Automatic Fuel Tracker In Vehicles.

Abstract:

Now a days many people are facing problems realted to fuel management in vehicles.They are being strucked on road due to unknown amount of fuel and getting stopped.Now, here is a solution for that which tracks the fuel in vehicles and gives the notifications.This application tracks the fuel present in vehicle and gives notification to respective user.It also says how much distance will the vehicle move from current location.This gives notifications to the user mobile, time to time and reduces the risk of lacking of fuel.To get access and benifits of this application user must provide information such as login id,password,vehile type,vehicle number,fuel type and the fixed mielage of the vehicle.By using this application user will be knowing the status of
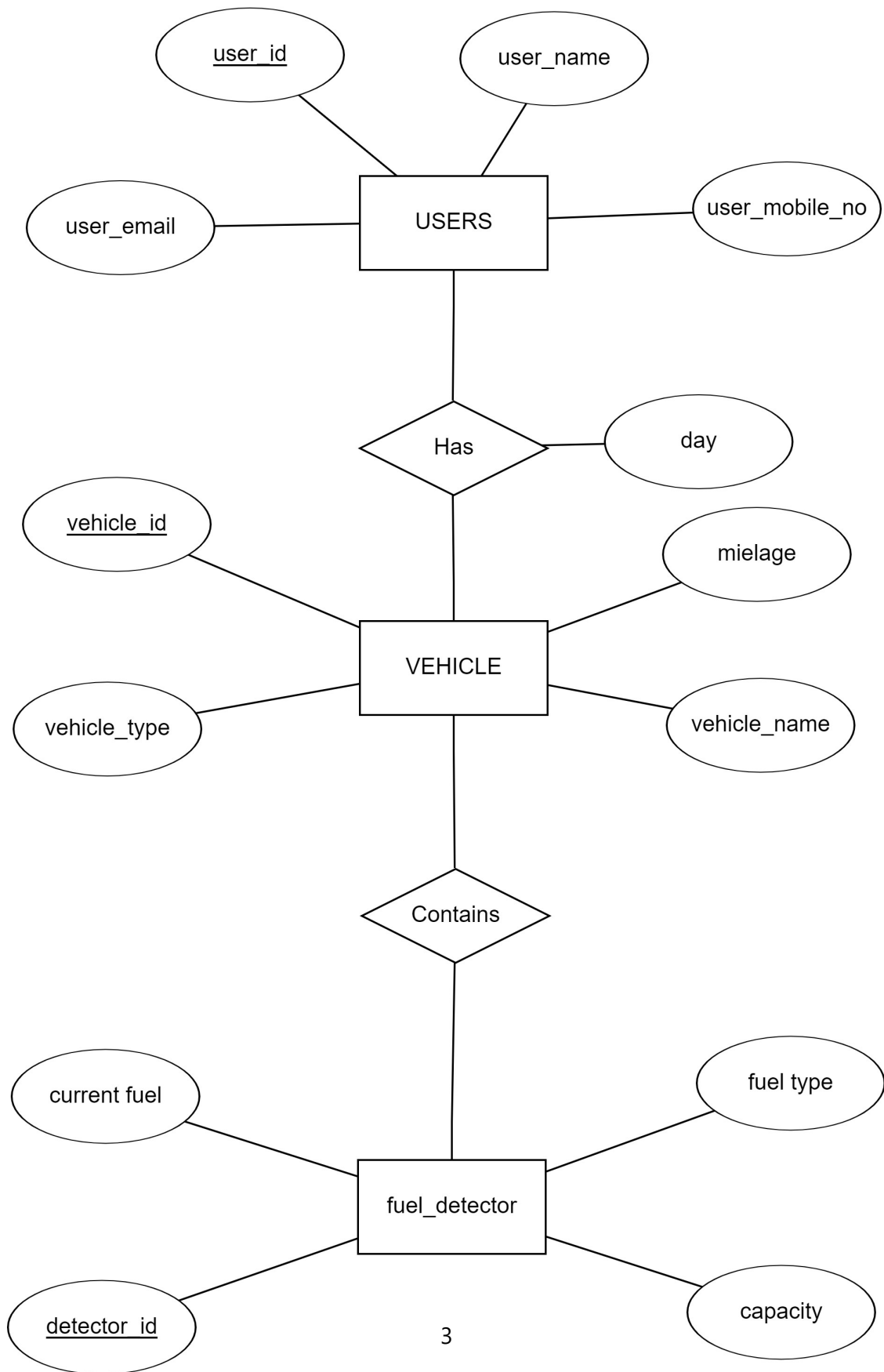
fuel and saves more time instead of taking risks.

Requirements:

server:Oracle database 11g Enterprise Edition release 11.2.0.1.0-64bit Production With the Partitioning,OLAP,Data Mining Real Application Testing Options.

Client:SQL*Plus:Release 9.01.3.0

Front end java.

ER Diagram:

```
        user_id                user_name


                                                              user_mobile_no
  user_email              USERS



                          Has              day


   vehicle_id                               mielage


                         VEHICLE

 vehicle_type                              vehicle_name



                        Contains



   current fuel                              fuel type


                      fuel_detector


   detector_id                               capacity

                           3
```

DDL Commands:

```
Enter user-name: saivighesh
Enter password:
Connected.
SQL> create table user(
  2  user_id number(5) primary key;
create table user(
            *
ERROR at line 1:
ORA-00903: invalid table name


SQL> create table user(
  2  primary key(user_id number(5))
  3  user_name varchar2(20)
  4  user_mobile_no varchar2(10)
  5  user_email varchar2(20));
create table user(
            *
ERROR at line 1:
ORA-00903: invalid table name


SQL> create table users(
  2  user_id number(5) primary key,
  3  user_name varchar2(20),
  4  user_mobile_no varchar2(10),
  5  user_email varchar2(20));

Table created.

SQL> create table vehicle(
  2  vehicle_id varchar2(10) primary key,
  3  mielage number(5),
  4  vehicle_name varchar2(10),
  5  vehicle_type varchar2(10));

Table created.

SQL> create table fuel_tank(
  2  current_fuel number(5),
  3  fuel_type varchar2(5),
  4  tank_capacity number(5),
  5  tank_id varchar2(10) primary key);

Table created.

SQL> create table contains(
  2  tank_id number(10),
  3  vehicle_id
  4
```

Type here to search

```
SQL> create table contains(
  2  tank_id number(10),
  3  vehicle_id
  4
SQL> create table contains(
  2  tank_id varchar2(10),
  3  vehicle_id varchar2(10),
  4  foreign key(tank_id) references fuel_tank,
  5  foreign key(vehicle_id) references vehicle;
foreign key(vehicle_id) references vehicle
                                          *
ERROR at line 5:
ORA-00907: missing right parenthesis


SQL> create table contains(
  2  tank_id varchar2(10),
  3  vehicle_id varchar2(10),
  4  foreign key(tank_id) references fuel_tank,
  5  foreign key(vehicle_id) references vehicle);

Table created.

SQL> create table has(
  2  user_id number(5),
  3  vehicle_id varchar2(10),
  4  day date,
  5  foreign key(user_id) references user,
  6  foreign key(vehicle_id) references vehicle);
foreign key(user_id) references user,
                                    *
ERROR at line 5:
ORA-00903: invalid table name


SQL> create table has(
  2  user_id number(5),
  3  vehicle_id varchar2(10),
  4  day date,
  5  foreign key(user_id) references users,
  6  foreign key(vehicle_id) references vehicle);

Table created.

SQL>
```

DML Commands:

Run SQL Command Line

```
SQL> desc users
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 USER_ID                                   NOT NULL NUMBER(5)
 USER_NAME                                          VARCHAR2(20)
 USER_MOBILE_NO                                     VARCHAR2(10)
 USER_EMAIL                                         VARCHAR2(20)

SQL> insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email');
Enter value for user_id: 1111111111
Enter value for user_name: 1111111111
Enter value for user_mobile_no: '
Enter value for user_email: ;
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(1111111111,'1111111111','''',';')
ERROR:
ORA-01756: quoted string not properly terminated


SQL> insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email');
Enter value for user_id: 10
Enter value for user_name: ram
Enter value for user_mobile_no: 1111111111
Enter value for user_email: ram@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(10,'ram','1111111111','ram@gmail.com')

1 row created.

SQL> /
Enter value for user_id: 15
Enter value for user_name: ravi
Enter value for user_mobile_no: 2222222222
Enter value for user_email: ravi@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(15,'ravi','2222222222','ravi@gmail.com')

1 row created.

SQL> /
Enter value for user_id: 20
Enter value for user_name: 3333333333
Enter value for user_mobile_no:
Enter value for user_email:
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(20,'3333333333','','')

1 row created.
```

Type here to search

```
1 row created.

SQL> /
Enter value for user_id: 20
Enter value for user_name: raju
Enter value for user_mobile_no: 3333333333
Enter value for user_email: raju@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(20,'raju','3333333333','raju@gmail.com')
insert into users values(20,'raju','3333333333','raju@gmail.com')
*
ERROR at line 1:
ORA-00001: unique constraint (SAIVIGNESH.SYS_C006987) violated


SQL> /
Enter value for user_id: 25
Enter value for user_name: sam
Enter value for user_mobile_no: 3333333333
Enter value for user_email: sam@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(25,'sam','3333333333','sam@gmail.com')

1 row created.

SQL> /
Enter value for user_id: 30
Enter value for user_name: tom
Enter value for user_mobile_no: 4444444444
Enter value for user_email: tom@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(30,'tom','4444444444','tom@gmail.com')

1 row created.

SQL> /
Enter value for user_id: 35
Enter value for user_name: andy
Enter value for user_mobile_no: 5555555555
Enter value for user_email: andy@gmail.com
old   1: insert into users values(&user_id,'&user_name','&user_mobile_no','&user_email')
new   1: insert into users values(35,'andy','5555555555','andy@gmail.com')

1 row created.

SQL> desc vehicle
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 VEHICLE_ID                                NOT NULL VARCHAR2(10)
```

Type here to search

```
SQL> desc vehicle
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 VEHICLE_ID                                NOT NULL VARCHAR2(10)
 MIELAGE                                            NUMBER(5)
 VEHICLE_NAME                                       VARCHAR2(10)
 VEHICLE_TYPE                                       VARCHAR2(10)

SQL> insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type');
Enter value for mielage: 45
Enter value for vehicle_id: 90
Enter value for vehicle_name: glamour
Enter value for vehicle_type: two wheeler
old   1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new   1: insert into vehicle values(45,'90','glamour','two wheeler')
insert into vehicle values(45,'90','glamour','two wheeler')
                                              *
ERROR at line 1:
ORA-12899: value too large for column "SAIVIGNESH"."VEHICLE"."VEHICLE_TYPE"
(actual: 11, maximum: 10)


SQL> /
Enter value for mielage: 45
Enter value for vehicle_id: glamour
Enter value for vehicle_name: 2wheeler
Enter value for vehicle_type:
old   1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new   1: insert into vehicle values(45,'glamour','2wheeler','')
insert into vehicle values(45,'glamour','2wheeler','')
                               *
ERROR at line 1:
ORA-01722: invalid number


SQL> /
Enter value for mielage: 45
Enter value for vehicle_id: 90
Enter value for vehicle_name: glamour
Enter value for vehicle_type: 2wheeler
old   1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new   1: insert into vehicle values(45,'90','glamour','2wheeler')

1 row created.

SQL> /
Enter value for mielage: 50
Enter value for vehicle_id: 100
Enter value for vehicle_name: activa
```

```
SQL> /
Enter value for mielage: 50
Enter value for vehicle_id: 100
Enter value for vehicle_name: activa
Enter value for vehicle_type: 2wheeler
old    1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new    1: insert into vehicle values(50,'100','activa','2wheeler')

1 row created.

SQL> /
Enter value for mielage: 20
Enter value for vehicle_id: 150
Enter value for vehicle_name: creta
Enter value for vehicle_type: 4wheeler
old    1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new    1: insert into vehicle values(20,'150','creta','4wheeler')

1 row created.

SQL> /
Enter value for mielage: 55
Enter value for vehicle_id: 160
Enter value for vehicle_name: enfield
Enter value for vehicle_type: 2wheeler
old    1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new    1: insert into vehicle values(55,'160','enfield','2wheeler')

1 row created.

SQL> /
Enter value for mielage: 35
Enter value for vehicle_id: 170
Enter value for vehicle_name: duke
Enter value for vehicle_type: 2wheeler
old    1: insert into vehicle values(&mielage,'&vehicle_id','&vehicle_name','&vehicle_type')
new    1: insert into vehicle values(35,'170','duke','2wheeler')

1 row created.

SQL> desc fuel_tank
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 FUEL_TYPE                                          VARCHAR2(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)

SQL> insert into fuel_tank values(&current_fuel,&tank_capacity,'&fuel_type','&tank_id');
Enter value for current_fuel: 2
```

```
SQL> insert into fuel_tank values(&current_fuel,'&fuel_type',&tank_capacity,'&tank_id');
Enter value for current_fuel: 2
Enter value for fuel_type: petrol
Enter value for tank_capacity: 5
Enter value for tank_id: 501
old   1: insert into fuel_tank values(&current_fuel,'&fuel_type',&tank_capacity,'&tank_id')
new   1: insert into fuel_tank values(2,'petrol',5,'501')
insert into fuel_tank values(2,'petrol',5,'501')
                             *
ERROR at line 1:
ORA-12899: value too large for column "SAIVIGNESH"."FUEL_TANK"."FUEL_TYPE"
(actual: 6, maximum: 5)


SQL> alter table drop fuel_type;
alter table drop fuel_type
            *
ERROR at line 1:
ORA-00903: invalid table name


SQL> alter table drop column fuel_type;
alter table drop column fuel_type
            *
ERROR at line 1:
ORA-00903: invalid table name


SQL> alter table fuel_tank drop column fuel_type;

Table altered.

SQL> desc fuel_tank
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)

SQL> alter table fuel_tank add fuel_type varchar2(10);

Table altered.

SQL> desc fuel_tank
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)
```

```
SQL> desc fuel_tank
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)
 FUEL_TYPE                                          VARCHAR2(10)

SQL> insert into fuel_tank values(&current_fuel,'&fuel_type',&tank_capacity,'&tank_id');
Enter value for current_fuel: 2
Enter value for fuel_type: petrol
Enter value for tank_capacity: 10
Enter value for tank_id: 501
old   1: insert into fuel_tank values(&current_fuel,'&fuel_type',&tank_capacity,'&tank_id')
new   1: insert into fuel_tank values(2,'petrol',10,'501')
insert into fuel_tank values(2,'petrol',10,'501')
                              *
ERROR at line 1:
ORA-01722: invalid number


SQL> insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type');
Enter value for current_fuel: 2
Enter value for tank_capacity: 10
Enter value for tank_id: 501
Enter value for fuel_type: petrol
old   1: insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type')
new   1: insert into fuel_tank values(2,10,'501','petrol')

1 row created.

SQL> /
Enter value for current_fuel: 3
Enter value for tank_capacity: 12
Enter value for tank_id: 502
Enter value for fuel_type: diesel
old   1: insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type')
new   1: insert into fuel_tank values(3,12,'502','diesel')

1 row created.

SQL> /
Enter value for current_fuel: 30
Enter value for tank_capacity: 200
Enter value for tank_id: 503
Enter value for fuel_type: cng
old   1: insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type')
new   1: insert into fuel_tank values(30,200,'503','cng')
```

Type here to search

```
1 row created.

SQL> /
Enter value for current_fuel: 3.4
Enter value for tank_capacity: 20
Enter value for tank_id: 504
Enter value for fuel_type: petrol
old   1: insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type')
new   1: insert into fuel_tank values(3.4,20,'504','petrol')

1 row created.

SQL> /
Enter value for current_fuel: 6
Enter value for tank_capacity: 15
Enter value for tank_id: 505
Enter value for fuel_type: diesel
old   1: insert into fuel_tank values(&current_fuel,&tank_capacity,'&tank_id','&fuel_type')
new   1: insert into fuel_tank values(6,15,'505','diesel')

1 row created.

SQL> .
SQL> select * from users
  2  ;

   USER_ID USER_NAME            USER_MOBIL USER_EMAIL
---------- -------------------- ---------- --------------------
        10 ram                  1111111111 ram@gmail.com
        15 ravi                 2222222222 ravi@gmail.com
        20 3333333333
        25 sam                  3333333333 sam@gmail.com
        30 tom                  4444444444 tom@gmail.com
        35 andy                 5555555555 andy@gmail.com

6 rows selected.

SQL> select * from vehicle;

VEHICLE_ID    MIELAGE VEHICLE_NA VEHICLE_TY
---------- ---------- ---------- ----------
45                 90 glamour    2wheeler
50                100 activa     2wheeler
20                150 creta      4wheeler
55                160 enfield    2wheeler
35                170 duke       2wheeler

SQL> select * from fuel_tank;
```

```
SQL> select * from fuel_tank;

CURRENT_FUEL TANK_CAPACITY TANK_ID   FUEL_TYPE
------------ ------------- --------- ----------
           2            10 501       petrol
           3            12 502       diesel
          30           200 503       cng
           3            20 504       petrol
           6            15 505       diesel

SQL> desc has
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 USER_ID                                            NUMBER(5)
 VEHICLE_ID                                         VARCHAR2(10)
 DAY                                                DATE

SQL> insert into has values(&user_id,'&vehicle_id','&day');
Enter value for user_id: 10
Enter value for vehicle_id: 45
Enter value for day: 11-jan-2020
old   1: insert into has values(&user_id,'&vehicle_id','&day')
new   1: insert into has values(10,'45','11-jan-2020')

1 row created.

SQL> /
Enter value for user_id: 15
Enter value for vehicle_id: 50
Enter value for day: 02-dec-2019
old   1: insert into has values(&user_id,'&vehicle_id','&day')
new   1: insert into has values(15,'50','02-dec-2019')

1 row created.

SQL> /
Enter value for user_id: 20
Enter value for vehicle_id: 20
Enter value for day: 30-sep-2018
old   1: insert into has values(&user_id,'&vehicle_id','&day')
new   1: insert into has values(20,'20','30-sep-2018')

1 row created.

SQL> /
Enter value for user_id: 25
Enter value for vehicle_id: 55
Enter value for day: 12-aug-2019
old   1: insert into has values(&user_id,'&vehicle_id','&day')
```

```
1 row created.

SQL> desc contains
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 TANK_ID                                            VARCHAR2(10)
 VEHICLE_ID                                         VARCHAR2(10)

SQL> insert into contains values('&tank_id','&vehicle_id');
Enter value for tank_id: 501
Enter value for vehicle_id: 45
old   1: insert into contains values('&tank_id','&vehicle_id')
new   1: insert into contains values('501','45')

1 row created.

SQL> /
Enter value for tank_id: 502
Enter value for vehicle_id: 50
old   1: insert into contains values('&tank_id','&vehicle_id')
new   1: insert into contains values('502','50')

1 row created.

SQL> 503
SP2-0226: Invalid line number
SQL> /
Enter value for tank_id: 503
Enter value for vehicle_id: 25
old   1: insert into contains values('&tank_id','&vehicle_id')
new   1: insert into contains values('503','25')
insert into contains values('503','25')
*
ERROR at line 1:
ORA-02291: integrity constraint (SAIVIGNESH.SYS_C006991) violated - parent key
not found


SQL> /
Enter value for tank_id: 503
Enter value for vehicle_id: 20
old   1: insert into contains values('&tank_id','&vehicle_id')
new   1: insert into contains values('503','20')

1 row created.

SQL> /
Enter value for tank_id: 504
Enter value for vehicle_id: 55
old   1: insert into contains values('&tank_id','&vehicle_id')
```

```
SQL> 503
SP2-0226: Invalid line number
SQL> /
Enter value for tank_id: 503
Enter value for vehicle_id: 25
old    1: insert into contains values('&tank_id','&vehicle_id')
new    1: insert into contains values('503','25')
insert into contains values('503','25')
*
ERROR at line 1:
ORA-02291: integrity constraint (SAIVIGNESH.SYS_C006991) violated - parent key
not found


SQL> /
Enter value for tank_id: 503
Enter value for vehicle_id: 20
old    1: insert into contains values('&tank_id','&vehicle_id')
new    1: insert into contains values('503','20')

1 row created.

SQL> /
Enter value for tank_id: 504
Enter value for vehicle_id: 55
old    1: insert into contains values('&tank_id','&vehicle_id')
new    1: insert into contains values('504','55')

1 row created.

SQL> select * from has;

   USER_ID VEHICLE_ID DAY
---------- ---------- ---------
        10 45         11-JAN-20
        15 50         02-DEC-19
        20 20         30-SEP-18
        25 55         12-AUG-19

SQL> select * from contains;

TANK_ID    VEHICLE_ID
---------- ----------
501            45
502            50
503            20
504            55

SQL>
```
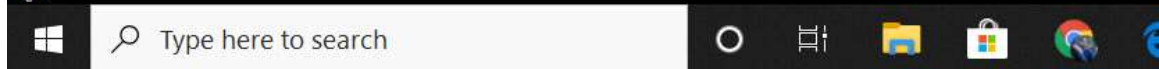
```
SQL*Plus: Release 11.2.0.2.0 Production on Wed Feb 12 05:50:55 2020

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SQL> conn
Enter user-name: saivignesh
Enter password:
Connected.
SQL> desc has
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 USER_ID                                            NUMBER(5)
 VEHICLE_ID                                         VARCHAR2(10)
 DAY                                                DATE

SQL> desc contains
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 TANK_ID                                            VARCHAR2(10)
 VEHICLE_ID                                         VARCHAR2(10)

SQL> rename has to users_vehicle;

Table renamed.

SQL> rename contains to detector_vehicle;

Table renamed.

SQL>
SQL> desc detector
ERROR:
ORA-04043: object detector does not exist


SQL> desc fuel_detector
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)
 FUEL_TYPE                                          VARCHAR2(10)

SQL> alter table fuel_detector RENAME COLUMN tank_capacity to capacity;

Table altered.

SQL> desc fuel_detector
 Name                                      Null?    Type
```

```
SQL> desc fuel_detector
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 TANK_CAPACITY                                      NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)
 FUEL_TYPE                                          VARCHAR2(10)

SQL> alter table fuel_detector RENAME COLUMN tank_capacity to capacity;

Table altered.

SQL> desc fuel_detector
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CURRENT_FUEL                                       NUMBER(5)
 CAPACITY                                           NUMBER(5)
 TANK_ID                                   NOT NULL VARCHAR2(10)
 FUEL_TYPE                                          VARCHAR2(10)

SQL> select * from tab;

TNAME                          TABTYPE  CLUSTERID
------------------------------ -------- ----------
DETECTOR_VEHICLE               TABLE
FUEL_DETECTOR                  TABLE
USERS                          TABLE
USERS_VEHICLE                  TABLE
VEHICLE                        TABLE

SQL>
```

Type here to search