TAXI MANAGEMENT SYSTEM



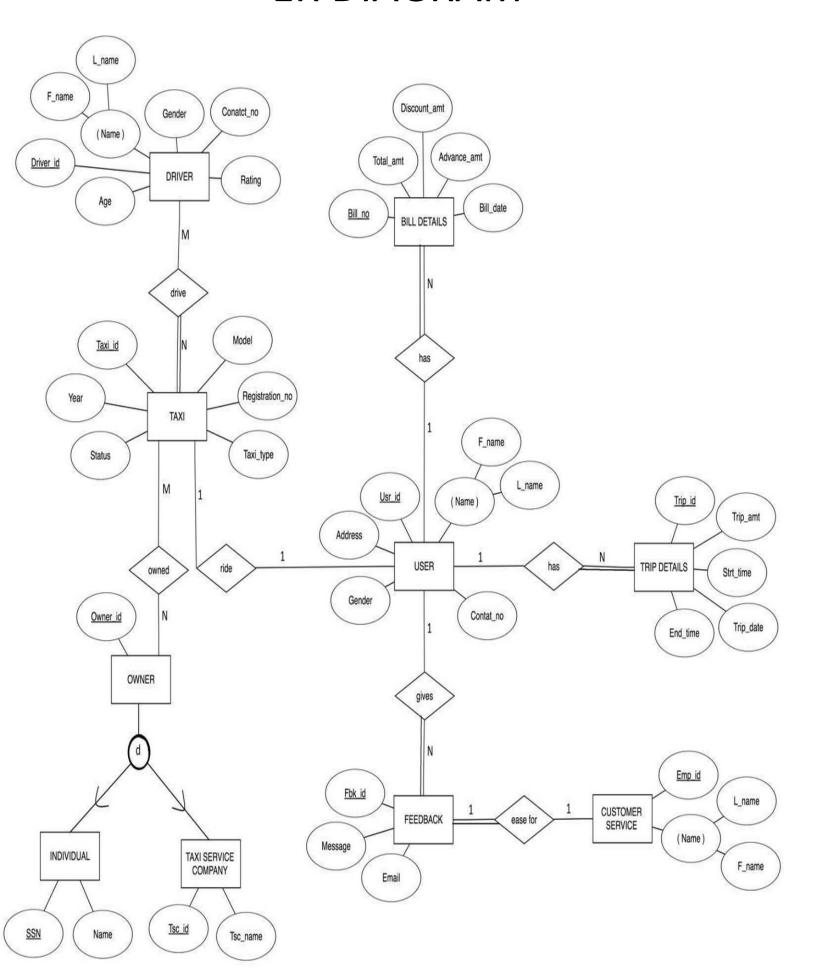
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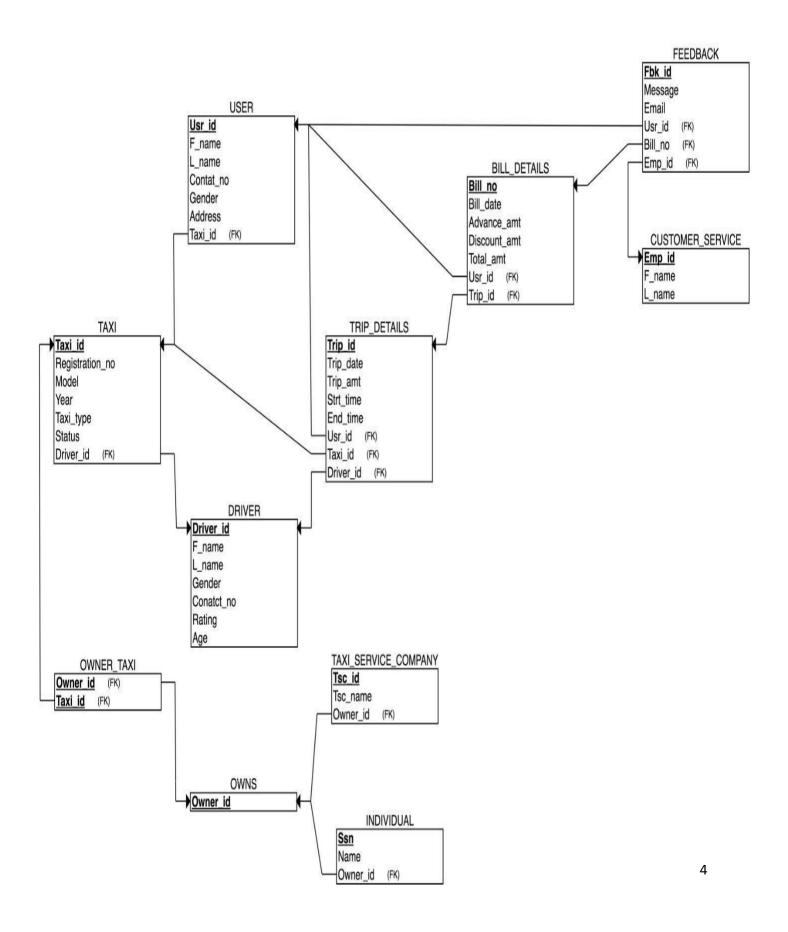
PROBLEM STATEMENT

Many individuals reserve taxis throughout the day. Booking taxis, managing trip details, managing passenger details, managing driver details, managing bill details, and maintaining customer service and feedback are only some of the activities involved in the day-to-day operations of taxis. This project attempts to demonstrate how databases can help handle data linked to these responsibilities.

ER DIAGRAM



ER TO TABLES



TAXI

Primary Key: Taxi_idForeign Keys: Driver id

USER TBL

Primary Key: Usr_idForeign Keys: Taxi id

DRIVER

Driver_id F_name L_name Gender Conatct_no Rating Age

Primary Key: Driver_idForeign Keys: NA

TRIP DETAILS

Trip_id Trip_date Trip_amt Driver_id Usr_id

Taxi_id Strt_time End_time

• Primary Key: Trip id

• Foreign Keys: Taxi id, Usr id, Driver id

BILL_DETAILS

Bill_no Bill_date Advance_amt Discount_amt Total_amt Usr_id Trip_id

• Primary Key: Bill_no

• Foreign Keys: Usr_id, Trip_id

CUSTOMER SERVICE

Emp_id F_name L_name

Primary Key: Emp_idForeign Keys: NA

FEEDBACK

Primary Key: Fbk id

• Foreign Keys: Usr_id, Emp_id, Trip_id

OWNER_TAXI

Owner_id Taxi_id

Primary Key: Owner_id, Taxi_id

• Foreign Keys: Owner_id, Taxi_id

OWNS

Owner_id No_Cars

Primary Key: Owner_idForeign Keys: NA

INDIVIDUAL

Ssn Name Owner_id

Primary Key: Ssn

Foreign Keys: Owner_id

TAXI_SERVICE_COMPANY

Tsc_id Tsc_name Owner_id

Primary Key: Tsc_idForeign Keys: Owner_id

NORMALIZATION

```
TAXI
{Taxi id Registration no, Taxi Model, Taxi Year, Taxi type, Status}
USER
{Usr_id F_name, L_name, Contat_no, Gender, Address, Taxi_id}
DRIVER
{Driver_id F_name, L_name, Gender, Conatct_no, Rating, Age}
TRIP_DETAILS
{Trip_id Trip_date, Trip_amt, Driver_id, Usr_id, Taxi_id, Strt_time, End_time}
BILL DETAILS
{Bill no Bill date, Advance amt, Discount amt, Total amt, Usr id, Trip id}
CUSTOMER SERVICE
{Emp id F name, L name}
FEEDBACK
{Fbk id Message, Email, Emp id, Usr id, Trip id}
OWNER TAXI
{Owner id Taxi id}
OWNS
{Owner_id No_Cars}
INDIVIDUAL
{Ssn Name, Owner id}
TAXI SERVICE COMPANY
{Tsc_id Tsc_name, Owner_id}
```

SQL/PLSQL CODE

SQL STATEMENTS FOR TABLE CREATION

```
CREATE TABLE TAXI (
Taxi id integer NOT NULL,
Registration_no VARCHAR(20),
Taxi_Model VARCHAR(20),
Taxi Year DATE,
Taxi type VARCHAR(20),
Status VARCHAR(20),
Driver id integer,
PRIMARY KEY (Taxi id),
UNIQUE (Registration_no)
);
CREATE TABLE USER TBL (
Usr_id integer NOT NULL,
F_name VARCHAR(20),
L name VARCHAR(20),
Contat_no integer,
Gender VARCHAR(10),
Address VARCHAR(50),
Taxi id integer,
PRIMARY KEY (Usr_id)
);
CREATE TABLE DRIVER (
Driver_id integer NOT NULL,
F_name VARCHAR(10),
L_name VARCHAR(20),
Gender VARCHAR(10),
Conatct_no VARCHAR(20),
Rating integer,
Age integer,
PRIMARY KEY (Driver id)
CREATE TABLE TRIP_DETAILS (
Trip id integer NOT NULL,
Trip_date DATE,
Trip_amt decimal(10,2),
Driver_id integer,
Usr_id integer,
Taxi_id integer,
Strt_time TIMESTAMP,
End time TIMESTAMP,
PRIMARY KEY (Trip_id)
```

```
);
CREATE TABLE BILL_DETAILS (
Bill no integer NOT NULL,
Bill_date DATE,
Advance_amt decimal(10,2),
Discount amt decimal(10,2),
Total_amt decimal(10,2),
Usr_id integer,
Trip_id integer,
PRIMARY KEY (Bill no)
);
CREATE TABLE CUSTOMER_SERVICE (
Emp_id integer NOT NULL,
F_name VARCHAR(20),
L_name VARCHAR(20),
PRIMARY KEY (Emp_id)
);
CREATE TABLE FEEDBACK (
Fbk_id integer NOT NULL,
Message VARCHAR(140),
Email VARCHAR(50),
Emp_id integer,
Usr id integer,
Trip id integer,
PRIMARY KEY (Fbk_id)
);
CREATE TABLE OWNS (
Owner_id integer NOT NULL,
No_Cars integer,
PRIMARY KEY (Owner_id)
CREATE TABLE OWNER_TAXI (
Owner_id integer NOT NULL,
Taxi_id integer,
PRIMARY KEY (Owner_id, Taxi_id)
);
CREATE TABLE INDIVIDUAL (
Ssn integer NOT NULL,
Name VARCHAR(20),
Owner_id integer,
PRIMARY KEY (Ssn)
);
CREATE TABLE TAXI_SERVICE_COMPANY (
Tsc id integer NOT NULL,
Tsc_name VARCHAR(20),
Owner_id integer,
PRIMARY KEY (Tsc id)
```

SQL STATEMENTS FOR FOREIGN KEY CREATION

ALTER TABLE TAXI ADD CONSTRAINT fketadr FOREIGN KEY (Driver id) REFERENCES DRIVER(Driver id) ON DELETE CASCADE; ALTER TABLE USER_TBL ADD CONSTRAINT fkusta FOREIGN KEY (Taxi_id) REFERENCES TAXI(Taxi id) ON DELETE CASCADE; ALTER TABLE TRIP DETAILS ADD CONSTRAINT fktddr FOREIGN KEY (Driver_id) REFERENCES DRIVER(Driver_id) ON DELETE CASCADE; ALTER TABLE TRIP DETAILS ADD CONSTRAINT fktdusr FOREIGN KEY (Usr id) REFERENCES USER TBL(Usr id) ON DELETE CASCADE; ALTER TABLE TRIP DETAILS ADD CONSTRAINT fktdtax FOREIGN KEY (Taxi id) REFERENCES TAXI(Taxi id) ON DELETE CASCADE; ALTER TABLE BILL DETAILS ADD CONSTRAINT fkbdtd FOREIGN KEY (Trip id) REFERENCES TRIP DETAILS(Trip id) ON DELETE CASCADE; ALTER TABLE BILL DETAILS ADD CONSTRAINT fkbdusr FOREIGN KEY (Usr id) REFERENCES USER TBL(Usr id) ON DELETE CASCADE; ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbemp FOREIGN KEY (Emp id) REFERENCES CUSTOMER SERVICE(Emp id) ON DELETE CASCADE; ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbtd FOREIGN KEY (Trip id) REFERENCES TRIP DETAILS(Trip id) ON DELETE CASCADE; ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbusr FOREIGN KEY (Usr id) REFERENCES USER_TBL(Usr_id) ON DELETE CASCADE; ALTER TABLE OWNER TAXI ADD CONSTRAINT fkeowtax FOREIGN KEY (Taxi id) REFERENCES TAXI(Taxi id) ON DELETE CASCADE; ALTER TABLE OWNER TAXI ADD CONSTRAINT fkeowowns FOREIGN KEY (Owner_id) REFERENCES OWNS(Owner_id) ON DELETE CASCADE; ALTER TABLE INDIVIDUAL ADD CONSTRAINT fkeinowns FOREIGN KEY (Owner id) REFERENCES OWNS(Owner id) ON DELETE CASCADE; ALTER TABLE TAXI SERVICE COMPANY ADD CONSTRAINT fketscowns FOREIGN KEY (Owner id) REFERENCES OWNS(Owner id) ON DELETE CASCADE;

SQL STATEMENTS FOR INSERT COMMANDS

INSERT INTO DRIVER VALUES(1,'Abhi','Gowda','Male','4693805870',5,25); insert into DRIVER Values(2,'abhi','mane','Male','5967125945',4,30); insert into DRIVER Values(3,'Abhi','Aguero','Male','7566694250',5,35); INSERT INTO CUSTOMER_SERVICE VALUES(1,'abhi','gowda'); INSERT INTO OWNS VALUES(1,1); INSERT INTO OWNS VALUES(2,1);

```
INSERT INTO TAXI VALUES(1, 'KA-15R-
  3367', 'BENZE300', to_date('01/01/2017', 'mm/dd/yyyy'), 'SUV', 'Available', 1)
  INSERT INTO USER TBL VALUES(1, 'USER1', 'LNAME', '123456', 'Male', 'MCCAllum', '1');
  INSERT INTO TRIP DETAILS
  VALUES(1,to_date('01/01/2017','mm/dd/yyyy'),123,1,1,1,TO_TIMESTAMP('2017-01-01
  06:14:00', 'YYYY-MM-DD HH24:MI:SS'),TO TIMESTAMP('2017-01-01 08:14:00', 'YYYY-MM-
  DD HH24:MI:SS'));
  INSERT INTO BILL DETAILS
  VALUES(1,to_date('01/01/2017','mm/dd/yyyy'),1000.10,20.11,null,1,1);
  INSERT INTO FEEDBACK VALUES(1,'not so good','abhi@gmail.com',1,1,1);
  INSERT INTO OWNER TAXI Values (1,1);
  INSERT INTO INDIVIDUAL VALUES(123, 'abhi owner ind',1);
  INSERT INTO TAXI SERVICE COMPANY VALUES (1, 'abhi taxi comp',2);
  PL/SQL – PROCEDURES
Procedure Code block for Book Taxi
-- Procedure Creation
 -- this procedure creates a use table entry and creates the trip and bill detail for the
trip
-- input parameters : Name , Address, Contact, Taxi Model, Gender, Advance
  ______
CREATE OR REPLACE PROCEDURE BOOK TAXI
  (Name IN VARCHAR2, v Address IN VARCHAR2, v Contact IN VARCHAR2, Taxi Model IN
VARCHAR2, v_Gender IN VARCHAR2, Advance IN decimal)
BEGIN
DECLARE
v_usr_id INT :=-1;
v_Trip_id INT :=-1;
v_Bill_no INT :=-1;
v_Taxi_id INT :=-1;
v_Driver_id INT :=1;
BEGIN
select MAX(Usr_id)+1 into v_usr_id from USER_TBL;
```

```
select MAX(Trip_id)+1 into v_Trip_id from TRIP_DETAILS;
select MAX(Bill_no)+1 into v_Bill_no from BILL_DETAILS;
select taxi id, Driver id into v Taxi id, v Driver id from TAXI
where Status = 'Available' and Taxi Model = Taxi Model;
  insert into USER_TBL values(v_usr_id, SUBSTR (Name, 1,INSTR(Name, '',1)),SUBSTR (Name,
INSTR(Name, '',1)+1,LENGTH(Name)),v Contact,v Gender,v Address,v Taxi id);
insert into TRIP DETAILS
values(v_Trip_id,sysdate,50,v_Driver_id,v_usr_id,v_Taxi_id,sysdate,null);
insert into BILL DETAILS
values(v Bill no,null,Advance,null,null,v usr id,v Trip id);
END;
END;
begin
BOOK_TAXI ('Prateek Rustagi','dwarka','167147869','BENZE300','Male','200.10');
dbms output.put line('Taxi booked');
END;
select * from USER_TBL where L_NAME=' Rustagi';
  Procedure Code block for TRIP END
  -- Procedure Creation
  -- this procedure will calculate the final amount for the trip and update the
  amount attributes in trip and bill details
  -- input parameters : trip_id, discount
  ______
  CREATE OR REPLACE PROCEDURE TRIP END(v trip IN INT, v discount
  IN Decimal)
  AS
  BEGIN
  DECLARE
  v total time INT := -1;
  v_bill_no INT :=-1;
  BEGIN
  select extract(day from (sysdate - Strt time))*24 + extract(hour
  from (sysdate - Strt_time)) into v_total_time from TRIP_DETAILS
  where Trip_id = v_trip;
  update TRIP DETAILS set End time = sysdate where Trip id =
  Trip id;
  update BILL DETAILS set Bill date = sysdate , Discount amt =
  v discount ,Total amt = (v total time * 15) - v discount where
```

```
Trip_id = v_trip;
END;
END;
begin
TRIP_END (3,0.00);
END;
dbms_output.put_line('Taxi reached destination');
select * from BILL_DETAILS where Usr_id=3;
select * from TRIP_DETAILS;
Procedure Code block for Update Driver Rating
______
-- Trigger Creation
-- this trigger is called when inserted(After) to the feedback table
-- the trigger will decrease the driver rating by 1 if user feed back is bad for a driver
CREATE OR REPLACE TRIGGER UPDATE_DRIVER_RATING
AFTER INSERT ON FEEDBACK
FOR EACH ROW
WHEN (NEW.Message like '%Bad Driver%')
DECLARE
v_driver_id INT;
BEGIN
select driver_id into v_driver_id from TRIP_DETAILS where
trip_id = :NEW.Trip_id;
update DRIVER set Rating = Rating -1 where driver_id =
v_driver_id;
END;
```

Procedure Code block for Add no of cars -- Trigger Creation -- this trigger is called before the INSERT OR UPDATE ON OWNS table -- the trigger will calculate the number of cars owned by the owner and updates the no of cars columns in the OWNS table CREATE OR REPLACE TRIGGER ADD_NO_OF_CARS BEFORE INSERT OR UPDATE ON OWNS FOR EACH ROW **DECLARE** v_no_of_cars INT; **BEGIN** select count(Taxi id) into v no of cars from OWNER TAXI where Owner id = :NEW.Owner id group by Owner id; :NEW.No_Cars := v_no_of_cars; END; CREATE OR REPLACE PROCEDURE Driver_Check(driv_id IN INT) AS begin **DECLARE** Reg no INT; **BEGIN** select Registration_no into Reg_no from TAXI where driver_id=driv_id; **EXCEPTION** WHEN no data found THEN dbms_output.put_line('No such driver'); END; END; select * from TAXI; begin Driver_Check (15); END;

create or replace FUNCTION model (Driv id in number)

select Taxi Model into model name from TAXI where driver id=driv id;

RETURN varchar IS

BEGIN

model name varchar(100);

```
RETURN(model_name);
END;
declare
varr varchar(100);
begin
varr := model(1);
dbms_output.put_line(varr);
END;
    CREATE OR REPLACE PROCEDURE Many Row (First name IN varchar)
AS
begin
DECLARE
driv_id int;
BEGIN
     select driver_id into driv_id from Driver where F_name= First_name;
EXCEPTION
WHEN too_many_rows THEN
dbms_output.put_line('error trying to select too many rows');
END;
END;
select * from Driver
begin
Many_Row ('Abhi');
END;
  CREATE or REPLACE PROCEDURE delete_table (First_name IN varchar2)
AS
begin
declare
last_name varchar(100);
begin
 select L_name into last_name from Driver where F_NAME = First_name;
EXCEPTION
WHEN NO_DATA_FOUND THEN
null;
end;
IF SQL%NOTFOUND THEN
DBMS_OUTPUT.PUT_LINE('RECORD NOT DELETED');
ELSE
DBMS_OUTPUT.PUT_LINE('RECORD DELETED');
END IF;
```

```
Delete from DRIVER where F_name=First_name;
END;
select * from DRIVER
begin
delete_table('david');
end;
```

SCREENSHOTS

```
SQL Worksheet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SQL Worksheet

132 INSERT INTO TAXI_SERVICE_COMPANY VALUES (1, abbd taxi comp*,2);
133

134 CREATE OR REPLACE PROCEDURE BOOK_TAXI
135 (Tame IN VARCHAR2, v_Address IN VARCHAR2, v_Contact IN VARCHAR2, Tax
136 IS
137 REGIN
138 OECLAME
139 v_use_id INT:--1;
141 v_Bill_no INT:--1;
141 v_Bill_no INT:--1;
142 v_Taxi_id INT:--1;
143 v_Delivee_id INT:--1;
144 v_Delivee_id INT:--1;
145 SIGHT
146 SIGHT
147 SIGHT
148 SIGHT
149 SIGHT
149 SIGHT
140 SIGHT
1
                                 CREATE OR REPLACE PROCEDURE BOOK_TAXI
(Name IN VARCHAR2,v_Address IN VARCHAR2,v_Contact IN VARCHAR2,Taxi_Model IN VARCHAR2,v_Gender IN VARCHAR2,Advance IN decimal)
                                                       to MUX(Usr_id)+1 into v_usr_id from USER_TBL;
tt MUX(Tsr_id)+1 into v_usr_id from USER_TBL;
tt MUX(Tsr_id)+1 into v_usr_id from TRIP_DETAILS;
tt MUX(Tsr_id)+1 into v_Etil_no from ETIL_DETAILS;
tt MUX(ESIL_no)+1 into v_Etil_no from ETIL_DETAILS, and id_v_Detail_no, v_Etil_no, v_Etil_n
    Procedure created.
             begin
             BOOK_TAXI ('Prateek Rustagi', 'dwarka', '167147869', 'BENZE300', 'Male', '200.10');
             dbms_output.put_line('Taxi booked');
             END;
      Statement processed.
       Taxi booked
            select * from USER TBL where L NAME=' Rustagi'
                USR_ID F_NAME
                                                                                                                                                                                 L_NAME
                                                                                                                                                                                                                                                                        CONTAT_NO
                                                                                                                                                                                                                                                                                                                                                                        GENDER
                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAXI_ID
                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1
                                                                                       Prateek
                                                                                                                                                                                        Rustagi 167147869
                                                                                                                                                                                                                                                                                                                                                                      Male
                                                                                                                                                                                                                                                                                                                                                                                                                                                dwarka
      Download CSV
```

SQL Worksheet

Procedure created.

SQL Worksheet

```
189 Select * from TRIP_DETAILS;

190

191 CREATE OR REPLACE TRIGGER UPDATE_DRIVER_RATING

22 AFTER INSERT ON FEEDBACK

193 FOR EACH ROW

194 WHEN (NEW. Message like '%Bad Driver%')

195 DECLARE

196 v_driver_id INT;

197 BEGIN

198 select driver_id into v_driver_id from TRIP_DETAILS where

199 trip_id = :NEW.Trip_id;

200 update DRIVER set Rating = Rating -1 where driver_id =

201 v_driver_id;

202 END;

203

204 CREATE OR REPLACE TRIGGER ADD_NO_OF_CARS

205 BEFORE INSERT OR UPDATE ON OWNS

206 FOR EACH ROW

207 DECLARE

208
```

TRIP_ID	TRIP_DATE	TRIP_AMT	DRIVER_ID	USR_ID	TAXI_ID	STRT_TIME	END_TIME
2	16-MAY-22	50	1	2	1	16-MAY-22 07.33.21.000000 PM	
1	01-JAN-17	123	1	1	1	01-3AN-17 06.14.00.000000 AM	01-3AN-17 08.14.00.000000 AM

Download CSV 2 rows selected.

SQL Worksheet

```
189
     select * from TRIP_DETAILS;
190
     CREATE OR REPLACE TRIGGER UPDATE_DRIVER_RATING
191
192
     AFTER INSERT ON FEEDBACK
193
     FOR EACH ROW
     WHEN (NEW.Message like '%Bad Driver%' )
194
195
     DECLARE
     v_driver_id INT;
196
197
     BEGIN
     select driver_id into v_driver_id from TRIP_DETAILS where
198
     trip_id = :NEW.Trip_id;
199
     update DRIVER set Rating = Rating -1 where driver_id =
200
201
     v_driver_id;
202 END;
203
204
     CREATE OR REPLACE TRIGGER ADD_NO_OF_CARS
205
     BEFORE INSERT OR UPDATE ON OWNS
206
     FOR EACH ROW
207
     DECLARE
208
     4
```

Trigger created.

```
225 END;
226 END;
227
228 select * from TAXI;
229 begin
230 Driver_Check (15);
231 Begin
232 EVENT varchar IS
233 Return varchar IS
235 RETURN varchar IS
236 model_name varchar(100);
237 BEGIN
238 select Taxi_Model into model_name from TAXI where driver_id=driv_id;
239 RETURN(model_name);
240 END;
241 Varr varchar(100);
242 declare
243 varr varchar(100);
244 hants
245 4

TAXI_ID REGISTRATION_NO TAXI_MODEL TAXI_VEAR TAXI_TYPE STATUS DRIVER_ID

1 KA-15R-3367 BENZE300 01-3AN-17 SUV Available 1

Download CSV

Statement processed.

No such driver
```

```
241
242 declare
243 varr varchar(100);
244 begin
245 varr := model(1);
246 dbms_output.put_line(varr);
247 END;
248

249 CREATE OR REPLACE PROCEDURE Many_Row (First_name IN varchar)
250 AS
251 begin
252 DECLARE
253 driv_id int;
254 BEGIN
255 select driver_id into driv_id from Driver where F_name= First_name;
256 EXCEPTION
257 WHEN too_many_rows THEN
258 dbms_output.put_line('error trying to select too many rows');
259 END;
260 The control of the contro
```

Statement processed. BENZE300

```
251 begin
252 DECLARE
253 driv_id int;
254 BEGIN
255 select driver_id into driv_id from Driver where F_name* First_name;
256 EXCEPTION
257 WHEN too_many_rows THEN
258 dbms_output.put_line('error trying to select too many rows');
259 END;
260 END;
261
262 select * from Driver
263
264 begin
265 Many_Row ('Abhi');
END;
266 END;
267
268
269
270 (REATE or REPLACE PROCEDURE delete table (First name IN varchar2)
```

DRIVER_ID	F_NAME	L_NAME	GENDER	CONATCT_NO	RATING	AGE
1	Abhi	Gowda	Male	4693805870	5	25
2	abhi	mane	Male	5967125945	4	30
3	Abhi	Aguero	Male	7566694250	5	35

Download CSV 3 rows selected.

```
263
264 begin
265 Many_Row ('Abhi');
266
      END:
267
268
269
270
     CREATE or REPLACE PROCEDURE delete_table (First_name IN varchar2)
271 AS
272 begin
273
     declare
274
     last_name varchar(100);
275
     begin
276
     select L_name into last_name from Driver where F_NAME = First_name;
277
     EXCEPTION
                  WHEN NO_DATA_FOUND THEN
278
279
                      null;
     end;
280
281
      4
```

Statement processed. error trying to select too many rows