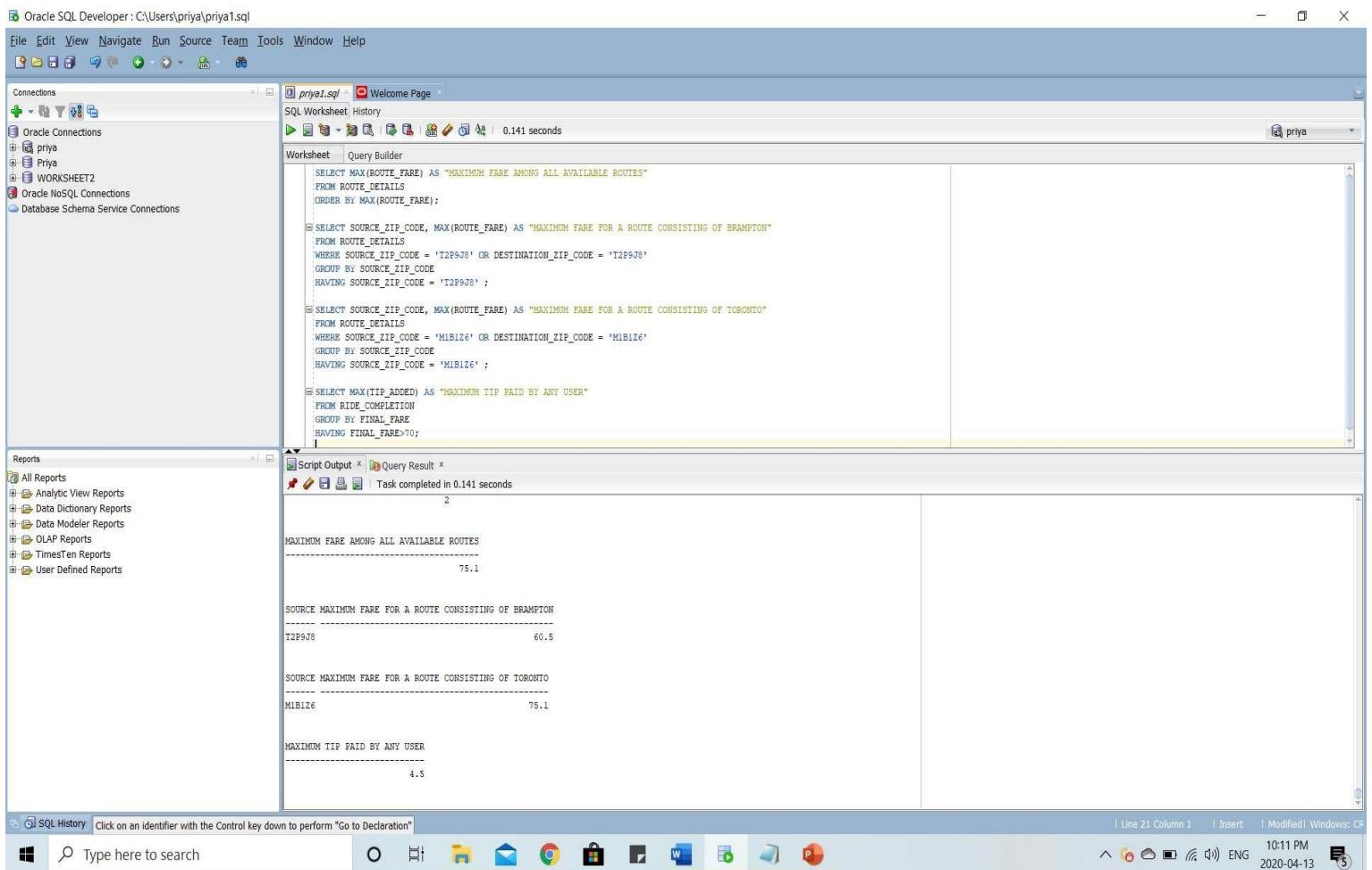
```
SELECT SOURCE_ZIP_CODE, MAX(ROUTE_FARE) AS "MAXIMUM FARE FOR A ROUTE CONSISTING OF TORONTO"
FROM ROUTE_DETAILS
WHERE SOURCE_ZIP_CODE = 'M1B1Z6' OR DESTINATION_ZIP_CODE = 'M1B1Z6'
GROUP BY SOURCE_ZIP_CODE
HAVING SOURCE_ZIP_CODE = 'M1B1Z6';
```

10. Provides maximum tip added as “maximum tip paid by any user” from ride completion and group by final fare and is greater than 70.

```
SELECT MAX(TIP_ADDED) AS "MAXIMUM TIP PAID BY ANY USER"
FROM RIDE_COMPLETION
GROUP BY FINAL_FARE
HAVING FINAL_FARE>70;
```

Output 7,8,9 & 10;

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System



The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The title bar indicates the file is 'priya1.sql'. The left sidebar shows 'Connections' with entries for 'priya', 'Priya', 'WORKSHEET2', and 'Database Schema Service Connections'. The main area has tabs for 'Worksheet' and 'Query Builder', with 'Worksheet' selected. The query window contains the following SQL code:

```

SELECT MAX(ROUTE_FARE) AS "MAXIMUM FARE AMONG ALL AVAILABLE ROUTES"
FROM ROUTE_DETAILS
ORDER BY MAX(ROUTE_FARE);

SELECT SOURCE_ZIP_CODE, MAX(ROUTE_FARE) AS "MAXIMUM FARE FOR A ROUTE CONSISTING OF BRAMPTON"
FROM ROUTE_DETAILS
WHERE SOURCE_ZIP_CODE = 'T2P9J8' OR DESTINATION_ZIP_CODE = 'T2P9J8'
GROUP BY SOURCE_ZIP_CODE
HAVING SOURCE_ZIP_CODE = 'T2P9J8';

SELECT SOURCE_ZIP_CODE, MAX(ROUTE_FARE) AS "MAXIMUM FARE FOR A ROUTE CONSISTING OF TORONTO"
FROM ROUTE_DETAILS
WHERE SOURCE_ZIP_CODE = 'M1B1Z6' OR DESTINATION_ZIP_CODE = 'M1B1Z6'
GROUP BY SOURCE_ZIP_CODE
HAVING SOURCE_ZIP_CODE = 'M1B1Z6';

SELECT MAX(TIP_ADDED) AS "MAXIMUM TIP PAID BY ANY USER"
FROM RIDE_COMPLETION
GROUP BY FINAL_FARE
HAVING FINAL_FARE>70;

```

The 'Script Output' tab shows the results of the query execution:

```

MAXIMUM FARE AMONG ALL AVAILABLE ROUTES
-----
75.1

SOURCE MAXIMUM FARE FOR A ROUTE CONSISTING OF BRAMPTON
-----
T2P9J8          60.5

SOURCE MAXIMUM FARE FOR A ROUTE CONSISTING OF TORONTO
-----
M1B1Z6          75.1

MAXIMUM TIP PAID BY ANY USER
-----
4.5

```

The bottom status bar shows 'SQL History', 'Click on an identifier with the Control key down to perform "Go to Declaration"', 'Line 21 Column 1', 'Insert', 'Modified', 'Windows: CR', 'Type here to search', and system information: '10:11 PM 2020-04-13 ENG'.

## MIN

11. Provides minimum route fare as “minimum fare among all available routes” from route details.

```
SELECT MIN(ROUTE_FARE) AS "MINIMUM FARE AMONG ALL AVAILABLE ROUTES"
FROM ROUTE_DETAILS;
```

12. Provides minimum cancellation fee as “minimum cancellation fee of cancelled rides” from ride cancellation.

```
SELECT MIN(CANCELLATION_FEE) AS "MINIMUM CANCELLATION FEE OF CANCELLED RIDES"
FROM RIDE_CANCELLATION;
```

Output 11 & 12:

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

The screenshot shows the Oracle SQL Developer interface. In the top right, the title bar says "Oracle SQL Developer : C:\Users\priya\priya1.sql". The menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help. The toolbar has various icons for file operations. On the left, there's a "Connections" sidebar with "Oracle Connections" expanded, showing "priya", "Priya", and "WORKSHEET2". Below it is a "Reports" sidebar with "All Reports" expanded, listing Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, and User Defined Reports. The main workspace has a "priya1.sql" tab open in the top center. The "Worksheet" tab is selected, showing two queries:

```

SELECT MIN(ROUTE_FARE) AS "MINIMUM FARE AMONG ALL AVAILABLE ROUTES"
FROM ROUTE_DETAILS;

SELECT MIN(CANCELLATION_FEE) AS "MINIMUM CANCELLATION FEE OF CANCELLED RIDES"
FROM RIDE_CANCELLATION;

```

Below the worksheet is the "Script Output" pane, which displays the results of the queries:

```

MINIMUM FARE AMONG ALL AVAILABLE ROUTES
-----
35.6

MINIMUM CANCELLATION FEE OF CANCELLED RIDES
-----
15

```

At the bottom, the status bar shows "SQL History", "Click on an identifier with the Control key down to perform "Go to Declaration"" (in blue), "Line 2 Column 19", "Insert", "Modified", "Windows: CR", and the date and time "10:17 PM 2020-04-13".

## SUM

13. Provides sum of final fare as “sum of all fares for completed ride” from ride completion.

```

SELECT SUM(FINAL_FARE) AS "SUM OF ALL FARES FOR COMPLETED RIDE"
FROM RIDE_COMPLETION
ORDER BY ride_id;

```

14. Provides sum of tip added as “total amount of tip” and sum of waiting charges as “total waiting charges” from ride completion.

```

SELECT SUM(TIP_ADDED) AS "TOTAL AMOUNT OF TIP",
SUM(WAITING_CHARGES) AS "TOTAL WAITING CHARGES"
FROM RIDE_COMPLETION
ORDER BY WAITING_CHARGES;

```

15. Provides sum of cancellation fee as “total amount of cancellation fee” from ride cancellation.

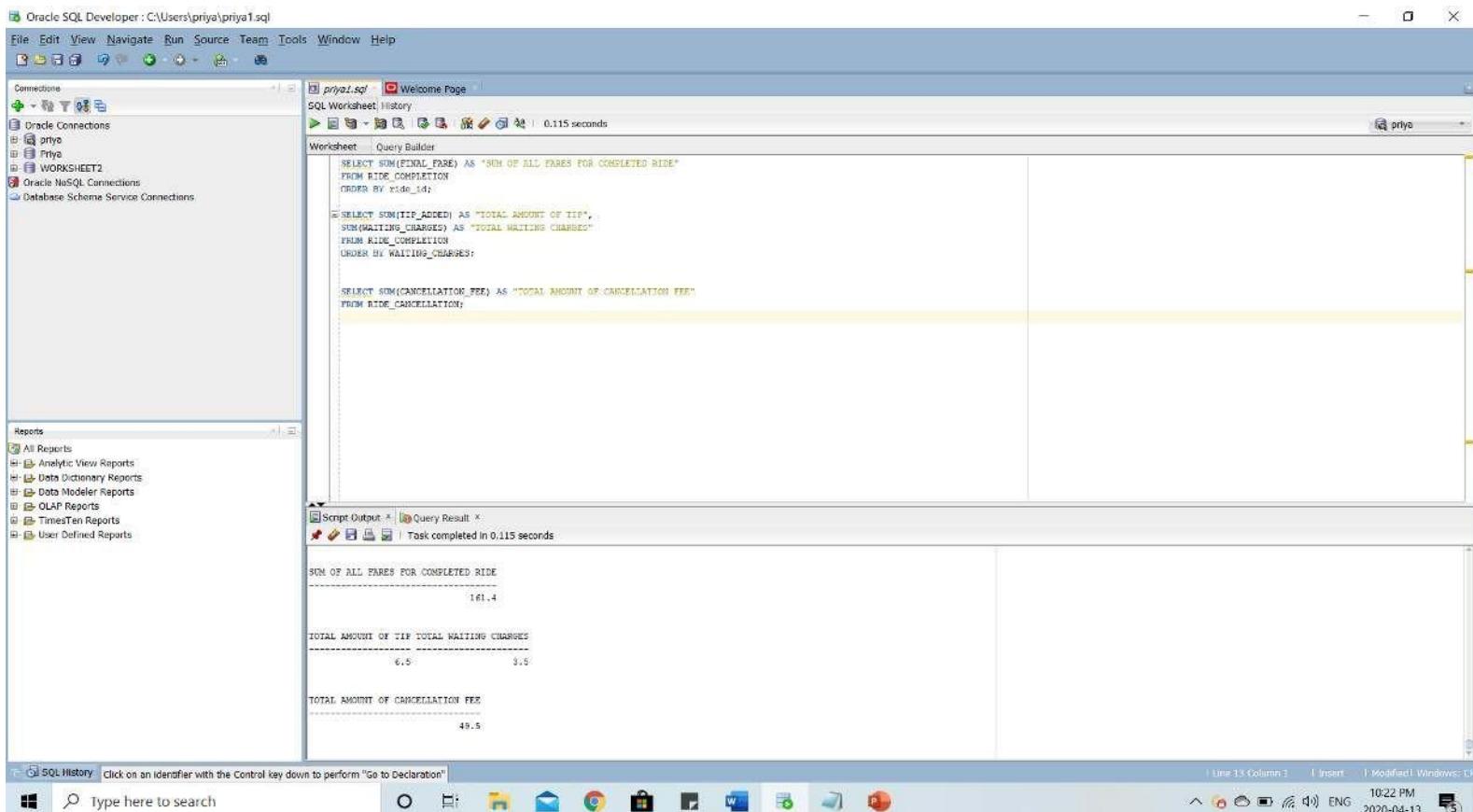
```

SELECT SUM(CANCELLATION_FEE) AS "TOTAL AMOUNT OF CANCELLATION FEE"
FROM RIDE_CANCELLATION;

```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

Output 13, 14 & 15:



The screenshot shows the Oracle SQL Developer interface with three tabs open in the Worksheet pane:

- Query Builder:** Contains three SQL statements:
 

```
SELECT SUM(FINAL_FARE) AS "SUM OF ALL FARES FOR COMPLETED RIDE"
FROM RIDE_COMPLETION
ORDER BY ride_id;
```

```
SELECT SUM(TIP_AMOUNT) AS "TOTAL AMOUNT OF TIP",
SUM(WAITING_CHARGES) AS "TOTAL WAITING CHARGES"
FROM RIDE_COMPLETION
ORDER BY WAITING_CHARGES;
```

```
SELECT SUM(CANCELLATION_FEE) AS "TOTAL AMOUNT OF CANCELLATION FEE"
FROM RIDE_CANCELLATION;
```
- Script Output:** Shows the results of the first query:
 

```
SUM OF ALL FARES FOR COMPLETED RIDE
-----
181.4
```
- Query Result:** Shows the results of the second query:
 

```
TOTAL AMOUNT OF TIP TOTAL WAITING CHARGES
-----
61.5          3.5
```

The bottom status bar indicates the task completed in 0.115 seconds.

C.

## SUBQUERIES BASED QUERIES:

- Provides source and destination zip codes, source city ,destination city and route fare from route details and source location and destination location where route fare is greater than equal to the average route fare.

```
SELECT R.SOURCE_ZIP_CODE, S.SOURCE_CITY, R.DESTINATION_ZIP_CODE, D.DESTINATION_CITY, R.ROUTE_FARE
FROM ROUTE_DETAILS R
INNER JOIN SOURCE_LOCATION S ON S.SOURCE_ZIP_CODE = R.SOURCE_ZIP_CODE
INNER JOIN DESTINATION_LOCATION D ON R.DESTINATION_ZIP_CODE = D.DESTINATION_ZIP_CODE
WHERE R.ROUTE_FARE >= (SELECT AVG(ROUTE_FARE) FROM ROUTE_DETAILS)
ORDER BY S.SOURCE_CITY DESC;
```

- Provides first name, last name, email and contact from user account Using exists (where at least one row exists in create ride table).

```
SELECT U.FIRST_NAME, U.LAST_NAME, U.EMAIL, U.CONTACT
FROM USER_ACCOUNT U
WHERE EXISTS (SELECT * FROM CREATE_RIDE C WHERE U.USER_ID = C.USER_ID)
ORDER BY U.FIRST_NAME, U.LAST_NAME;
```

**Program Title:** Computer Software and Database Development  
**Course Title:** Database Design and SQL  
**Project Title:** Car Pooling System

3. Provides first name, last name, email, contact from user account where the user is a requestor (user id lies in the table request ride).

```
SELECT FIRST_NAME, LAST_NAME, EMAIL, CONTACT  
FROM USER_ACCOUNT  
WHERE USER_ID IN(SELECT USER_ID FROM REQUEST_RIDE)  
ORDER BY FIRST_NAME DESC, LAST_NAME;
```

## Output 1, 2, & 3:

The screenshot shows the Oracle SQL Developer interface. The top menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The left sidebar displays connections under Oracle Connections (Priya, WORKSHEET2), Oracle NoSQL Connections, and Database Schema Service Connections. The main workspace has tabs for priya1.sql and Welcome Page. The Worksheet pane contains three queries:

```
SELECT R.SOURCE_ZIP_CODE, S.SOURCE_CITY, R.DESTINATION_ZIP_CODE, D.DESTINATION_CITY, R.ROUTE_FARE
FROM ROUTE_DETAILS R
INNER JOIN SOURCE_LOCATION S ON S.SOURCE_ZIP_CODE = R.SOURCE_ZIP_CODE
INNER JOIN DESTINATION_LOCATION D ON R.DESTINATION_ZIP_CODE = D.DESTINATION_ZIP_CODE
WHERE R.ROUTE_FARE >= (SELECT AVG(ROUTE_FARE) FROM ROUTE_DETAILS)
ORDER BY S.SOURCE_CITY DESC;

SELECT U.FIRST_NAME, U.LAST_NAME, U.EMAIL, U.CONTACT
FROM USER_ACCOUNT U
WHERE EXISTS (SELECT * FROM CREATE_RIDE C WHERE U.USER_ID = C.USER_ID)
ORDER BY U.FIRST_NAME, U.LAST_NAME;

SELECT FIRST_NAME, LAST_NAME, EMAIL, CONTACT
FROM USER_ACCOUNT
WHERE USER_ID IN (SELECT USER_ID FROM REQUEST_RIDE)
ORDER BY FIRST_NAME DESC, LAST_NAME;
```

The Script Output pane shows the results of the first query:

SACHIN	MISTRY	SACHINMISTRY@gmail.com	4587456214	
-----	-----	-----	-----	
SOURCE	SOURCE_CITY	DESTIN	DESTINATION_CITY	ROUTE_FARE
-----	-----	-----	-----	-----
M1B1Z6	TORONTO	H6J8G5	THUNDER BAY	75.1
H6J9G5	THUNDER BAY	M1B1Z6	TORONTO	56.5
T2P9J8	BRAMPTON	Y1R2U3	HAMILTON	60.5

The Query Result pane shows the results of the second query:

FIRST_NAME	LAST_NAME	EMAIL	CONTACT
-----	-----	-----	-----
ANKITA	SHARMA	ANKITASHARMA76@gmail.com	7845956231
ANSHU	ANSHU	ANSHUCHLYAN999@gmail.com	4152631485
NIITIN	MUKHLJA	NIITNNUKHILAJA87@gmail.com	5412364574
SUPREET	KAUR	SUPREETKAUR@HOTMAIL.COM	4526317456

The Query Result pane also shows the results of the third query:

FIRST_NAME	LAST_NAME	EMAIL	CONTACT
-----	-----	-----	-----
SACHIN	MISTRY	SACHINMISTRY@gmail.com	4587456214
PRIYA	PRIYA	PRIYAREDI@gmail.com	4559697895
NIITHUSHA	BONDILI	NIITHUSHA8@gmail.com	748456525
ARVIND	GOHEL	ARVINDGOHEL99@gmail.com	6254789535

The bottom status bar includes SQL History, a search bar, and system information like Line 17 Column 1, Insert, Modified, Windows: CR, and a timestamp of 10:31 PM 2020-04-13.

- Provides ride id, creator id, requester id, source zip code, destination zip code from ride confirmation where the rides got cancelled.

```
SELECT RIDE_ID, CREATOR_ID, REQUESTER_ID, SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE  
FROM RIDE_CONFIRMATION  
WHERE RIDE_ID IN (SELECT RIDE_ID FROM RIDE_CANCELLATION GROUP BY RIDE_ID)  
ORDER BY RIDE_ID, CREATOR_ID;
```

- Provides ride id, creator id, requester id, source zip code and destination zip code from ride confirmation where rides got completed.

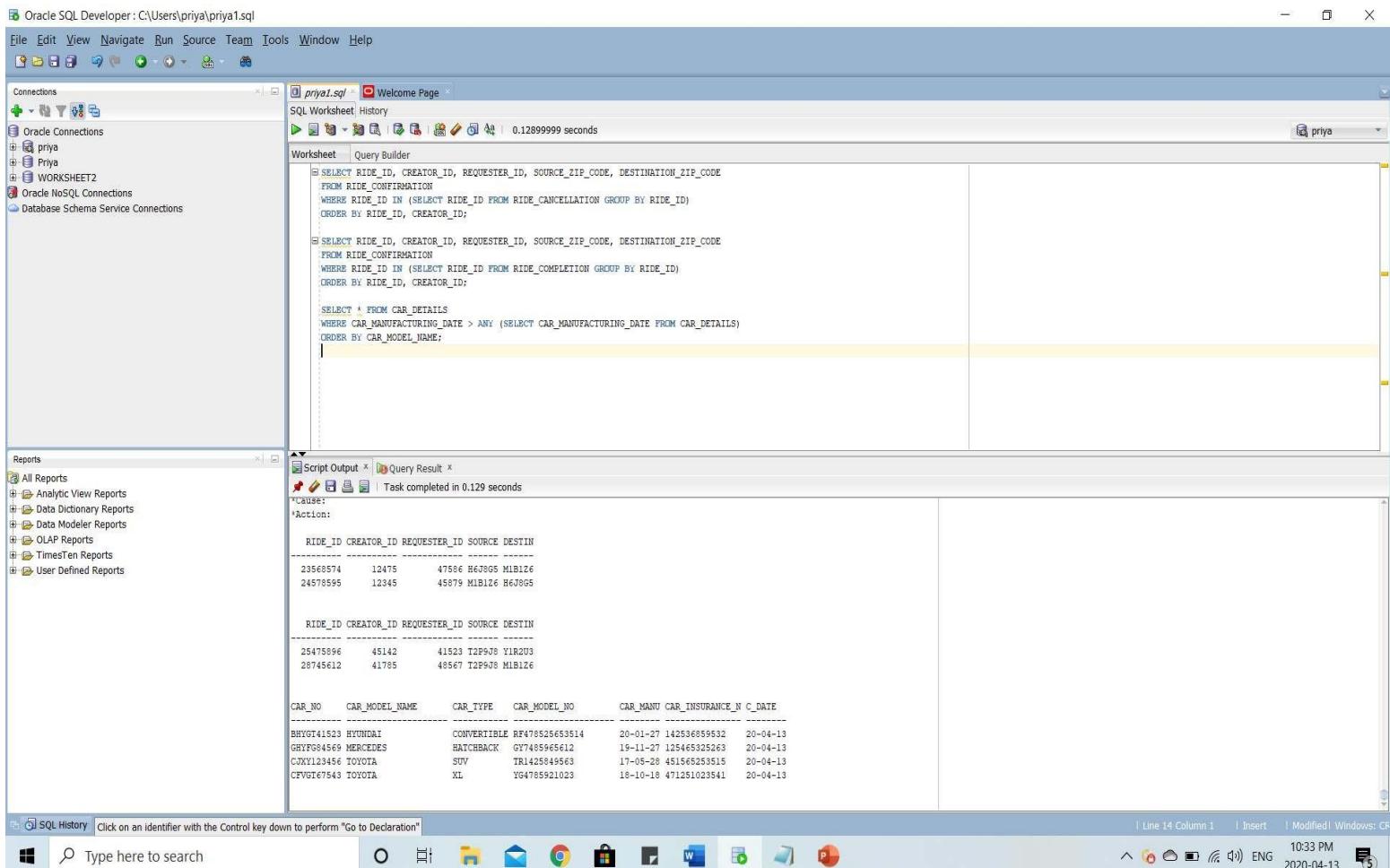
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```
SELECT RIDE_ID, CREATOR_ID, REQUESTER_ID, SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE
FROM RIDE_CONFIRMATION
WHERE RIDE_ID IN (SELECT RIDE_ID FROM RIDE_COMPLETION GROUP BY RIDE_ID)
ORDER BY RIDE_ID, CREATOR_ID;
```

- Provides all rows from car details by using ANY (where car manufacturing date is greater than any of the date in car details)

```
SELECT * FROM CAR_DETAILS
WHERE CAR_MANUFACTURING_DATE > ANY (SELECT CAR_MANUFACTURING_DATE FROM CAR_DETAILS)
ORDER BY CAR_MODEL_NAME;
```

Output 4, 5 & 6:



The screenshot shows the Oracle SQL Developer interface with three queries entered in the Worksheet pane:

```

SELECT RIDE_ID, CREATOR_ID, REQUESTER_ID, SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE
FROM RIDE_CONFIRMATION
WHERE RIDE_ID IN (SELECT RIDE_ID FROM RIDE_COMPLETION GROUP BY RIDE_ID)
ORDER BY RIDE_ID, CREATOR_ID;

SELECT RIDE_ID, CREATOR_ID, REQUESTER_ID, SOURCE_ZIP_CODE, DESTINATION_ZIP_CODE
FROM RIDE_CONFIRMATION
WHERE RIDE_ID IN (SELECT RIDE_ID FROM RIDE_COMPLETION GROUP BY RIDE_ID)
ORDER BY RIDE_ID, CREATOR_ID;

SELECT * FROM CAR_DETAILS
WHERE CAR_MANUFACTURING_DATE > ANY (SELECT CAR_MANUFACTURING_DATE FROM CAR_DETAILS)
ORDER BY CAR_MODEL_NAME;

```

The Script Output pane shows the results of the first two queries:

RIDE_ID	CREATOR_ID	REQUESTER_ID	SOURCE_DESTIN
23568574	12475	47586	H6J9G5 M1B1Z6
24578595	12345	45879	M1B1Z6 H6J9G5

RIDE_ID	CREATOR_ID	REQUESTER_ID	SOURCE_DESTIN
25475896	45142	41523	T2P9J8 YIR2U3
28745612	41785	48567	T2P9J8 M1B1Z6

The Query Result pane shows the results of the third query:

CAR_NO	CAR_MODEL_NAME	CAR_TYPE	CAR_MODEL_NO	CAR_MANU	CAR_INSURANCE_N_C_DATE
BHYGT41523	HYUNDAI	CONVERTIBLE	RF478525653514	20-01-27	14253659532 20-04-13
GHYF84569	MERCEDES	HATCHBACK	GY7455965612	19-11-27	125465325263 20-04-13
CJXY123456	TOYOTA	SUV	TR1425849563	17-05-28	451565253515 20-04-13
CFVG167543	TOYOTA	XL	IG4785921023	18-10-18	471251023541 20-04-13

- Provides user id, first name, last name from create ride from create ride and user account using EXISTS( at least one row exists in license details).

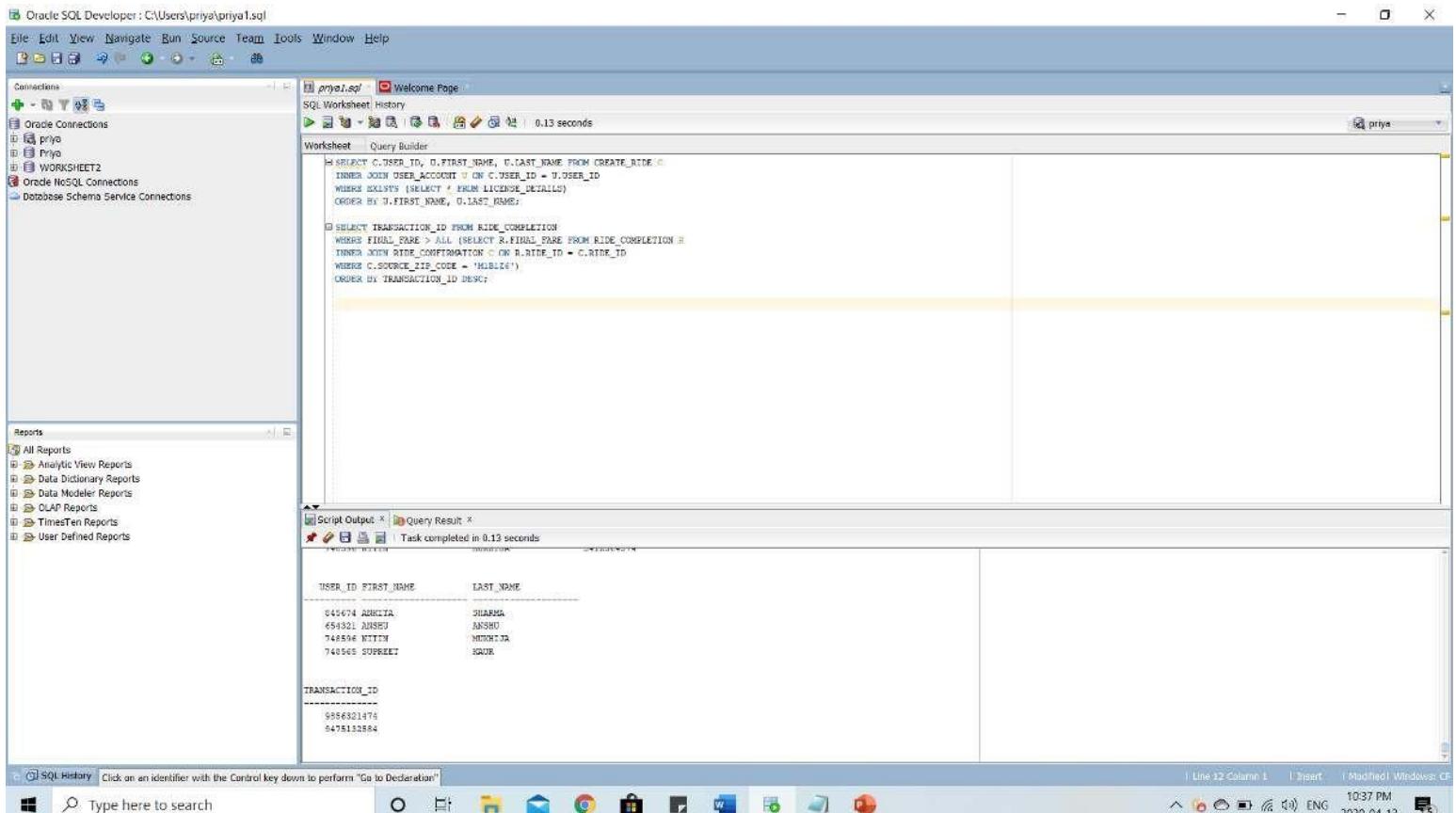
```
SELECT C.USER_ID, U.FIRST_NAME, U.LAST_NAME FROM CREATE_RIDE C
INNER JOIN USER_ACCOUNT U ON C.USER_ID = U.USER_ID
WHERE EXISTS (SELECT * FROM LICENSE_DETAILS)
ORDER BY U.FIRST_NAME, U.LAST_NAME;
```

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8. Provides transaction id from ride completion using ALL (extract final from ride completion where source zip code is 'M1B1Z6').

```
SELECT TRANSACTION_ID FROM RIDE_COMPLETION
WHERE FINAL_FARE > ALL (SELECT R.FINAL_FARE FROM RIDE_COMPLETION R
INNER JOIN RIDE_CONFIRMATION C ON R.RIDE_ID = C.RIDE_ID
WHERE C.SOURCE_ZIP_CODE = 'M1B1Z6')
ORDER BY TRANSACTION_ID DESC;
```

Output 7 & 8:



The screenshot shows the Oracle SQL Developer interface. On the left, there's a sidebar with 'Connections' (Oracle Connections, priya), 'Reports' (All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports), and a 'SQL History' section. The main area has a 'priya1.sql' file open in the 'Worksheet' tab. It contains two queries. The first query selects user IDs, first names, and last names from the 'CREATE\_RIDE' table, joining it with 'USER\_ACCOUNT' and 'LICENSE\_DETAILS'. The second query selects transaction IDs from 'RIDE\_COMPLETION' where the final fare is greater than all other fares for rides with source zip code 'M1B1Z6'. Below the worksheet is a 'Script Output' tab showing the results of the second query. The results table has columns 'USER\_ID', 'FIRST\_NAME', and 'LAST\_NAME'. The data is as follows:

USER_ID	FIRST_NAME	LAST_NAME
545674	ARICIA	SHAFRA
654321	ANSEU	ANSHO
748596	WITIN	MURKHAJA
748565	SUPREET	EGOR

Below this is another table for 'TRANSACTION\_ID' with the following data:

TRANSACTION_ID
5956321976
6475152584

9. Provides user id, first name, last name, contact from user account where user has got tip added greater than 0.

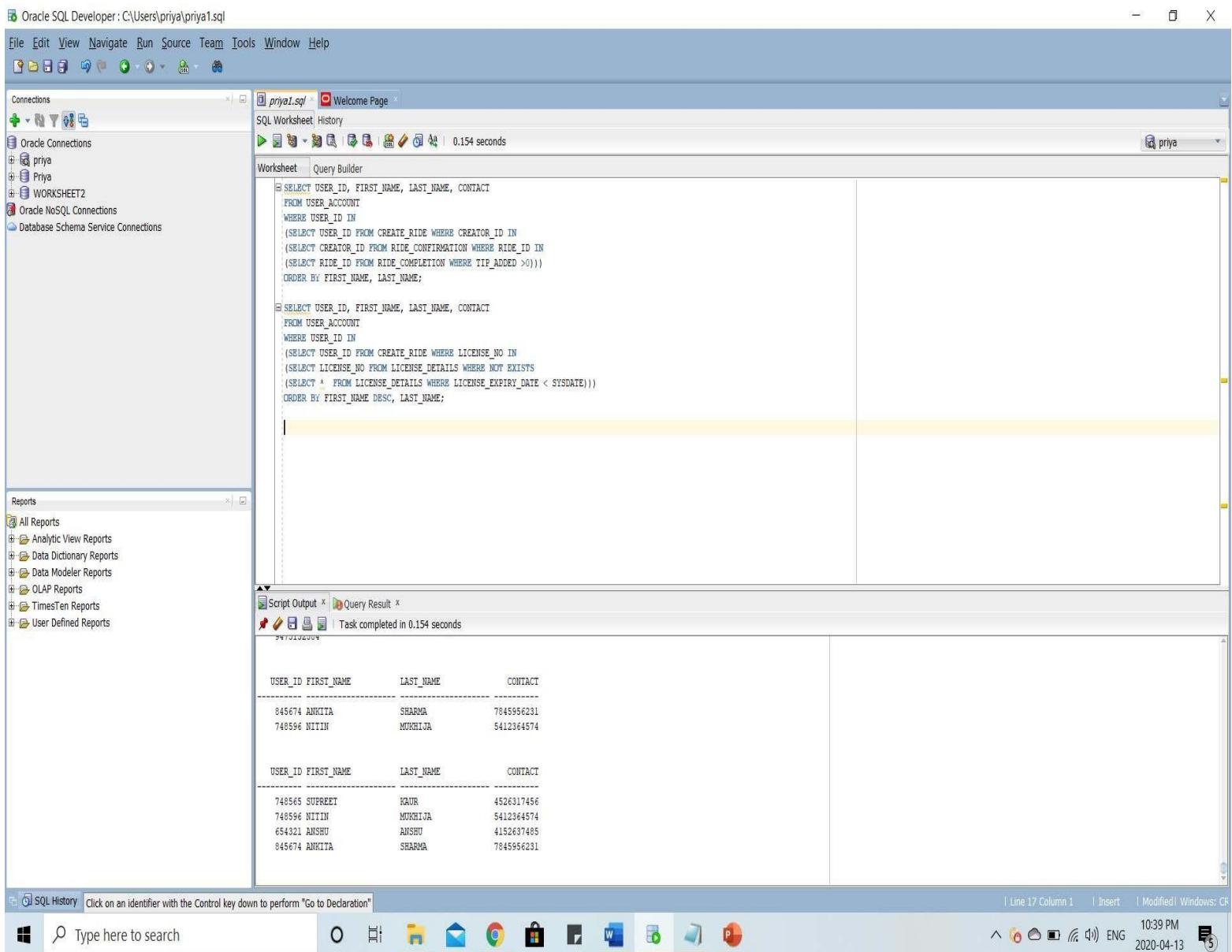
```
SELECT USER_ID, FIRST_NAME, LAST_NAME, CONTACT
FROM USER_ACCOUNT
WHERE USER_ID IN
(SELECT USER_ID FROM CREATE_RIDE WHERE CREATOR_ID IN
(SELECT CREATOR_ID FROM RIDE_CONFIRMATION WHERE RIDE_ID IN
(SELECT RIDE_ID FROM RIDE_COMPLETION WHERE TIP_ADDED >0)))
ORDER BY FIRST_NAME, LAST_NAME;
```

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10. Provides user id, first name, last name, contact from user account where user has license expiry date less than sysdate.

```
SELECT USER_ID, FIRST_NAME, LAST_NAME, CONTACT
FROM USER_ACCOUNT
WHERE USER_ID IN
(SELECT USER_ID FROM CREATE_RIDE WHERE LICENSE_NO IN
(SELECT LICENSE_NO FROM LICENSE_DETAILS WHERE NOT EXISTS
(SELECT * FROM LICENSE_DETAILS WHERE LICENSE_EXPIRY_DATE < SYSDATE)))
ORDER BY FIRST_NAME DESC, LAST_NAME;
```

Output 9 & 10:



The screenshot shows the Oracle SQL Developer interface with two queries run in the Worksheet tab and their results displayed in the Script Output tab.

**Query 1:**

```
SELECT USER_ID, FIRST_NAME, LAST_NAME, CONTACT
FROM USER_ACCOUNT
WHERE USER_ID IN
(SELECT USER_ID FROM CREATE_RIDE WHERE CREATOR_ID IN
(SELECT CREATOR_ID FROM RIDE_CONFIRMATION WHERE RIDE_ID IN
(SELECT RIDE_ID FROM RIDE_COMPLETION WHERE TIP_ADDED >0)))
ORDER BY FIRST_NAME, LAST_NAME;
```

**Query 2:**

```
SELECT USER_ID, FIRST_NAME, LAST_NAME, CONTACT
FROM USER_ACCOUNT
WHERE USER_ID IN
(SELECT USER_ID FROM CREATE_RIDE WHERE LICENSE_NO IN
(SELECT LICENSE_NO FROM LICENSE_DETAILS WHERE NOT EXISTS
(SELECT * FROM LICENSE_DETAILS WHERE LICENSE_EXPIRY_DATE < SYSDATE)))
ORDER BY FIRST_NAME DESC, LAST_NAME;
```

**Script Output Results:**

USER_ID	FIRST_NAME	LAST_NAME	CONTACT
845674	ANKITA	SHARMA	7845956231
748596	NITIN	MUKHIJA	5412364574
748565	SUREET	KAUR	4526317456
746596	NITIN	MUKHIJA	5412364574
654321	ANSHU	ANSHU	4152637485
845674	ANKITA	SHARMA	7845956231

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