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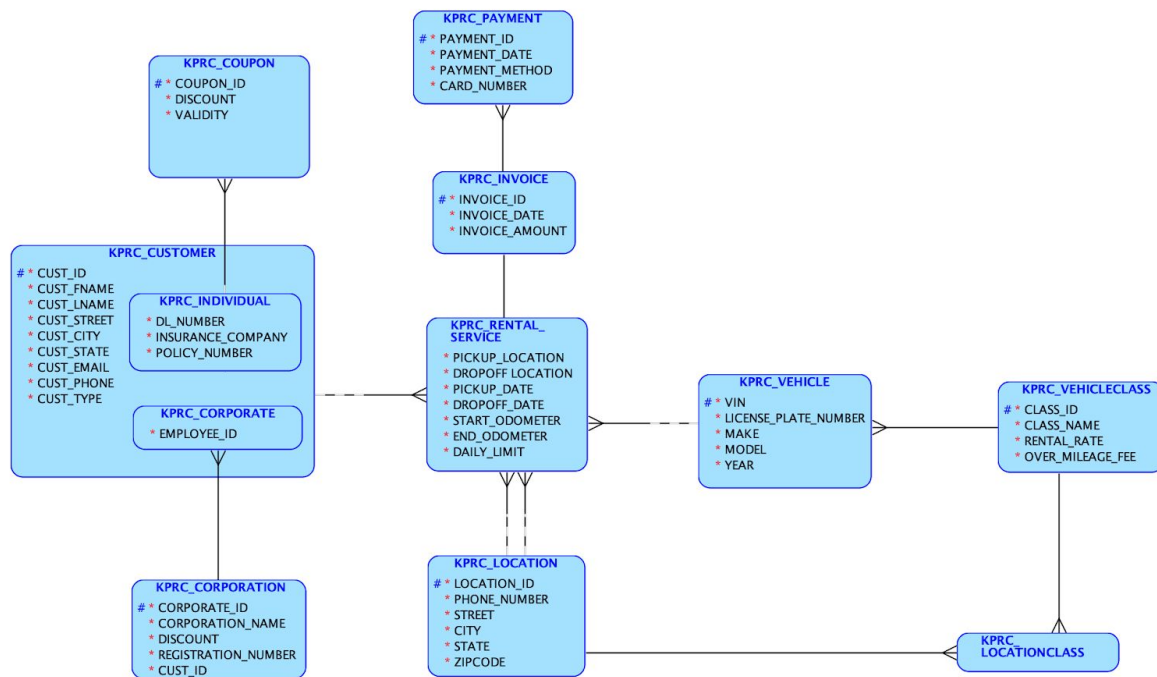
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Project part 1

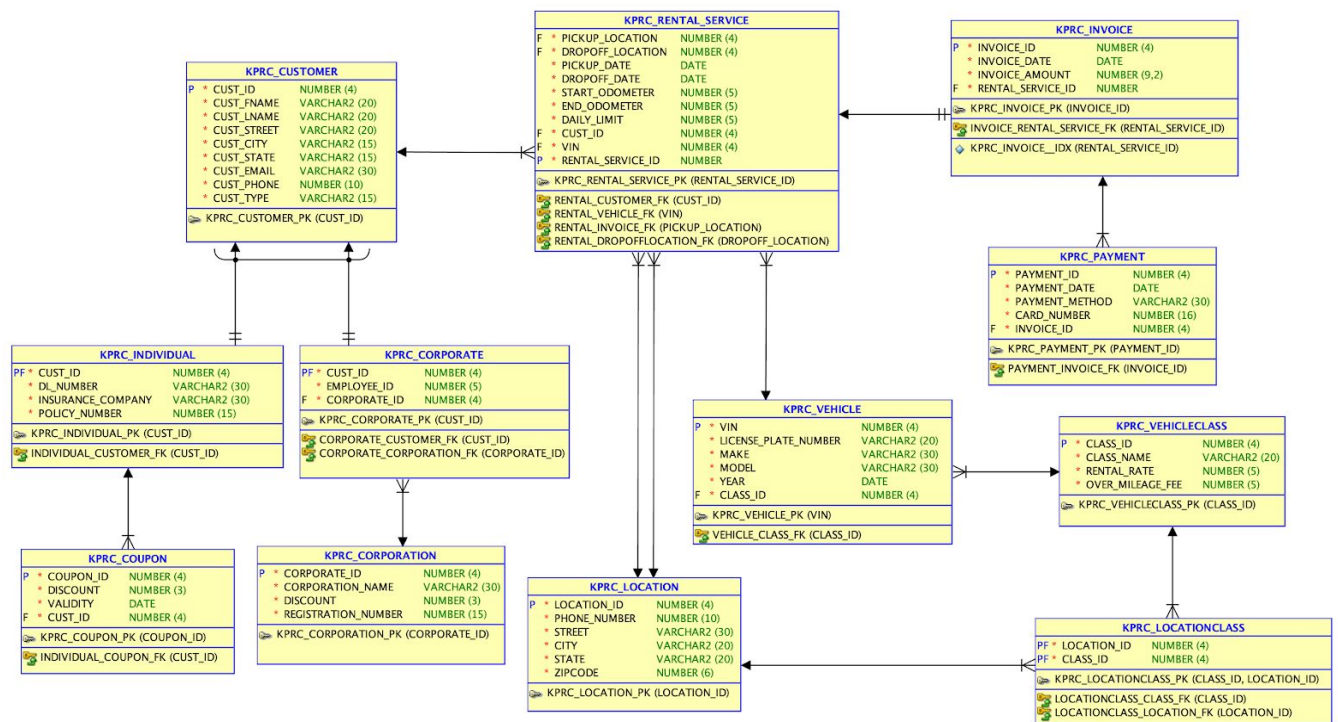
TABLE OF CONTENTS

- 1) LOGICAL MODEL
- 2) RELATIONAL MODEL
- 3) ASSUMPTIONS
- 4) DDL CODE
- 5) CHECK CONSTRAINTS
- 6) INSERTION COMMANDS
- 7) COUNT QUERIES
- 8) DATA DICTIONARY QUERIES
- 9) SQL QUERIES

a) LOGICAL MODEL



b) RELATIONAL MODEL



c) ASSUMPTIONS

- 1) We have assumed that a customer either belongs to the 'Individual' or 'Corporate' category, i.e., it is a disjoint constraint.
- 2) Each rental service will have one invoice generated(one to one) and one invoice can have multiple methods of payment(one to many)
- 3) One corporation can have many customers and one individual customer can have multiple coupons
- 4) We have assumed that discount attributes are in percentage.
- 5) Validity attribute denotes 'Valid Until' the attribute value and therefore takes a single date as input.

d) DDL CODE:

```
-- Generated by Oracle SQL Developer Data Modeler 20.2.0.167.1538
-- at:      2020-11-02 16:55:19 EST
-- site:    Oracle Database 12cR2
-- type:    Oracle Database 12cR2
```

```
-- predefined type, no DDL - MDSYS.SDO_GEOMETRY
```

```
-- predefined type, no DDL - XMLTYPE
```

```
CREATE TABLE kprc_corporate (
  cust_id    NUMBER(4) NOT NULL,
  employee_id NUMBER(5) NOT NULL,
  corporate_id NUMBER(4) NOT NULL
);
```

```
COMMENT ON COLUMN kprc_corporate.cust_id IS
  'Customer Id';
```

```
COMMENT ON COLUMN kprc_corporate.employee_id IS
  'Employee Id of the customer';
```

```
ALTER TABLE kprc_corporate ADD CONSTRAINT kprc_corporate_pk PRIMARY KEY (
  cust_id );
```

```
CREATE TABLE kprc_corporation (
  corporate_id    NUMBER(4) NOT NULL,
```

```
corporation_name  VARCHAR2(30) NOT NULL,  
discount          NUMBER(3) NOT NULL,  
registration_number NUMBER(15) NOT NULL,  
);
```

```
COMMENT ON COLUMN kprc_corporation.corporate_id IS  
'Corporate Id ';
```

```
COMMENT ON COLUMN kprc_corporation.corporation_name IS  
'Corporation Name';
```

```
COMMENT ON COLUMN kprc_corporation.discount IS  
'Discount provided for the corporation';
```

```
COMMENT ON COLUMN kprc_corporation.registration_number IS  
'Registration Number of the corporation';
```

```
ALTER TABLE kprc_corporation ADD CONSTRAINT kprc_corporation_pk PRIMARY KEY  
( corporate_id );
```

```
CREATE TABLE kprc_coupon (  
    coupon_id NUMBER(4) NOT NULL,  
    discount  NUMBER(3) NOT NULL,  
    validity  DATE NOT NULL,  
    cust_id   NUMBER(4) NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_coupon.coupon_id IS  
'Id of the coupon';
```

```
COMMENT ON COLUMN kprc_coupon.discount IS  
'Percentage discount';
```

```
COMMENT ON COLUMN kprc_coupon.validity IS  
'Validity Dates';
```

```
ALTER TABLE kprc_coupon ADD CONSTRAINT kprc_coupon_pk PRIMARY KEY (  
coupon_id );
```

```
CREATE TABLE kprc_customer (  

```

```

    cust_id    NUMBER(4) NOT NULL,
    cust_fname VARCHAR2(20) NOT NULL,
    cust_lname VARCHAR2(20) NOT NULL,
    cust_street VARCHAR2(20) NOT NULL,
    cust_city   VARCHAR2(15) NOT NULL,
    cust_state  VARCHAR2(15) NOT NULL,
    cust_email  VARCHAR2(30) NOT NULL,
    cust_phone  NUMBER(10) NOT NULL,
    cust_type   VARCHAR2(15) NOT NULL
);

ALTER TABLE kprc_customer
    ADD CONSTRAINT ch_inh_kprc_customer CHECK ( cust_type IN (
'KPRC_CORPORATE', 'KPRC_INDIVIDUAL' ) );

COMMENT ON COLUMN kprc_customer.cust_id IS
    'Customer Id';

COMMENT ON COLUMN kprc_customer.cust_fname IS
    'First name of the customer';

COMMENT ON COLUMN kprc_customer.cust_lname IS
    'Last Name of the customer';

COMMENT ON COLUMN kprc_customer.cust_street IS
    'Street address of the customer';

COMMENT ON COLUMN kprc_customer.cust_city IS
    'City of the customer';

COMMENT ON COLUMN kprc_customer.cust_state IS
    'State of the customer';

COMMENT ON COLUMN kprc_customer.cust_email IS
    'Email of the customer';

COMMENT ON COLUMN kprc_customer.cust_phone IS
    'Phone number of customer';

COMMENT ON COLUMN kprc_customer.cust_type IS

```


'Type of customer';

```
ALTER TABLE kprc_customer ADD CONSTRAINT kprc_customer_pk PRIMARY KEY (
cust_id );
```

```
CREATE TABLE kprc_individual (
    cust_id      NUMBER(4) NOT NULL,
    dl_number    VARCHAR2(30) NOT NULL,
    insurance_company VARCHAR2(30) NOT NULL,
    policy_number NUMBER(15) NOT NULL
);
```

```
COMMENT ON COLUMN kprc_individual.cust_id IS
'Customer Id';
```

```
COMMENT ON COLUMN kprc_individual.dl_number IS
'Driver License Number';
```

```
COMMENT ON COLUMN kprc_individual.insurance_company IS
'Insurance company name';
```

```
COMMENT ON COLUMN kprc_individual.policy_number IS
'Policy Number of insurance';
```

```
ALTER TABLE kprc_individual ADD CONSTRAINT kprc_individual_pk PRIMARY KEY (
cust_id );
```

```
CREATE TABLE kprc_invoice (
    invoice_id    NUMBER(4) NOT NULL,
    invoice_date  DATE NOT NULL,
    invoice_amount NUMBER(9, 2) NOT NULL,
    rental_service_id NUMBER NOT NULL
);
```

```
COMMENT ON COLUMN kprc_invoice.invoice_id IS
'Id of the invoice';
```

```
COMMENT ON COLUMN kprc_invoice.invoice_date IS
'Date when invoice is generated';
```

```
COMMENT ON COLUMN kprc_invoice.invoice_amount IS  
'Amount in the invoice';
```

```
CREATE UNIQUE INDEX kprc_invoice__idx ON  
  kprc_invoice (  
    rental_service_id  
  ASC );
```

```
ALTER TABLE kprc_invoice ADD CONSTRAINT kprc_invoice_pk PRIMARY KEY (  
invoice_id );
```

```
CREATE TABLE kprc_location (  
  location_id  NUMBER(4) NOT NULL,  
  phone_number NUMBER(10) NOT NULL,  
  street       VARCHAR2(30) NOT NULL,  
  city         VARCHAR2(20) NOT NULL,  
  state        VARCHAR2(20) NOT NULL,  
  zipcode      NUMBER(6) NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_location.location_id IS  
'Location Id';
```

```
COMMENT ON COLUMN kprc_location.phone_number IS  
'Phone number of the location';
```

```
COMMENT ON COLUMN kprc_location.street IS  
'Street address of the location';
```

```
COMMENT ON COLUMN kprc_location.city IS  
'City of the location';
```

```
COMMENT ON COLUMN kprc_location.state IS  
'State of the location';
```

```
COMMENT ON COLUMN kprc_location.zipcode IS  
'Zipcode of the location';
```

```
ALTER TABLE kprc_location ADD CONSTRAINT kprc_location_pk PRIMARY KEY (  
location_id );
```

```
CREATE TABLE kprc_locationclass (  
    location_id NUMBER(4) NOT NULL,  
    class_id    NUMBER(4) NOT NULL  
);
```

```
ALTER TABLE kprc_locationclass ADD CONSTRAINT kprc_locationclass_pk PRIMARY  
KEY ( class_id,  
                                             location_id );
```

```
CREATE TABLE kprc_payment (  
    payment_id    NUMBER(4) NOT NULL,  
    payment_date  DATE NOT NULL,  
    payment_method VARCHAR2(30) NOT NULL,  
    card_number   NUMBER(16) NOT NULL,  
    invoice_id    NUMBER(4) NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_payment.payment_id IS  
    'Id of the payment';
```

```
COMMENT ON COLUMN kprc_payment.payment_date IS  
    'Date of the payment';
```

```
COMMENT ON COLUMN kprc_payment.payment_method IS  
    'Method of the payment';
```

```
COMMENT ON COLUMN kprc_payment.card_number IS  
    'Card number used in the payment';
```

```
ALTER TABLE kprc_payment ADD CONSTRAINT kprc_payment_pk PRIMARY KEY (  
payment_id );
```

```
CREATE TABLE kprc_rental_service (  
    pickup_location  NUMBER(4) NOT NULL,  
    dropoff_location NUMBER(4) NOT NULL,  
    pickup_date      DATE NOT NULL,  
    dropoff_date     DATE NOT NULL,  
    start_odometer   NUMBER(5) NOT NULL,  
    end_odometer     NUMBER(5) NOT NULL,
```

```
daily_limit    NUMBER(5) NOT NULL,  
cust_id        NUMBER(4) NOT NULL,  
vin            NUMBER(4) NOT NULL,  
invoice_id     NUMBER(4) NOT NULL,  
rental_service_id NUMBER NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_rental_service.pickup_location IS  
'Pickup location of the vehicle';
```

```
COMMENT ON COLUMN kprc_rental_service.dropoff_location IS  
'Dropoff location of the vehicle';
```

```
COMMENT ON COLUMN kprc_rental_service.pickup_date IS  
'Date of the pickup';
```

```
COMMENT ON COLUMN kprc_rental_service.dropoff_date IS  
'Date of dropoff';
```

```
COMMENT ON COLUMN kprc_rental_service.start_odometer IS  
'Odometer reading at the start';
```

```
COMMENT ON COLUMN kprc_rental_service.end_odometer IS  
'Odometer reading at the end';
```

```
COMMENT ON COLUMN kprc_rental_service.daily_limit IS  
'Daily Odometer Limit';
```

```
CREATE UNIQUE INDEX kprc_rental_service__idx ON  
kprc_rental_service (  
    invoice_id  
ASC );
```

```
ALTER TABLE kprc_rental_service ADD CONSTRAINT kprc_rental_service_pk PRIMARY  
KEY ( rental_service_id );
```

```
CREATE TABLE kprc_vehicle (  
    vin            NUMBER(4) NOT NULL,  
    license_plate_number VARCHAR2(20) NOT NULL,  
    make           VARCHAR2(30) NOT NULL,
```

```
    model          VARCHAR2(30) NOT NULL,  
    year           DATE NOT NULL,  
    class_id       NUMBER(4) NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_vehicle.vin IS  
    'Vehicle Identification Number';
```

```
COMMENT ON COLUMN kprc_vehicle.license_plate_number IS  
    'License Plate Number';
```

```
COMMENT ON COLUMN kprc_vehicle.make IS  
    'Make of the vehicle';
```

```
COMMENT ON COLUMN kprc_vehicle.model IS  
    'Model of the vehicle';
```

```
COMMENT ON COLUMN kprc_vehicle.year IS  
    'Year of manufacture of the vehicle';
```

```
ALTER TABLE kprc_vehicle ADD CONSTRAINT kprc_vehicle_pk PRIMARY KEY ( vin );
```

```
CREATE TABLE kprc_vehicleclass (  
    class_id       NUMBER(4) NOT NULL,  
    class_name     VARCHAR2(20) NOT NULL,  
    rental_rate    NUMBER(5) NOT NULL,  
    over_mileage_fee NUMBER(5) NOT NULL  
);
```

```
COMMENT ON COLUMN kprc_vehicleclass.class_id IS  
    'Id of the class of vehicle';
```

```
COMMENT ON COLUMN kprc_vehicleclass.class_name IS  
    'Name of the class';
```

```
COMMENT ON COLUMN kprc_vehicleclass.rental_rate IS  
    'Rental rate per day for the class';
```

```
COMMENT ON COLUMN kprc_vehicleclass.over_mileage_fee IS  
    'Over mileage fee for the class';
```

```
ALTER TABLE kprc_vehicleclass ADD CONSTRAINT kprc_vehicleclass_pk PRIMARY  
KEY ( class_id );
```

```
ALTER TABLE kprc_corporate  
ADD CONSTRAINT corporate_corporation_fk FOREIGN KEY ( corporate_id )  
REFERENCES kprc_corporation ( corporate_id );
```

```
ALTER TABLE kprc_corporate  
ADD CONSTRAINT corporate_customer_fk FOREIGN KEY ( cust_id )  
REFERENCES kprc_customer ( cust_id );
```

```
ALTER TABLE kprc_coupon  
ADD CONSTRAINT individual_coupon_fk FOREIGN KEY ( cust_id )  
REFERENCES kprc_individual ( cust_id );
```

```
ALTER TABLE kprc_individual  
ADD CONSTRAINT individual_customer_fk FOREIGN KEY ( cust_id )  
REFERENCES kprc_customer ( cust_id );
```

```
ALTER TABLE kprc_invoice  
ADD CONSTRAINT invoice_rental_service_fk FOREIGN KEY ( rental_service_id )  
REFERENCES kprc_rental_service ( rental_service_id );
```

```
ALTER TABLE kprc_locationclass  
ADD CONSTRAINT locationclass_class_fk FOREIGN KEY ( class_id )  
REFERENCES kprc_vehicleclass ( class_id );
```

```
ALTER TABLE kprc_locationclass  
ADD CONSTRAINT locationclass_location_fk FOREIGN KEY ( location_id )  
REFERENCES kprc_location ( location_id );
```

```
ALTER TABLE kprc_payment  
ADD CONSTRAINT payment_invoice_fk FOREIGN KEY ( invoice_id )  
REFERENCES kprc_invoice ( invoice_id );
```

```
ALTER TABLE kprc_rental_service  
ADD CONSTRAINT rental_customer_fk FOREIGN KEY ( cust_id )  
REFERENCES kprc_customer ( cust_id );
```

```
ALTER TABLE kprc_rental_service
ADD CONSTRAINT rental_dropofflocation_fk FOREIGN KEY ( dropoff_location )
REFERENCES kprc_location ( location_id );
```

```
ALTER TABLE kprc_rental_service
ADD CONSTRAINT rental_invoice_fk FOREIGN KEY ( invoice_id )
REFERENCES kprc_invoice ( invoice_id );
```

```
ALTER TABLE kprc_rental_service
ADD CONSTRAINT rental_pickuplocation_fk FOREIGN KEY ( pickup_location )
REFERENCES kprc_location ( location_id );
```

```
ALTER TABLE kprc_rental_service
ADD CONSTRAINT rental_vehicle_fk FOREIGN KEY ( vin )
REFERENCES kprc_vehicle ( vin );
```

```
ALTER TABLE kprc_vehicle
ADD CONSTRAINT vehicle_class_fk FOREIGN KEY ( class_id )
REFERENCES kprc_vehicleclass ( class_id );
```

```
CREATE OR REPLACE TRIGGER arc_fkarc_1_kprc_individual BEFORE
INSERT OR UPDATE OF cust_id ON kprc_individual
FOR EACH ROW
```

```
DECLARE
```

```
    d VARCHAR2(15);
```

```
BEGIN
```

```
    SELECT
```

```
        a.cust_type
```

```
    INTO d
```

```
    FROM
```

```
        kprc_customer a
```

```
    WHERE
```

```
        a.cust_id = :new.cust_id;
```

```
    IF ( d IS NULL OR d <> 'KPRC_INDIVIDUAL' ) THEN
```

```
        raise_application_error(-20223,
```

```
            'FK INDIVIDUAL_CUSTOMER_FK in Table KPRC_INDIVIDUAL
violates Arc constraint on Table KPRC_CUSTOMER - discriminator column CUST_TYPE
doesn't have value "KPRC_INDIVIDUAL"');
    END IF;
```

```
EXCEPTION
  WHEN no_data_found THEN
    NULL;
  WHEN OTHERS THEN
    RAISE;
END;
/
```

```
CREATE OR REPLACE TRIGGER arc_fkarc_1_kprc_corporate BEFORE
  INSERT OR UPDATE OF cust_id ON kprc_corporate
  FOR EACH ROW
DECLARE
  d VARCHAR2(15);
BEGIN
  SELECT
    a.cust_type
  INTO d
  FROM
    kprc_customer a
  WHERE
    a.cust_id = :new.cust_id;

  IF ( d IS NULL OR d <> 'KPRC_CORPORATE' ) THEN
    raise_application_error(-20223,
      'FK CORPORATE_CUSTOMER_FK in Table KPRC_CORPORATE
violates Arc constraint on Table KPRC_CUSTOMER - discriminator column CUST_TYPE
doesn"t have value "KPRC_CORPORATE"');
  END IF;
```

```
EXCEPTION
  WHEN no_data_found THEN
    NULL;
  WHEN OTHERS THEN
    RAISE;
END;
/
```

```
CREATE SEQUENCE kprc_rental_service_rental_ser START WITH 1 NOCACHE ORDER;
```



```

CREATE OR REPLACE TRIGGER kprc_rental_service_rental_ser BEFORE
  INSERT ON kprc_rental_service
  FOR EACH ROW
  WHEN ( new.rental_service_id IS NULL )
BEGIN
  :new.rental_service_id := kprc_rental_service_rental_ser.nextval;
END;
/

```

-- Oracle SQL Developer Data Modeler Summary Report:

```

--
-- CREATE TABLE          12
-- CREATE INDEX           2
-- ALTER TABLE          27
-- CREATE VIEW            0
-- ALTER VIEW            0
-- CREATE PACKAGE         0
-- CREATE PACKAGE BODY    0
-- CREATE PROCEDURE       0
-- CREATE FUNCTION       0
-- CREATE TRIGGER         3
-- ALTER TRIGGER         0
-- CREATE COLLECTION TYPE 0
-- CREATE STRUCTURED TYPE 0
-- CREATE STRUCTURED TYPE BODY 0
-- CREATE CLUSTER        0
-- CREATE CONTEXT        0
-- CREATE DATABASE       0
-- CREATE DIMENSION     0
-- CREATE DIRECTORY      0
-- CREATE DISK GROUP     0
-- CREATE ROLE           0
-- CREATE ROLLBACK SEGMENT 0
-- CREATE SEQUENCE       1
-- CREATE MATERIALIZED VIEW 0
-- CREATE MATERIALIZED VIEW LOG 0
-- CREATE SYNONYM        0
-- CREATE TABLESPACE    0

```

| | |
|-----------------------|---|
| -- CREATE USER | 0 |
| -- | |
| -- DROP TABLESPACE | 0 |
| -- DROP DATABASE | 0 |
| -- | |
| -- REDACTION POLICY | 0 |
| -- | |
| -- ORDS DROP SCHEMA | 0 |
| -- ORDS ENABLE SCHEMA | 0 |
| -- ORDS ENABLE OBJECT | 0 |
| -- | |
| -- ERRORS | 0 |
| -- WARNINGS | 0 |

e) CHECK CONSTRAINTS

Discount is NOT negative:

```
ALTER TABLE KPRC_CORPORATION ADD CONSTRAINT C_DISCOUNT  
CHECK(DISCOUNT >= 0);
```

```
ALTER TABLE KPRC_COUPON ADD CONSTRAINT C_DISCOUNT CHECK(DISCOUNT  
>= 0);
```

Customer FNAME & LNAME in upper case only:

```
ALTER TABLE KPRC_CUSTOMER ADD CONSTRAINT C_CUST_FNAME  
CHECK(CUST_FNAME = UPPER(CUST_FNAME));
```

```
ALTER TABLE KPRC_CUSTOMER ADD CONSTRAINT C_CUST_LNAME  
CHECK(CUST_LNAME = UPPER(CUST_LNAME));
```

Customer can only be of one type CORPORATE or INDIVIDUAL

```
ALTER TABLE kprc_customer  
ADD CONSTRAINT ch_inh_kprc_customer CHECK ( cust_id IN (  
'KPRC_CORPORATE', 'KPRC_INDIVIDUAL' ) );
```

f) INSERTION COMMANDS

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(1, 'STEVE', 'SMITH', 'LAKE', 'JERSEY CITY', 'NEW JERSEY',  
'steve1@gmail.com', 1234567890, 'KPRC_INDIVIDUAL');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(2, 'ALAN', 'JOE', 'RIVER', 'BROOKLYN', 'NEW YORK',  
'alanjoe@gmail.com', 9876543210, 'KPRC_CORPORATE');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(3, 'KUNDA', 'RO', 'SEA', 'MANHATTAN', 'NEW YORK',  
'kundaro@gmail.com', 1221321387, 'KPRC_CORPORATE');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(4, 'DEEP', 'MIND', 'TANDON', 'BROOKLYN', 'NEW YORK',  
'deepmind@gmail.com', 9281826172, 'KPRC_INDIVIDUAL');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(5, 'ALPHA', 'BETA', 'SPRING', 'MANHATTAN', 'NEW YORK',  
'alphab@gmail.com', 1928563826, 'KPRC_CORPORATE');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,  
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,  
CUST_TYPE) values(6, 'ALBERT', 'FUHRER', 'CANAL', 'JERSEY CITY', 'NEW  
JERSEY', 'albertf@gmail.com', 9386389574, 'KPRC_INDIVIDUAL');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,
CUST_TYPE) values(7, 'ROGER', 'FEDERER', 'CHAMBERS', 'MANHATTAN', 'NEW
YORK', 'rogerf@gmail.com', 8663538365, 'KPRC_CORPORATE');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,
CUST_TYPE) values(8, 'RAFAEL', 'NADAL', 'WESTFOUR', 'JERSEY CITY', 'NEW
JERSEY', 'rafaeln@gmail.com', 9575937574, 'KPRC_INDIVIDUAL');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,
CUST_TYPE) values(9, 'TIM', 'COOK', 'BLEEKER', 'MANHATTAN', 'NEW YORK',
'timcook@gmail.com', 7483658393, 'KPRC_CORPORATE');
```

```
insert into KPRC_CUSTOMER(CUST_ID, CUST_FNAME, CUST_LNAME,
CUST_STREET, CUST_CITY, CUST_STATE, CUST_EMAIL, CUST_PHONE,
CUST_TYPE) values(10, 'JAY', 'PEARSON', 'PRINCE', 'BROOKLYN', 'NEW YORK',
'jayp@gmail.com', 9382646439, 'KPRC_INDIVIDUAL');
```

1

select * from KPRC_CUSTOMER;

| CUST_ID | CUST_FNAME | CUST_LNAME | CUST_STREET | CUST_CITY | CUST_STATE | CUST_EMAIL | CUST_PHONE | CUST_TYPE |
|---------|------------|------------|-------------|-------------|------------|--------------------|------------|-----------------|
| 1 | STEVE | SMITH | LAKE | JERSEY CITY | NEW JERSEY | steve1@gmail.com | 1234567890 | KPRC_INDIVIDUAL |
| 2 | ALAN | JOE | RIVER | BROOKLYN | NEW YORK | alanjoe@gmail.com | 9876543210 | KPRC_CORPORATE |
| 3 | KUNDA | RO | SEA | MANHATTAN | NEW YORK | kundaro@gmail.com | 1221321387 | KPRC_CORPORATE |
| 4 | DEEP | MIND | TANDON | BROOKLYN | NEW YORK | deepmind@gmail.com | 9281826172 | KPRC_INDIVIDUAL |
| 5 | ALPHA | BETA | SPRING | MANHATTAN | NEW YORK | alphab@gmail.com | 1928563826 | KPRC_CORPORATE |
| 6 | ALBERT | FUHRER | CANAL | JERSEY CITY | NEW JERSEY | albertf@gmail.com | 9386389574 | KPRC_INDIVIDUAL |
| 7 | ROGER | FEDERER | CHAMBERS | MANHATTAN | NEW YORK | rogerf@gmail.com | 8663538365 | KPRC_CORPORATE |
| 8 | RAFAEL | NADAL | WESTFOUR | JERSEY CITY | NEW JERSEY | rafaeln@gmail.com | 9575937574 | KPRC_INDIVIDUAL |
| 9 | TIM | COOK | BLEEKER | MANHATTAN | NEW YORK | timcook@gmail.com | 7483658393 | KPRC_CORPORATE |
| 10 | JAY | PEARSON | PRINCE | BROOKLYN | NEW YORK | jayp@gmail.com | 9382646439 | KPRC_INDIVIDUAL |

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10 rows selected.

--

insert into KPRC_INDIVIDUAL(CUST_ID, DL_NUMBER, INSURANCE_COMPANY, POLICY_NUMBER) values(1, 'NY05AB1234', 'PEARSON', 192847285728172);

insert into KPRC_INDIVIDUAL(CUST_ID, DL_NUMBER, INSURANCE_COMPANY, POLICY_NUMBER) values(4, 'NY03CD1124', 'HARDMAN', 986757483757127);

insert into KPRC_INDIVIDUAL(CUST_ID, DL_NUMBER, INSURANCE_COMPANY, POLICY_NUMBER) values(6, 'NJ05EF4534', 'AIG', 827593798165836);

insert into KPRC_INDIVIDUAL(CUST_ID, DL_NUMBER, INSURANCE_COMPANY, POLICY_NUMBER) values(8, 'CN01DD3421', 'RBC', 857549187564718);

insert into KPRC_INDIVIDUAL(CUST_ID, DL_NUMBER, INSURANCE_COMPANY, POLICY_NUMBER) values(10, 'CH99ZZ8481', 'BLOOM', 182957481657165);

1

select * from KPRC_INDIVIDUAL;

2

| CUST_ID | DL_NUMBER | INSURANCE_COMPANY | POLICY_NUMBER |
|---------|------------|-------------------|-----------------|
| 1 | NY05AB1234 | PEARSON | 192847285728172 |
| 4 | NY03CD1124 | HARDMAN | 986757483757127 |
| 6 | NJ05EF4534 | AIG | 827593798165836 |
| 8 | CN01DD3421 | RBC | 857549187564718 |
| 10 | CH99ZZ8481 | BLOOM | 182957481657165 |

Download CSV

5 rows selected.

--


```
insert into KPRC_CORPORATION(CORPORATE_ID,  
CORPORATION_NAME,DISCOUNT, REGISTRATION_NUMBER) values(201,  
'SPECTER', 10, 123245678909876);
```

```
insert into KPRC_CORPORATION(CORPORATE_ID,  
CORPORATION_NAME,DISCOUNT, REGISTRATION_NUMBER) values(202,  
'HARVEY', 15, 817281728271827);
```

```
insert into KPRC_CORPORATION(CORPORATE_ID,  
CORPORATION_NAME,DISCOUNT, REGISTRATION_NUMBER) values(203,  
'NICHOLS', 20, 297564738171846);
```

```
1 select * from KPRC_CORPORATION;
```

| CORPORATE_ID | CORPORATION_NAME | DISCOUNT | REGISTRATION_NUMBER |
|--------------|------------------|----------|---------------------|
| 201 | SPECTER | 10 | 123245678909876 |
| 202 | HARVEY | 15 | 817281728271827 |
| 203 | NICHOLS | 20 | 297564738171846 |

[Download CSV](#)

3 rows selected.

--

```
insert into KPRC_CORPORATE(CUST_ID, EMPLOYEE_ID, CORPORATE_ID)  
values(2, 12345, 201);
```

```
insert into KPRC_CORPORATE(CUST_ID, EMPLOYEE_ID, CORPORATE_ID)  
values(3, 21231, 202);
```



```
insert into KPRC_CORPORATE(CUST_ID, EMPLOYEE_ID, CORPORATE_ID)
values(5, 12231, 201);
```

```
insert into KPRC_CORPORATE(CUST_ID, EMPLOYEE_ID, CORPORATE_ID)
values(7, 57271, 203);
```

```
insert into KPRC_CORPORATE(CUST_ID, EMPLOYEE_ID, CORPORATE_ID)
values(9, 19491, 202);
```

```
1 select * from KPRC_CORPORATE;
```

| CUST_ID | EMPLOYEE_ID | CORPORATE_ID |
|---------|-------------|--------------|
| 2 | 12345 | 201 |
| 3 | 21231 | 202 |
| 5 | 12231 | 201 |
| 7 | 57271 | 203 |
| 9 | 19491 | 202 |

[Download CSV](#)

5 rows selected.

--

```
insert into KPRC_LOCATION(LOCATION_ID, PHONE_NUMBER, STREET, CITY,
STATE, ZIPCODE) values(1001, 1234567890, 'CARLTON', 'LOS ANGELES',
'CALIFORNIA', 201304);
```

```
insert into KPRC_LOCATION(LOCATION_ID, PHONE_NUMBER, STREET, CITY,
STATE, ZIPCODE) values(1002, 8182728181, 'RALPH', 'SAN DIEGO', 'CALIFORNIA',
202010);
```

```
insert into KPRC_LOCATION(LOCATION_ID, PHONE_NUMBER, STREET, CITY, STATE, ZIPCODE) values(1003, 9191292189, 'LAUREN', 'JOSE', 'CALIFORNIA', 104919);
```

```
insert into KPRC_LOCATION(LOCATION_ID, PHONE_NUMBER, STREET, CITY, STATE, ZIPCODE) values(1004, 0192929319, 'BALENCI', 'MIAMI', 'FLORIDA', 391922);
```

```
insert into KPRC_LOCATION(LOCATION_ID, PHONE_NUMBER, STREET, CITY, STATE, ZIPCODE) values(1005, 1019293919, 'LORK', 'NEW YORK', 'NEW YORK', 101929);
```

```
1 select * from KPRC_LOCATION;
```

| LOCATION_ID | PHONE_NUMBER | STREET | CITY | STATE | ZIPCODE |
|-------------|--------------|---------|-------------|------------|---------|
| 1001 | 1234567890 | CARLTON | LOS ANGELES | CALIFORNIA | 201304 |
| 1002 | 8182728181 | RALPH | SAN DIEGO | CALIFORNIA | 202010 |
| 1003 | 9191292189 | LAUREN | JOSE | CALIFORNIA | 104919 |
| 1004 | 192929319 | BALENCI | MIAMI | FLORIDA | 391922 |
| 1005 | 1019293919 | LORK | NEW YORK | NEW YORK | 101929 |

[Download CSV](#)

5 rows selected.

--

```
insert into KPRC_VEHICLECLASS(CLASS_ID, CLASS_NAME, RENTAL_RATE, OVER_MILEAGE_FEE) values(1, 'SMALL CAR', 20, 2);
```

insert into KPRC_VEHICLECLASS(CLASS_ID, CLASS_NAME, RENTAL_RATE, OVER_MILEAGE_FEE) values(2, 'LUXURY CAR', 40, 5);

insert into KPRC_VEHICLECLASS(CLASS_ID, CLASS_NAME, RENTAL_RATE, OVER_MILEAGE_FEE) values(3, 'SMALL CAR', 25, 7);

insert into KPRC_VEHICLECLASS(CLASS_ID, CLASS_NAME, RENTAL_RATE, OVER_MILEAGE_FEE) values(4, 'SUV', 30, 4);

insert into KPRC_VEHICLECLASS(CLASS_ID, CLASS_NAME, RENTAL_RATE, OVER_MILEAGE_FEE) values(5, 'MINI VAN', 35, 8);

1 **select * from KPRC_VEHICLECLASS;**

| CLASS_ID | CLASS_NAME | RENTAL_RATE | OVER_MILEAGE_FEE |
|----------|------------|-------------|------------------|
| 1 | SMALL CAR | 20 | 2 |
| 2 | LUXURY CAR | 40 | 5 |
| 3 | SMALL CAR | 25 | 7 |
| 4 | SUV | 30 | 4 |
| 5 | MINI VAN | 35 | 8 |

[Download CSV](#)

5 rows selected.

--

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1001, 2);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1002, 4);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1001, 5);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1004, 1);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1004, 3);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1003, 2);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1003, 1);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1002, 2);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1005, 5);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1005, 1);

insert into KPRC_LOCATIONCLASS(LOCATION_ID, CLASS_ID) values(1001, 3);

```
1 select * from KPRC_LOCATIONCLASS;
```

| LOCATION_ID | CLASS_ID |
|-------------|----------|
| 1003 | 1 |
| 1004 | 1 |
| 1005 | 1 |
| 1001 | 2 |
| 1002 | 2 |
| 1003 | 2 |
| 1001 | 3 |
| 1004 | 3 |
| 1002 | 4 |
| 1001 | 5 |
| 1005 | 5 |

[Download CSV](#)

11 rows selected.

--

```
insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL,  
YEAR, CLASS_ID) values(11, 'LVG 0282', 'GERMAN', 'C CLASS', TO_DATE('2004',  
'YYYY'), 1);
```

```
insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL,  
YEAR, CLASS_ID) values(12, 'LVG 1234', 'AMERICAN', 'A CLASS',  
TO_DATE('2010', 'YYYY'), 2);
```

```
insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL,  
YEAR, CLASS_ID) values(13, 'CAL 1214', 'JAPANESE', 'C CLASS', TO_DATE('2015',  
'YYYY'), 4);
```

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(14, 'NY 9292', 'INDIAN', 'B CLASS', TO_DATE('2017', 'YYYY'), 3);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(15, 'FL 1245', 'AMERICAN', 'R CLASS', TO_DATE('2015', 'YYYY'), 5);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(16, 'CN 5710', 'AMERICAN', '5 SERIES', TO_DATE('2019', 'YYYY'), 3);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(17, 'NY 5893', 'JAPANESE', 'A CLASS', TO_DATE('2010', 'YYYY'), 4);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(18, 'TX 1238', 'GERMAN', '1 SERIES', TO_DATE('2014', 'YYYY'), 1);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(19, 'MX 4943', 'GERMAN', '6 SERIES', TO_DATE('2017', 'YYYY'), 4);

insert into KPRC_VEHICLE(VIN, LICENSE_PLATE_NUMBER, MAKE, MODEL, YEAR, CLASS_ID) values(20, 'NJ 2822', 'JAPANESE', 'S CLASS', TO_DATE('2018', 'YYYY'), 5);

```
1 select * from KPRC_VEHICLE;
```

| VIN | LICENSE_PLATE_NUMBER | MAKE | MODEL | YEAR | CLASS_ID |
|-----|----------------------|----------|----------|-----------|----------|
| 11 | LVG 0282 | GERMAN | C CLASS | 01-NOV-04 | 1 |
| 12 | LVG 1234 | AMERICAN | A CLASS | 01-NOV-10 | 2 |
| 13 | CAL 1214 | JAPANESE | C CLASS | 01-NOV-15 | 4 |
| 14 | NY 9292 | INDIAN | B CLASS | 01-NOV-17 | 3 |
| 15 | FL 1245 | AMERICAN | R CLASS | 01-NOV-15 | 5 |
| 16 | CN 5710 | AMERICAN | 5 SERIES | 01-NOV-19 | 3 |
| 17 | NY 5893 | JAPANESE | A CLASS | 01-NOV-10 | 4 |
| 18 | TX 1238 | GERMAN | 1 SERIES | 01-NOV-14 | 1 |
| 19 | MX 4943 | GERMAN | 6 SERIES | 01-NOV-17 | 4 |
| 20 | NJ 2822 | JAPANESE | S CLASS | 01-NOV-18 | 5 |

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10 rows selected.

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```
insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION,  
PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER,  
DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1001, 1005,  
TO_DATE('04/05/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('04/09/2022  
17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 500, 700, 1000, 1, 11, 301);
```

```
insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION,  
PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER,  
DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1001, 1003,  
TO_DATE('05/06/2020 15:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('05/08/2020  
16:08:52', 'MM/DD/YYYY HH24:MI:SS'), 600, 900, 1000, 2, 12, 302);
```

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1002, 1005, TO_DATE('06/07/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('06/09/2020 19:08:52', 'MM/DD/YYYY HH24:MI:SS'), 100, 700, 1000, 3, 13, 303);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1002, 1004, TO_DATE('07/08/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('07/10/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 500, 800, 1000, 4, 14, 304);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1004, 1005, TO_DATE('08/09/2020 13:00:00', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('08/15/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), 150, 250, 1000, 5, 15, 305);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1004, 1001, TO_DATE('09/10/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('09/11/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 100, 700, 1000, 6, 16, 306);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1004, 1003, TO_DATE('10/11/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('10/19/2020 22:08:52', 'MM/DD/YYYY HH24:MI:SS'), 450, 750, 1000, 7, 17, 307);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1003, 1002, TO_DATE('11/12/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('11/15/2020 19:08:52', 'MM/DD/YYYY HH24:MI:SS'), 190, 410, 1000, 8, 18, 308);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1003, 1001,

TO_DATE('12/13/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('12/17/2020 18:08:52', 'MM/DD/YYYY HH24:MI:SS'), 160, 900, 1000, 9, 19, 309);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1003, 1005, TO_DATE('01/14/2020 11:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('01/15/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 444, 555, 1000, 10, 20, 310);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1005, 1001, TO_DATE('02/15/2020 12:00:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('02/18/2020 14:05:52', 'MM/DD/YYYY HH24:MI:SS'), 111, 222, 1000, 1, 11, 311);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1005, 1002, TO_DATE('03/16/2020 10:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('03/19/2020 14:15:52', 'MM/DD/YYYY HH24:MI:SS'), 777, 888, 1000, 2, 12, 312);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1001, 1002, TO_DATE('04/17/2020 11:00:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('04/19/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 123, 321, 1000, 3, 13, 313);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1001, 1004, TO_DATE('05/18/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('05/19/2020 11:00:52', 'MM/DD/YYYY HH24:MI:SS'), 144, 500, 1000, 4, 14, 314);

insert into KPRC_RENTAL_SERVICE(PICKUP_LOCATION, DROPOFF_LOCATION, PICKUP_DATE, DROPOFF_DATE, START_ODOMETER, END_ODOMETER, DAILY_LIMIT, CUST_ID, VIN, RENTAL_SERVICE_ID) values(1002, 1003, TO_DATE('06/19/2020 11:08:52', 'MM/DD/YYYY HH24:MI:SS'), TO_DATE('06/25/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), 100, 450, 1000, 5, 15, 315);

```
1 select * from KPRC_RENTAL_SERVICE;
```

| PICKUP_LOCATION | DROPOFF_LOCATION | PICKUP_DATE | DROPOFF_DATE | START_ODOMETER | END_ODOMETER | DAILY_LIMIT | CUST_ID | VIN | RENTAL_SERVICE_ID |
|-----------------|------------------|-------------|--------------|----------------|--------------|-------------|---------|-----|-------------------|
| 1001 | 1005 | 05-APR-20 | 09-APR-22 | 500 | 700 | 1000 | 1 | 11 | 301 |
| 1001 | 1003 | 06-MAY-20 | 08-MAY-20 | 600 | 900 | 1000 | 2 | 12 | 302 |
| 1002 | 1005 | 07-JUN-20 | 09-JUN-20 | 100 | 700 | 1000 | 3 | 13 | 303 |
| 1002 | 1004 | 08-JUL-20 | 10-JUL-20 | 500 | 800 | 1000 | 4 | 14 | 304 |
| 1004 | 1005 | 09-AUG-20 | 15-AUG-20 | 150 | 250 | 1000 | 5 | 15 | 305 |
| 1004 | 1001 | 10-SEP-20 | 11-SEP-20 | 100 | 700 | 1000 | 6 | 16 | 306 |
| 1004 | 1003 | 11-OCT-20 | 19-OCT-20 | 450 | 750 | 1000 | 7 | 17 | 307 |
| 1003 | 1002 | 12-NOV-20 | 15-NOV-20 | 190 | 410 | 1000 | 8 | 18 | 308 |
| 1003 | 1001 | 13-DEC-20 | 17-DEC-20 | 160 | 900 | 1000 | 9 | 19 | 309 |
| 1003 | 1005 | 14-JAN-20 | 15-JAN-20 | 444 | 555 | 1000 | 10 | 20 | 310 |
| 1005 | 1001 | 15-FEB-20 | 18-FEB-20 | 111 | 222 | 1000 | 1 | 11 | 311 |
| 1005 | 1002 | 16-MAR-20 | 19-MAR-20 | 777 | 888 | 1000 | 2 | 12 | 312 |
| 1001 | 1002 | 17-APR-20 | 19-APR-20 | 123 | 321 | 1000 | 3 | 13 | 313 |
| 1001 | 1004 | 18-MAY-20 | 19-MAY-20 | 144 | 500 | 1000 | 4 | 14 | 314 |
| 1002 | 1003 | 19-JUN-20 | 25-JUN-20 | 100 | 450 | 1000 | 5 | 15 | 315 |

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15 rows selected.

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```
insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT,
RENTAL_SERVICE_ID) values(401, TO_DATE('04/09/2022 17:08:52', 'MM/DD/YYYY
HH24:MI:SS'), 20, 301);
```

```
insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT,
RENTAL_SERVICE_ID) values(402, TO_DATE('05/08/2020 16:08:52', 'MM/DD/YYYY
HH24:MI:SS'), 80, 302);
```

```
insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT,
RENTAL_SERVICE_ID) values(403, TO_DATE('06/09/2020 19:08:52', 'MM/DD/YYYY
HH24:MI:SS'), 60, 303);
```

```
insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT,
RENTAL_SERVICE_ID) values(404, TO_DATE('07/10/2020 17:08:52', 'MM/DD/YYYY
HH24:MI:SS'), 75, 304);
```

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(405, TO_DATE('08/15/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), 210, 305);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(406, TO_DATE('09/11/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 25, 306);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(407, TO_DATE('10/19/2020 22:08:52', 'MM/DD/YYYY HH24:MI:SS'), 240, 307);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(408, TO_DATE('11/15/2020 19:08:52', 'MM/DD/YYYY HH24:MI:SS'), 60, 308);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(409, TO_DATE('12/17/2020 18:08:52', 'MM/DD/YYYY HH24:MI:SS'), 120, 309);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(410, TO_DATE('01/15/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 35, 310);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(411, TO_DATE('02/18/2020 14:05:52', 'MM/DD/YYYY HH24:MI:SS'), 60, 311);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(412, TO_DATE('03/19/2020 14:15:52', 'MM/DD/YYYY HH24:MI:SS'), 120, 312);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(413, TO_DATE('04/19/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 60, 313);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(414, TO_DATE('05/19/2020 11:00:52', 'MM/DD/YYYY HH24:MI:SS'), 25, 314);

insert into KPRC_INVOICE(INVOICE_ID, INVOICE_DATE, INVOICE_AMOUNT, RENTAL_SERVICE_ID) values(415, TO_DATE('06/25/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), 210, 315);

SQL Worksheet

 Clear

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Action

1 **select * from KPRC_INVOICE;**

| INVOICE_ID | INVOICE_DATE | INVOICE_AMOUNT | RENTAL_SERVICE_ID |
|------------|--------------|----------------|-------------------|
| 401 | 09-APR-22 | 20 | 301 |
| 402 | 08-MAY-20 | 80 | 302 |
| 403 | 09-JUN-20 | 60 | 303 |
| 404 | 10-JUL-20 | 75 | 304 |
| 405 | 15-AUG-20 | 210 | 305 |
| 406 | 11-SEP-20 | 25 | 306 |
| 407 | 19-OCT-20 | 240 | 307 |
| 408 | 15-NOV-20 | 60 | 308 |
| 409 | 17-DEC-20 | 120 | 309 |
| 410 | 15-JAN-20 | 35 | 310 |
| 411 | 18-FEB-20 | 60 | 311 |
| 412 | 19-MAR-20 | 120 | 312 |
| 413 | 19-APR-20 | 60 | 313 |
| 414 | 19-MAY-20 | 25 | 314 |
| 415 | 25-JUN-20 | 210 | 315 |

Download CSV

15 rows selected.

--

insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE, PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(501, TO_DATE('04/09/2022 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD', 1234567890123456, 401);

insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE, PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(502, TO_DATE('04/09/2022 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'GIFT CARD', 3350142767854738, 401);

insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE, PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(503, TO_DATE('05/08/2020 16:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD', 7618645637549152, 402);

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(518,
TO_DATE('06/09/2020 19:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'DEBIT CARD',
8440295515822386, 403);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(504,
TO_DATE('07/10/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
2861603930469492, 404);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(505,
TO_DATE('08/15/2020 14:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
4760653980539185, 405);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(506,
TO_DATE('09/11/2020 17:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
9913406150943096, 406);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(507,
TO_DATE('10/19/2020 22:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'DEBIT CARD',
3147630832438795, 407);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(508,
TO_DATE('11/15/2020 19:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
4547376159661960, 408);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(509,
TO_DATE('12/17/2020 18:08:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
1733689570163437, 409);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(510,
TO_DATE('01/15/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'GIFT CARD',
7138776522729399, 410);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(511,
TO_DATE('02/18/2020 14:05:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
5879915429926809, 411);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(512,
TO_DATE('03/19/2020 14:15:52', 'MM/DD/YYYY HH24:MI:SS'), 'DEBIT CARD',
1496726505771890, 412);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(513,
TO_DATE('04/19/2020 14:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'DEBIT CARD',
1458145045013839, 413);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(514,
TO_DATE('05/19/2020 11:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
1421801723440899, 414);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(515,
TO_DATE('06/25/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'GIFT CARD',
6872002081828332, 415);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(516,
TO_DATE('06/25/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'DEBIT CARD',
6760134345755545, 415);**

**insert into KPRC_PAYMENT(PAYMENT_ID, PAYMENT_DATE,
PAYMENT_METHOD, CARD_NUMBER, INVOICE_ID) values(517,
TO_DATE('06/25/2020 15:00:52', 'MM/DD/YYYY HH24:MI:SS'), 'CREDIT CARD',
5835810406649273, 415);**

1 select * from KPRC_PAYMENT;

| PAYMENT_ID | PAYMENT_DATE | PAYMENT_METHOD | CARD_NUMBER | INVOICE_ID |
|------------|--------------|----------------|------------------|------------|
| 518 | 09-JUN-20 | DEBIT CARD | 8440295515822386 | 403 |
| 501 | 09-APR-22 | CREDIT CARD | 1234567890123456 | 401 |
| 502 | 09-APR-22 | GIFT CARD | 3350142767854738 | 401 |
| 503 | 08-MAY-20 | CREDIT CARD | 7618645637549152 | 402 |
| 504 | 10-JUL-20 | CREDIT CARD | 2861603930469492 | 404 |
| 505 | 15-AUG-20 | CREDIT CARD | 4760653980539185 | 405 |
| 506 | 11-SEP-20 | CREDIT CARD | 9913406150943096 | 406 |
| 507 | 19-OCT-20 | DEBIT CARD | 3147630832438795 | 407 |
| 508 | 15-NOV-20 | CREDIT CARD | 4547376159661960 | 408 |
| 509 | 17-DEC-20 | CREDIT CARD | 1733689570163437 | 409 |
| 510 | 15-JAN-20 | GIFT CARD | 7138776522729399 | 410 |
| 511 | 18-FEB-20 | CREDIT CARD | 5879915429926809 | 411 |
| 512 | 19-MAR-20 | DEBIT CARD | 1496726505771890 | 412 |
| 513 | 19-APR-20 | DEBIT CARD | 1458145045013839 | 413 |
| 514 | 19-MAY-20 | CREDIT CARD | 1421801723440899 | 414 |
| 515 | 25-JUN-20 | GIFT CARD | 6872002081828332 | 415 |
| 516 | 25-JUN-20 | DEBIT CARD | 6760134345755545 | 415 |
| 517 | 25-JUN-20 | CREDIT CARD | 5835810406649273 | 415 |

Download CSV

g) COUNT QUERIES

SQL Worksheet

 Clear  Find  Action

```
1 select count(*) as COUNT_CUSTOMER from KPRC_CUSTOMER;
2 select count(*) as COUNT_INDIVIDUAL_CUSTOMER from KPRC_INDIVIDUAL;
3 select count(*) as COUNT_CORPORATE_CUSTOMER from KPRC_CORPORATE;
4 select count(*) as COUNT_COUPON from KPRC_COUPON;
5 select count(*) as COUNT_CORPORATION from KPRC_CORPORATION;
6 select count(*) as COUNT_RENTAL_SERVICE from KPRC_RENTAL_SERVICE;
7 select count(*) as COUNT_LOCATION from KPRC_LOCATION;
8 select count(*) as COUNT_VEHICLE from KPRC_VEHICLE;
9 select count(*) as COUNT_LOCATIONCLASS from KPRC_LOCATIONCLASS;
10 select count(*) as COUNT_VEHICLECLASS from KPRC_VEHICLECLASS;
11 select count(*) as COUNT_PAYMENT from KPRC_PAYMENT;
12 select count(*) as COUNT_INVOICE from KPRC_INVOICE;
```

COUNT_CUSTOMER

10

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COUNT_INDIVIDUAL_CUSTOMER

5

[Download](#) [CSV](#)

COUNT_CORPORATE_CUSTOMER

5

[Download](#) [CSV](#)

COUNT_COUPON

5

[Download](#) [CSV](#)

SQL Worksheet

 Clear  Find  Action

```
1 select count(*) as COUNT_CUSTOMER from KPRC_CUSTOMER;
2 select count(*) as COUNT_INDIVIDUAL_CUSTOMER from KPRC_INDIVIDUAL;
3 select count(*) as COUNT_CORPORATE_CUSTOMER from KPRC_CORPORATE;
4 select count(*) as COUNT_COUPON from KPRC_COUPON;
5 select count(*) as COUNT_CORPORATION from KPRC_CORPORATION;
6 select count(*) as COUNT_RENTAL_SERVICE from KPRC_RENTAL_SERVICE;
7 select count(*) as COUNT_LOCATION from KPRC_LOCATION;
8 select count(*) as COUNT_VEHICLE from KPRC_VEHICLE;
9 select count(*) as COUNT_LOCATIONCLASS from KPRC_LOCATIONCLASS;
10 select count(*) as COUNT_VEHICLECLASS from KPRC_VEHICLECLASS;
11 select count(*) as COUNT_PAYMENT from KPRC_PAYMENT;
12 select count(*) as COUNT_INVOICE from KPRC_INVOICE;
```

COUNT_CORPORATION

3

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COUNT_RENTAL_SERVICE

15

[Download](#) [CSV](#)

COUNT_LOCATION

5

[Download](#) [CSV](#)

COUNT_VEHICLE

10

[Download](#) [CSV](#)

SQL Worksheet

[Clear](#)[Find](#)[Action](#)

```
1 select count(*) as COUNT_CUSTOMER from KPRC_CUSTOMER;  
2 select count(*) as COUNT_INDIVIDUAL_CUSTOMER from KPRC_INDIVIDUAL;  
3 select count(*) as COUNT_CORPORATE_CUSTOMER from KPRC_CORPORATE;  
4 select count(*) as COUNT_COUPON from KPRC_COUPON;  
5 select count(*) as COUNT_CORPORATION from KPRC_CORPORATION;  
6 select count(*) as COUNT_RENTAL_SERVICE from KPRC_RENTAL_SERVICE;  
7 select count(*) as COUNT_LOCATION from KPRC_LOCATION;  
8 select count(*) as COUNT_VEHICLE from KPRC_VEHICLE;  
9 select count(*) as COUNT_LOCATIONCLASS from KPRC_LOCATIONCLASS;  
10 select count(*) as COUNT_VEHICLECLASS from KPRC_VEHICLECLASS;  
11 select count(*) as COUNT_PAYMENT from KPRC_PAYMENT;  
12 select count(*) as COUNT_INVOICE from KPRC_INVOICE;
```

COUNT_LOCATIONCLASS

11

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COUNT_VEHICLECLASS

5

[Download CSV](#)

COUNT_PAYMENT

18

[Download CSV](#)

COUNT_INVOICE

15

[Download CSV](#)

h) DATA DICTIONARY QUERIES

```
select table_name  
from user_tables;
```

SQL Worksheet

```
1 select table_name
2 from user_tables;
```

| TABLE_NAME |
|---------------------|
| KPRC_CORPORATE |
| KPRC_CORPORATION |
| KPRC_COUPON |
| KPRC_CUSTOMER |
| KPRC_INDIVIDUAL |
| KPRC_INVOICE |
| KPRC_LOCATION |
| KPRC_LOCATIONCLASS |
| KPRC_PAYMENT |
| KPRC_RENTAL_SERVICE |
| KPRC_VEHICLE |
| KPRC_VEHICLECLASS |

[Download CSV](#)

12 rows selected.

```
select table_name, column_name, column_id, data_type, data_length, data_precision
from user_tab_columns
order by table_name, column_id;
```

SQL Worksheet

```
1 select table_name
2 from user_tables;
3
4 select table_name, column_name, column_id, data_type, data_length, data_precision
5 from user_tab_columns
6 order by table_name, column_id;
```

| TABLE_NAME | COLUMN_NAME | COLUMN_ID | DATA_TYPE | DATA_LENGTH | DATA_PRECISION |
|------------------|---------------------|-----------|-----------|-------------|----------------|
| KPRC_CORPORATE | CUST_ID | 1 | NUMBER | 22 | 4 |
| KPRC_CORPORATE | EMPLOYEE_ID | 2 | NUMBER | 22 | 5 |
| KPRC_CORPORATE | CORPORATE_ID | 3 | NUMBER | 22 | 4 |
| KPRC_CORPORATION | CORPORATE_ID | 1 | NUMBER | 22 | 4 |
| KPRC_CORPORATION | CORPORATION_NAME | 2 | VARCHAR2 | 30 | – |
| KPRC_CORPORATION | DISCOUNT | 3 | NUMBER | 22 | 3 |
| KPRC_CORPORATION | REGISTRATION_NUMBER | 4 | NUMBER | 22 | 15 |
| KPRC_COUPON | COUPON_ID | 1 | NUMBER | 22 | 4 |
| KPRC_COUPON | DISCOUNT | 2 | NUMBER | 22 | 3 |
| KPRC_COUPON | VALIDITY | 3 | DATE | 7 | – |
| KPRC_COUPON | CUST_ID | 4 | NUMBER | 22 | 4 |
| KPRC_CUSTOMER | CUST_ID | 1 | NUMBER | 22 | 4 |
| KPRC_CUSTOMER | CUST_FNAME | 2 | VARCHAR2 | 20 | – |
| KPRC_CUSTOMER | CUST_LNAME | 3 | VARCHAR2 | 20 | – |
| KPRC_CUSTOMER | CUST_STREET | 4 | VARCHAR2 | 20 | – |

SQL Worksheet

```
1 select table_name
2 from user_tables;
3
4 select table_name, column_name, column_id, data_type, data_length, data_precision
5 from user_tab_columns
6 order by table_name, column_id;
```

| | | | | | |
|-----------------|-------------------|---|----------|----|----|
| KPRC_CUSTOMER | CUST_CITY | 5 | VARCHAR2 | 15 | – |
| KPRC_CUSTOMER | CUST_STATE | 6 | VARCHAR2 | 15 | – |
| KPRC_CUSTOMER | CUST_EMAIL | 7 | VARCHAR2 | 30 | – |
| KPRC_CUSTOMER | CUST_PHONE | 8 | NUMBER | 22 | 10 |
| KPRC_CUSTOMER | CUST_TYPE | 9 | VARCHAR2 | 15 | – |
| KPRC_INDIVIDUAL | CUST_ID | 1 | NUMBER | 22 | 4 |
| KPRC_INDIVIDUAL | DL_NUMBER | 2 | VARCHAR2 | 30 | – |
| KPRC_INDIVIDUAL | INSURANCE_COMPANY | 3 | VARCHAR2 | 30 | – |
| KPRC_INDIVIDUAL | POLICY_NUMBER | 4 | NUMBER | 22 | 15 |
| KPRC_INVOICE | INVOICE_ID | 1 | NUMBER | 22 | 4 |
| KPRC_INVOICE | INVOICE_DATE | 2 | DATE | 7 | – |
| KPRC_INVOICE | INVOICE_AMOUNT | 3 | NUMBER | 22 | 9 |
| KPRC_INVOICE | RENTAL_SERVICE_ID | 4 | NUMBER | 22 | – |
| KPRC_LOCATION | LOCATION_ID | 1 | NUMBER | 22 | 4 |
| KPRC_LOCATION | PHONE_NUMBER | 2 | NUMBER | 22 | 10 |
| KPRC_LOCATION | STREET | 3 | VARCHAR2 | 30 | – |
| KPRC_LOCATION | CITY | 4 | VARCHAR2 | 20 | – |
| KPRC_LOCATION | STATE | 5 | VARCHAR2 | 20 | – |

SQL Worksheet

```

1 select table_name
2 from user_tables;
3
4 select table_name, column_name, column_id, data_type, data_length, data_precision
5 from user_tab_columns
6 order by table_name, column_id;

```

| | | | | | |
|---------------------|------------------|---|----------|----|----|
| KPRC_LOCATION | STATE | 5 | VARCHAR2 | 20 | – |
| KPRC_LOCATION | ZIPCODE | 6 | NUMBER | 22 | 6 |
| KPRC_LOCATIONCLASS | LOCATION_ID | 1 | NUMBER | 22 | 4 |
| KPRC_LOCATIONCLASS | CLASS_ID | 2 | NUMBER | 22 | 4 |
| KPRC_PAYMENT | PAYMENT_ID | 1 | NUMBER | 22 | 4 |
| KPRC_PAYMENT | PAYMENT_DATE | 2 | DATE | 7 | – |
| KPRC_PAYMENT | PAYMENT_METHOD | 3 | VARCHAR2 | 30 | – |
| KPRC_PAYMENT | CARD_NUMBER | 4 | NUMBER | 22 | 16 |
| KPRC_PAYMENT | INVOICE_ID | 5 | NUMBER | 22 | 4 |
| KPRC_RENTAL_SERVICE | PICKUP_LOCATION | 1 | NUMBER | 22 | 4 |
| KPRC_RENTAL_SERVICE | DROPOFF_LOCATION | 2 | NUMBER | 22 | 4 |
| KPRC_RENTAL_SERVICE | PICKUP_DATE | 3 | DATE | 7 | – |
| KPRC_RENTAL_SERVICE | DROPOFF_DATE | 4 | DATE | 7 | – |
| KPRC_RENTAL_SERVICE | START_ODOMETER | 5 | NUMBER | 22 | 5 |
| KPRC_RENTAL_SERVICE | END_ODOMETER | 6 | NUMBER | 22 | 5 |
| KPRC_RENTAL_SERVICE | DAILY_LIMIT | 7 | NUMBER | 22 | 5 |
| KPRC_RENTAL_SERVICE | CUST_ID | 8 | NUMBER | 22 | 4 |
| KPRC_RENTAL_SERVICE | VIN | 9 | NUMBER | 22 | 4 |

select

table_name,constraint_name,constraint_type,search_condition,index_name,r_constraint_name,delete_rule

from user_constraints

order by table_name;

SQL Worksheet

Clear

Find

Actions

Save

Run

```
1 select table_name
2 from user_tables;
3
4 select table_name,column_name,column_id, data_type, data_length, data_precision
5 from user_tab_columns
6 order by table_name,column_id;
7
8
9 select table_name,constraint_name,constraint_type,search_condition,index_name,r_constraint_name,delete_rule
10 from user_constraints
11 order by table_name;
12
```

| TABLE_NAME | CONSTRAINT_NAME | CONSTRAINT_TYPE | SEARCH_CONDITION | INDEX_NAME | R_CONSTRAINT_NAME | DELETE_RULE |
|------------------|--------------------------|-----------------|-----------------------------------|---------------------|---------------------|-------------|
| KPRC_CORPORATE | KPRC_CORPORATE_PK | P | - | KPRC_CORPORATE_PK | - | - |
| KPRC_CORPORATE | SYS_C0041824726 | C | "CUST_ID" IS NOT NULL | - | - | - |
| KPRC_CORPORATE | SYS_C0041824728 | C | "CORPORATE_ID" IS NOT NULL | - | - | - |
| KPRC_CORPORATE | SYS_C0041824727 | C | "EMPLOYEE_ID" IS NOT NULL | - | - | - |
| KPRC_CORPORATE | CORPORATE_CUSTOMER_FK | R | - | - | KPRC_CUSTOMER_PK | NO ACTION |
| KPRC_CORPORATE | CORPORATE_CORPORATION_FK | R | - | - | KPRC_CORPORATION_PK | NO ACTION |
| KPRC_CORPORATION | SYS_C0041824757 | C | "DISCOUNT" IS NOT NULL | - | - | - |
| KPRC_CORPORATION | SYS_C0041824758 | C | "REGISTRATION_NUMBER" IS NOT NULL | - | - | - |
| KPRC_CORPORATION | SYS_C0041824756 | C | "CORPORATION_NAME" IS NOT NULL | - | - | - |
| KPRC_CORPORATION | SYS_C0041824755 | C | "CORPORATE_ID" IS NOT NULL | - | - | - |
| KPRC_CORPORATION | KPRC_CORPORATION_PK | P | - | KPRC_CORPORATION_PK | - | - |
| KPRC_COUPON | INDIVIDUAL_COUPON_FK | R | - | - | KPRC_INDIVIDUAL_PK | NO ACTION |
| KPRC_COUPON | SYS_C0041824772 | C | "VALIDITY" IS NOT NULL | - | - | - |

SQL Worksheet

Clear

Find

Actions

Save

Run

```
1 select table_name
2 from user_tables;
3
4 select table_name,column_name,column_id, data_type, data_length, data_precision
5 from user_tab_columns
6 order by table_name,column_id;
7
8
9 select table_name,constraint_name,constraint_type,search_condition,index_name,r_constraint_name,delete_rule
10 from user_constraints
11 order by table_name;
12
```

| | | | | | | |
|---------------|----------------------|---|--|------------------|---|---|
| KPRC_COUPON | SYS_C0041824772 | C | "VALIDITY" IS NOT NULL | - | - | - |
| KPRC_COUPON | SYS_C0041824771 | C | "DISCOUNT" IS NOT NULL | - | - | - |
| KPRC_COUPON | SYS_C0041824770 | C | "COUPON_ID" IS NOT NULL | - | - | - |
| KPRC_COUPON | KPRC_COUPON_PK | P | - | KPRC_COUPON_PK | - | - |
| KPRC_COUPON | SYS_C0041824773 | C | "CUST_ID" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824783 | C | "CUST_TYPE" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824775 | C | "CUST_ID" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824776 | C | "CUST_FNAME" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824777 | C | "CUST_LNAME" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824778 | C | "CUST_STREET" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | KPRC_CUSTOMER_PK | P | - | KPRC_CUSTOMER_PK | - | - |
| KPRC_CUSTOMER | SYS_C0041824781 | C | "CUST_EMAIL" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824780 | C | "CUST_STATE" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824779 | C | "CUST_CITY" IS NOT NULL | - | - | - |
| KPRC_CUSTOMER | CH_INH_KPRC_CUSTOMER | C | cust_type IN ('KPRC_CORPORATE', 'KPRC_INDIVIDUAL') | - | - | - |
| KPRC_CUSTOMER | SYS_C0041824782 | C | "CUST_PHONE" IS NOT NULL | - | - | - |

SQL Worksheet

Clear

Find

Actions ▾

Save

Run ▶

```
2  +from user_tables;
3
4  select table_name, column_name, column_id, data_type, data_length, data_precision
5  from user_tab_columns
6  order by table_name, column_id;
7
8
9  select table_name, constraint_name, constraint_type, search_condition, index_name, r_constraint_name, delete_rule
10 from user_constraints
11 order by table_name;
12
13
```

| | | | | | | |
|--------------------|---------------------------|---|---------------------------------|------------------|----------------------|-----------|
| KPRC_INVOICE | SYS_C0041824816 | C | "INVOICE_ID" IS NOT NULL | - | - | - |
| KPRC_INVOICE | SYS_C0041824817 | C | "INVOICE_DATE" IS NOT NULL | - | - | - |
| KPRC_INVOICE | SYS_C0041824818 | C | "INVOICE_AMOUNT" IS NOT NULL | - | - | - |
| KPRC_INVOICE | SYS_C0041824819 | C | "RENTAL_SERVICE_ID" IS NOT NULL | - | - | - |
| KPRC_INVOICE | KPRC_INVOICE_PK | P | - | KPRC_INVOICE_PK | - | - |
| KPRC_LOCATION | SYS_C0041824837 | C | "STATE" IS NOT NULL | - | - | - |
| KPRC_LOCATION | SYS_C0041824834 | C | "PHONE_NUMBER" IS NOT NULL | - | - | - |
| KPRC_LOCATION | SYS_C0041824833 | C | "LOCATION_ID" IS NOT NULL | - | - | - |
| KPRC_LOCATION | KPRC_LOCATION_PK | P | - | KPRC_LOCATION_PK | - | - |
| KPRC_LOCATION | SYS_C0041824836 | C | "CITY" IS NOT NULL | - | - | - |
| KPRC_LOCATION | SYS_C0041824838 | C | "ZIPCODE" IS NOT NULL | - | - | - |
| KPRC_LOCATION | SYS_C0041824835 | C | "STREET" IS NOT NULL | - | - | - |
| KPRC_LOCATIONCLASS | LOCATIONCLASS_CLASS_FK | R | - | - | KPRC_VEHICLECLASS_PK | NO ACTION |
| KPRC_LOCATIONCLASS | SYS_C0041824855 | C | "LOCATION_ID" IS NOT NULL | - | - | - |
| KPRC_LOCATIONCLASS | LOCATIONCLASS_LOCATION_FK | R | - | - | KPRC_LOCATION_PK | NO ACTION |

select table_name, column_name, comments
from user_col_comments
order by table_name;

SQL Worksheet

Clear

Find

Actions ▾

Save

Run ▶

```
13
14 select table_name, column_name, comments
15 from user_col_comments
16 order by table_name;
17
18
```

| TABLE_NAME | COLUMN_NAME | COMMENTS |
|------------------|---------------------|--|
| KPRC_CORPORATE | EMPLOYEE_ID | Employee Id of the customer |
| KPRC_CORPORATE | CUST_ID | Customer Id |
| KPRC_CORPORATE | CORPORATE_ID | - |
| KPRC_CORPORATION | CORPORATION_NAME | Corporation Name |
| KPRC_CORPORATION | CORPORATE_ID | Corporate Id |
| KPRC_CORPORATION | DISCOUNT | Discount provided for the corporation |
| KPRC_CORPORATION | REGISTRATION_NUMBER | Registration Number of the corporation |
| KPRC_COUPON | COUPON_ID | Id of the coupon |
| KPRC_COUPON | DISCOUNT | Percentage discount |
| KPRC_COUPON | VALIDITY | Validity Dates |
| KPRC_COUPON | CUST_ID | - |
| KPRC_CUSTOMER | CUST_FNAME | First name of the customer |
| KPRC_CUSTOMER | CUST_ID | Customer Id |
| KPRC_CUSTOMER | CUST_LNAME | Last Name of the customer |
| KPRC_CUSTOMER | CUST_TYPE | Type of customer |
| KPRC_CUSTOMER | CUST_PHONE | Phone number of customer |
| KPRC_CUSTOMER | CUST_EMAIL | Email of the customer |
| KPRC_CUSTOMER | CUST_STATE | State of the customer |

14

15

16

17

18

```
select table_name, column_name, comments
from user_col_comments
order by table_name;
```

| | | |
|---------------------|-------------------|---------------------------------|
| KPRC_LOCATION | STREET | Street address of the location |
| KPRC_LOCATION | ZIPCODE | Zipcode of the location |
| KPRC_LOCATION | STATE | State of the location |
| KPRC_LOCATION | CITY | City of the location |
| KPRC_LOCATIONCLASS | CLASS_ID | - |
| KPRC_LOCATIONCLASS | LOCATION_ID | - |
| KPRC_PAYMENT | CARD_NUMBER | Card number used in the payment |
| KPRC_PAYMENT | PAYMENT_METHOD | Method of the payment |
| KPRC_PAYMENT | PAYMENT_DATE | Date of the payment |
| KPRC_PAYMENT | PAYMENT_ID | Id of the payment |
| KPRC_PAYMENT | INVOICE_ID | - |
| KPRC_RENTAL_SERVICE | END_ODOMETER | Odometer reading at the end |
| KPRC_RENTAL_SERVICE | START_ODOMETER | Odometer reading at the start |
| KPRC_RENTAL_SERVICE | DROPOFF_DATE | Date of dropoff |
| KPRC_RENTAL_SERVICE | PICKUP_DATE | Date of the pickup |
| KPRC_RENTAL_SERVICE | DROPOFF_LOCATION | Dropoff location of the vehicle |
| KPRC_RENTAL_SERVICE | PICKUP_LOCATION | Pickup location of the vehicle |
| KPRC_RENTAL_SERVICE | DAILY_LIMIT | Daily Odometer Limit |
| KPRC_RENTAL_SERVICE | RENTAL_SERVICE_ID | - |
| KPRC_RENTAL_SERVICE | ... | ... |

i) SQL QUERIES

Q1) TABLE JOINS

We intend to find out how much was the amount for the trip for each customer and how many payment methods they used for the billing

```
SELECT
  KPRC_INVOICE.INVOICE_AMOUNT AS AMOUNT,
  KPRC_INVOICE.RENTAL_SERVICE_ID AS SERVICE_ID,
  KPRC_RENTAL_SERVICE.CUST_ID AS CUSTOMER
FROM KPRC_INVOICE
JOIN KPRC_RENTAL_SERVICE
  ON KPRC_INVOICE.RENTAL_SERVICE_ID =
  KPRC_RENTAL_SERVICE.RENTAL_SERVICE_ID
JOIN KPRC_PAYMENT
  ON KPRC_PAYMENT.INVOICE_ID = KPRC_INVOICE.INVOICE_ID
ORDER BY KPRC_RENTAL_SERVICE.CUST_ID;
```

SQL Worksheet

Clear Find Actions Save Run

```
1
2 SELECT
3   KPRC_INVOICE.INVOICE_AMOUNT AS AMOUNT,
4   KPRC_INVOICE.RENTAL_SERVICE_ID AS SERVICE_ID,
5   KPRC_RENTAL_SERVICE.CUST_ID AS CUSTOMER
6 FROM KPRC_INVOICE
7 JOIN KPRC_RENTAL_SERVICE
8   ON KPRC_INVOICE.RENTAL_SERVICE_ID = KPRC_RENTAL_SERVICE.RENTAL_SERVICE_ID
9 JOIN KPRC_PAYMENT
10  ON KPRC_PAYMENT.INVOICE_ID = KPRC_INVOICE.INVOICE_ID
11 ORDER BY KPRC_RENTAL_SERVICE.CUST_ID;
```

| | | |
|-----|-----|----|
| 60 | 313 | 3 |
| 60 | 303 | 3 |
| 25 | 314 | 4 |
| 75 | 304 | 4 |
| 210 | 305 | 5 |
| 210 | 315 | 5 |
| 210 | 315 | 5 |
| 210 | 315 | 5 |
| 25 | 306 | 6 |
| 240 | 307 | 7 |
| 60 | 308 | 8 |
| 120 | 309 | 9 |
| 35 | 310 | 10 |

Download CSV
18 rows selected.

SQL Worksheet

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```
1
2 SELECT
3   KPRC_INVOICE.INVOICE_AMOUNT AS AMOUNT,
4   KPRC_INVOICE.RENTAL_SERVICE_ID AS SERVICE_ID,
5   KPRC_RENTAL_SERVICE.CUST_ID AS CUSTOMER
6 FROM KPRC_INVOICE
7 JOIN KPRC_RENTAL_SERVICE
8   ON KPRC_INVOICE.RENTAL_SERVICE_ID = KPRC_RENTAL_SERVICE.RENTAL_SERVICE_ID
9 JOIN KPRC_PAYMENT
10  ON KPRC_PAYMENT.INVOICE_ID = KPRC_INVOICE.INVOICE_ID
11 ORDER BY KPRC_RENTAL_SERVICE.CUST_ID;
```

| AMOUNT | SERVICE_ID | CUSTOMER |
|--------|------------|----------|
| 20 | 301 | 1 |
| 20 | 301 | 1 |
| 60 | 311 | 1 |
| 80 | 302 | 2 |
| 120 | 312 | 2 |
| 60 | 313 | 3 |
| 60 | 303 | 3 |
| 25 | 314 | 4 |
| 75 | 304 | 4 |
| 210 | 305 | 5 |
| 210 | 315 | 5 |
| 210 | 315 | 5 |
| 210 | 315 | 5 |
| 25 | 306 | 6 |

Q2) MULTI-ROW SUBQUERY

We intend to find out the Vehicles whose rental rate is greater than 25

```
SELECT
CLASS_ID,
VIN AS IDENTIFICATION,
LICENSE_PLATE_NUMBER AS LICENSE
FROM KPRC_VEHICLE
WHERE KPRC_VEHICLE.CLASS_ID IN(
SELECT CLASS_ID
FROM KPRC_VEHICLECLASS
WHERE RENTAL_RATE>25);
```

SQL Worksheet

 Clear

 Find

Actions ▾

 Save

Run 

```
1 SELECT
2   CLASS_ID,
3   VIN AS IDENTIFICATION,
4   LICENSE_PLATE_NUMBER AS LICENSE
5 FROM KPRC_VEHICLE
6 WHERE KPRC_VEHICLE.CLASS_ID IN(
7   SELECT CLASS_ID
8   FROM KPRC_VEHICLECLASS
9   WHERE RENTAL_RATE>25);
10
11
12
```

| CLASS_ID | IDENTIFICATION | LICENSE |
|----------|----------------|----------|
| 2 | 12 | LVG 1234 |
| 4 | 13 | CAL 1214 |
| 5 | 15 | FL 1245 |
| 4 | 17 | NY 5893 |
| 4 | 19 | MX 4943 |
| 5 | 20 | NJ 2822 |

[Download CSV](#)






6 rows selected.

Q3) CORRELATED SUBQUERY

We intend to find out the **INVOICE_ID** and the **AMOUNT** for the trips where the odometer reading difference was greater than 500 i.e the trips where the vehicles went a distance of more than 500 miles

```
SELECT
    INVOICE_ID,
    INVOICE_AMOUNT,
FROM
    KPRC_INVOICE
WHERE
    RENTAL_SERVICE_ID IN (
        SELECT
            RENTAL_SERVICE_ID
        FROM
            KPRC_RENTAL_SERVICE
        WHERE
            END_ODOMETER - START_ODOMETER > 500
    )
ORDER BY
    INVOICE_AMOUNT
```

SQL Worksheet

 Clear  Find  Actions  Save  Run

```
1 SELECT
2     INVOICE_ID,
3     INVOICE_AMOUNT
4 FROM
5     KPRC_INVOICE
6 WHERE
7     RENTAL_SERVICE_ID IN (
8         SELECT
9             RENTAL_SERVICE_ID
10        FROM
11            KPRC_RENTAL_SERVICE
12        WHERE
13            END_ODOMETER - START_ODOMETER > 500
14    )
15 ORDER BY
16     INVOICE_AMOUNT;
17
```

| INVOICE_ID | INVOICE_AMOUNT |
|------------|----------------|
| 406 | 25 |
| 403 | 60 |
| 409 | 120 |

[Download CSV](#)

3 rows selected.

Q4) SET OPERATOR QUERY

We intend to find out what are the common discount percentages between corporate and individual customers

```
SELECT DISCOUNT FROM KPRC_COUPON  
INTERSECT  
SELECT DISCOUNT FROM KPRC_CORPORATION  
ORDER BY DISCOUNT;
```

SQL Worksheet

Clear

Find

Actions

Save

Run

```
1 SELECT DISCOUNT FROM KPRC_COUPON  
2 INTERSECT  
3 SELECT DISCOUNT FROM KPRC_CORPORATION  
4 ORDER BY DISCOUNT;  
5  
6  
7  
8
```

| DISCOUNT |
|----------|
| 10 |
| 20 |

Download CSV
2 rows selected.

Q5) WITH CLAUSE QUERY

We intend to find out the invoice details which have the amount greater than the average invoice amounts in general

```
WITH AVERAGE_TABLE(average_amount) as
  (SELECT avg(INVOICE_AMOUNT)
   from KPRC_INVOICE)
  SELECT *
  FROM KPRC_INVOICE, AVERAGE_TABLE
  WHERE KPRC_INVOICE.INVOICE_AMOUNT > AVERAGE_TABLE.average_amount;
```

[illegible]