**Requirement #1 – Create an MS Word document Design & Implementation Document**

**Requirement #2- Create 10 Business Reports using 10 SQL statements that a Business User would need to make BUSINESS DECISIONS (Reporting)**

**Business Report #1**

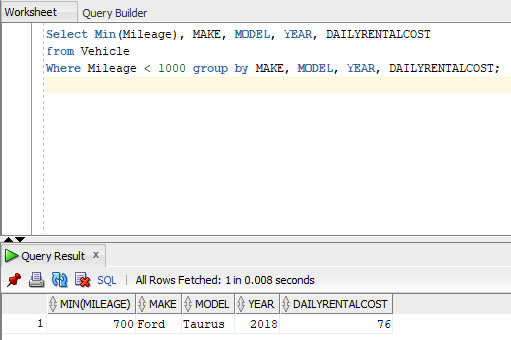
A customer is looking to rent a car. This customer wants to rent a car with less than 1000 miles of mileage. The customer also wants to know the price of this rental.

Query:

Select Min(Mileage), MAKE, MODEL, YEAR, DAILYRENTALCOST

from Vehicle

Where Mileage < 1000 group by MAKE, MODEL, YEAR, DAILYRENTALCOST;



**Business Report #2**

The Rental Agency Manager wants to see which vehicles are available at the moment so the manager can send a car to one of his clients immediately.

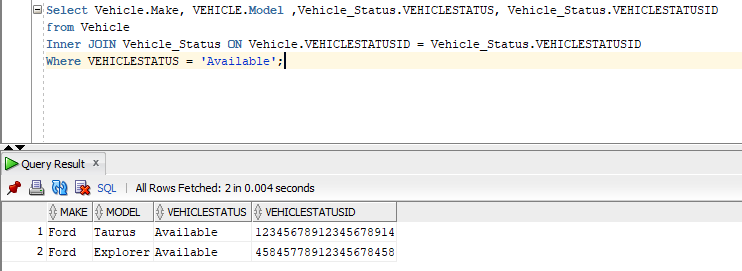
Query:

Select Vehicle.Make, VEHICLE.Model ,Vehicle\_Status.VEHICLESTATUS, Vehicle\_Status.VEHICLESTATUSID

from Vehicle

Inner JOIN Vehicle\_Status ON Vehicle.VEHICLESTATUSID = Vehicle\_Status.VEHICLESTATUSID

Where VEHICLESTATUS = 'Available';



**Business Report #3**

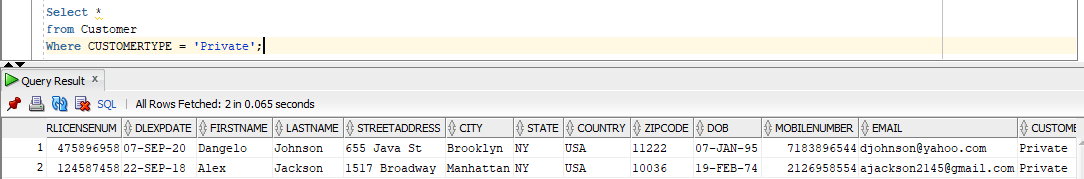
The Rental Agency Manager wants to see which customers are private so he can have their car ready before other clients.

Query:

Select \*

from Customer

Where CUSTOMERTYPE = 'Private';



**Business Report #4**

The Agency Manager wants to know which agencies are located in Brooklyn so then he can tell a client which vehicles are in that specific agency to dispatch.

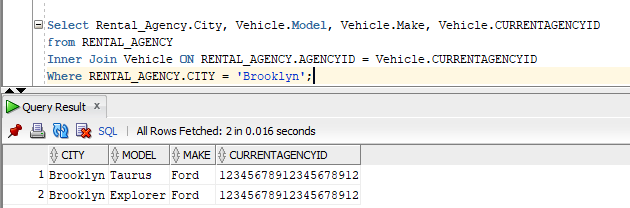
Query:

Select Rental\_Agency.City, Vehicle.Model, Vehicle.Make, Vehicle.CURRENTAGENCYID

from RENTAL\_AGENCY

Inner Join Vehicle ON RENTAL\_AGENCY.AGENCYID = Vehicle.CURRENTAGENCYID

Where RENTAL\_AGENCY.CITY = 'Brooklyn';



**Business Report #5:**

The customer wants to see all the Ford cars’ trunk capacity. Then, the customer will decide which Ford vehicle to rent based on the capacity of the trunk.

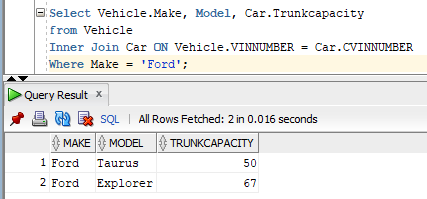
Query:

Select Vehicle.Make, Model, Car.Trunkcapacity

from Vehicle

Inner Join Car ON Vehicle.VINNUMBER = Car.CVINNUMBER

Where Make = 'Ford';



**Business Report #6**

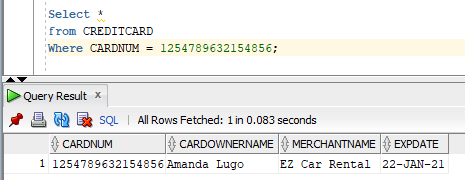
The Rental Agency Manager wants to see the name and information of the credit card number 1254789632154856 because this customer’s payments have not been going through. Then, the manager will decide the necessary steps to handle this situation.

Query:

Select \*

from CREDITCARD

Where CARDNUM = 1254789632154856;



**Business Report #7**

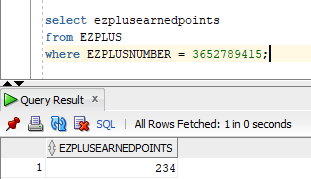
The customer Dangelo Johnson wants to know how many ezplus points he has so he can then decide when to use his points.

Query:

select ezplusearnedpoints

from EZPLUS

where EZPLUSNUMBER = 3652789415;



**Business Report #8**

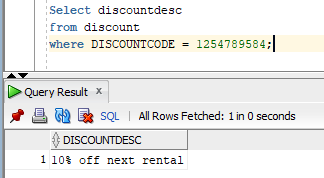
Alex Jackson a customer will like to know what type of discount he is getting. Then, he will decide when to use his discount for his next transaction.

Query:

Select discountdesc

from discount

where DISCOUNTCODE = 1254789584;



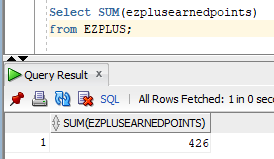
**Business Report #9**

The Executives of EZ Car Rental will like to know how much EZ pluspoints private customers have earned. When they look at the total number of points they will then decide whether to decrease or increase the amount of points private customers can earn.

Query:

Select SUM(ezplusearnedpoints)

from EZPLUS;



**Business Report #10**

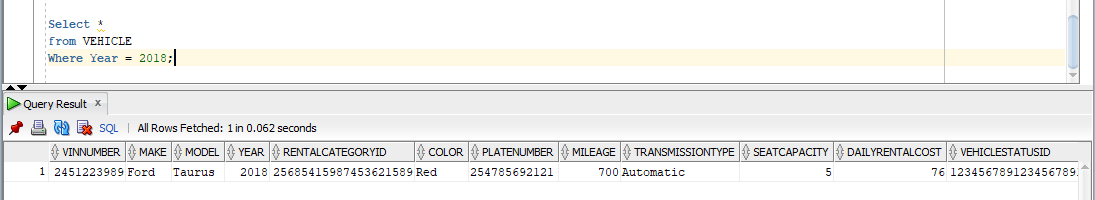
A customer will like to see the selection of vehicles that were made in 2018. Then, the customer will decide which vehicle he will select.

Query:

Select \*

from VEHICLE

Where Year = 2018;



**Requirement #3 – Create/DESIGN STORED PROCEDURES for the 10 BUSINESS REPORT QUERIES**

**Business Report #1**

A customer is looking to rent a car. This customer wants to rent a car with less than 1000 miles of mileage. The customer also wants to know the price of this rental.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_VehicleByMileage (p\_Mileage IN NUMBER)

IS

v\_Mileage NUMBER(5,0);

v\_Make VARCHAR2(25);

v\_Model VARCHAR2(30);

v\_Year NUMBER(4,0);

v\_DailyRentalCost NUMBER(5,0);

CURSOR cur\_Vehicle IS

Select Min(Mileage), MAKE, MODEL, YEAR, DAILYRENTALCOST

from Vehicle

Where p\_Mileage < 1000 group by MAKE, MODEL, YEAR, DAILYRENTALCOST;

BEGIN OPEN cur\_Vehicle;

LOOP

FETCH cur\_Vehicle INTO v\_Mileage ,

v\_Make ,

v\_Model ,

v\_Year ,

v\_DailyRentalCost ;

EXIT WHEN cur\_Vehicle%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Vehicle Info: ' ||v\_Mileage||' '||v\_Make||' '||v\_Model||' '||v\_Year||' '||v\_DailyRentalCost);

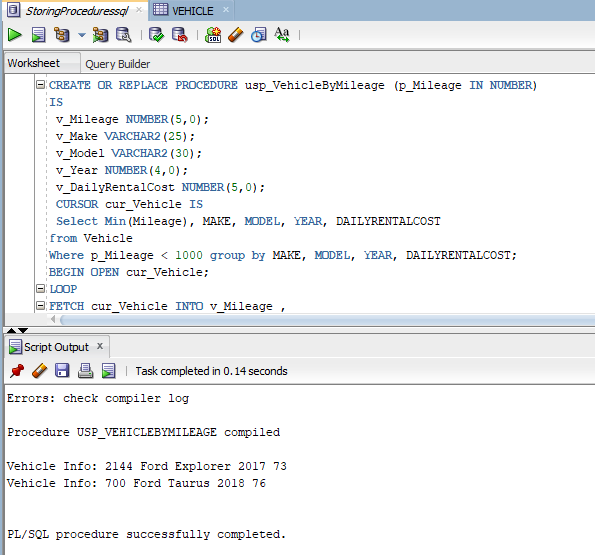
END LOOP;

CLOSE cur\_Vehicle;

END usp\_VehicleByMileage;

SET SERVEROUTPUT ON;

EXECUTE usp\_VehicleByMileage(999);

****

**Business Report #2**

The Rental Agency Manager wants to see which vehicles are available at the moment so the manager can send a car to one of his clients immediately.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_VehicleByStatus (p\_VehicleStatus IN CHAR)

IS

v\_VehicleMake VARCHAR2(25);

v\_VehicleModel VARCHAR2(30);

v\_VehicleStatusVS VARCHAR2(15);

v\_VehicleStatusVSID NUMBER(20,0);

CURSOR cur\_Vehicle IS

Select Vehicle.Make, VEHICLE.Model ,Vehicle\_Status.VEHICLESTATUS, Vehicle\_Status.VEHICLESTATUSID

from Vehicle

Inner JOIN Vehicle\_Status ON Vehicle.VEHICLESTATUSID = Vehicle\_Status.VEHICLESTATUSID

Where VEHICLESTATUS = p\_VehicleStatus;

BEGIN OPEN cur\_Vehicle;

LOOP

FETCH cur\_Vehicle INTO v\_VehicleMake ,

v\_VehicleModel,

v\_VehicleStatusVS ,

v\_VehicleStatusVSID;

EXIT WHEN cur\_Vehicle%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Vehicle Info and Status: ' ||v\_VehicleMake||' '||v\_VehicleModel||' '||v\_VehicleStatusVS||' '||v\_VehicleStatusVSID);

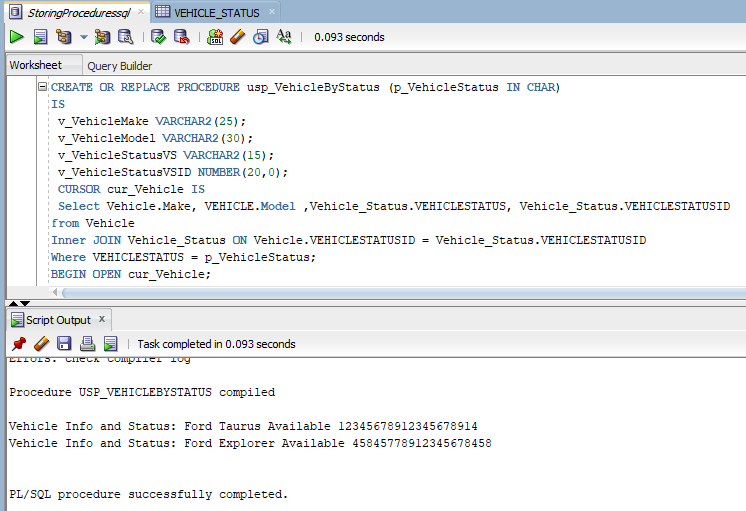
END LOOP;

CLOSE cur\_Vehicle;

END usp\_VehicleByStatus;

SET SERVEROUTPUT ON;

EXECUTE usp\_VehicleByStatus('Available');



**Business Report #3**

The Rental Agency Manager wants to see which customers are private so he can have their car ready before other clients.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_CustomerByType (p\_CustomerType IN CHAR)

IS

v\_DRIVERLICENSENUM NUMBER(20,0);

v\_DLEXPDATE DATE;

v\_FIRSTNAME VARCHAR2(40);

v\_LASTNAME VARCHAR2(40);

v\_STREETADDRESS VARCHAR2(75);

v\_CITY VARCHAR2(25);

v\_STATE VARCHAR2(20);

v\_COUNTRY VARCHAR2(30);

v\_ZIPCODE VARCHAR2(10);

v\_DOB DATE;

v\_MOBILENUMBER NUMBER(11,0);

v\_EMAIL VARCHAR2(60);

v\_CUSTOMERTYPE VARCHAR2(30);

CURSOR cur\_Customer IS

Select DRIVERLICENSENUM ,

DLEXPDATE ,

FIRSTNAME ,

LASTNAME ,

STREETADDRESS ,

CITY ,

STATE ,

COUNTRY ,

ZIPCODE ,

DOB ,

MOBILENUMBER ,

EMAIL ,

CUSTOMERTYPE

from Customer

Where CUSTOMERTYPE = p\_CustomerType;

BEGIN

OPEN cur\_Customer;

LOOP

FETCH cur\_Customer INTO v\_DRIVERLICENSENUM ,

v\_DLEXPDATE,

v\_FIRSTNAME ,

v\_LASTNAME ,

v\_STREETADDRESS ,

v\_CITY ,

v\_STATE ,

v\_COUNTRY ,

v\_ZIPCODE ,

v\_DOB ,

v\_MOBILENUMBER ,

v\_EMAIL ,

v\_CUSTOMERTYPE ;

EXIT WHEN cur\_Customer%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Private Customer Info: ' ||v\_DRIVERLICENSENUM|| ' '||v\_DLEXPDATE||' '||v\_FIRSTNAME||' '||v\_LASTNAME||' '||v\_STREETADDRESS||' '

||v\_CITY||' '||v\_STATE||' '||v\_COUNTRY||' '||v\_ZIPCODE||' '||v\_DOB||' '||v\_MOBILENUMBER||' '||v\_EMAIL||' '||v\_CUSTOMERTYPE);

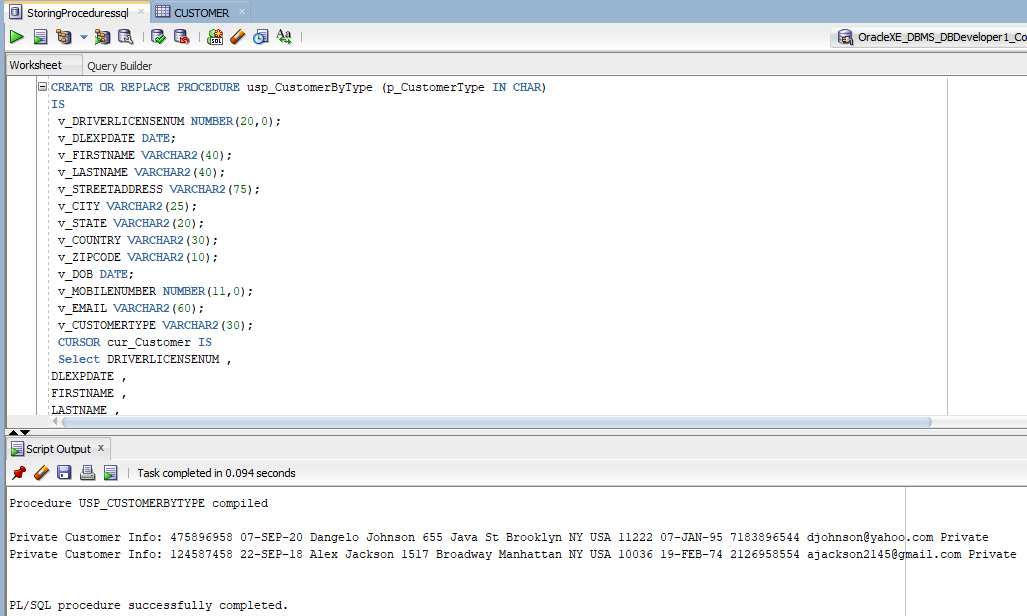
END LOOP;

CLOSE cur\_Customer;

END usp\_CustomerByType;

SET SERVEROUTPUT ON;

EXECUTE usp\_CustomerByType('Private');



**Business Report #4**

The Agency Manager wants to know which agencies are located in Brooklyn so then he can tell a client which vehicles are in that specific agency to dispatch.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_RentalAgencyByCity (p\_City IN CHAR)

IS

v\_RentalAgencyCity VARCHAR2(20);

v\_VehicleModel VARCHAR2(30);

v\_VehicleMake VARCHAR2(25);

v\_VehicleCurrentAgencyID NUMBER(20,0);

CURSOR cur\_RentalAgency IS

Select Rental\_Agency.City, Vehicle.Model, Vehicle.Make, Vehicle.CURRENTAGENCYID

from RENTAL\_AGENCY

Inner Join Vehicle ON RENTAL\_AGENCY.AGENCYID = Vehicle.CURRENTAGENCYID

Where RENTAL\_AGENCY.CITY = p\_City;

BEGIN

OPEN cur\_RentalAgency;

LOOP FETCH cur\_RentalAgency INTO v\_RentalAgencyCity,

v\_VehicleModel ,

v\_VehicleMake ,

v\_VehicleCurrentAgencyID ;

EXIT WHEN cur\_RentalAgency%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Rental Agency and Vehicle Info: ' ||v\_RentalAgencyCity||' '||v\_VehicleModel||' '||v\_VehicleMake||' '||v\_VehicleCurrentAgencyID);

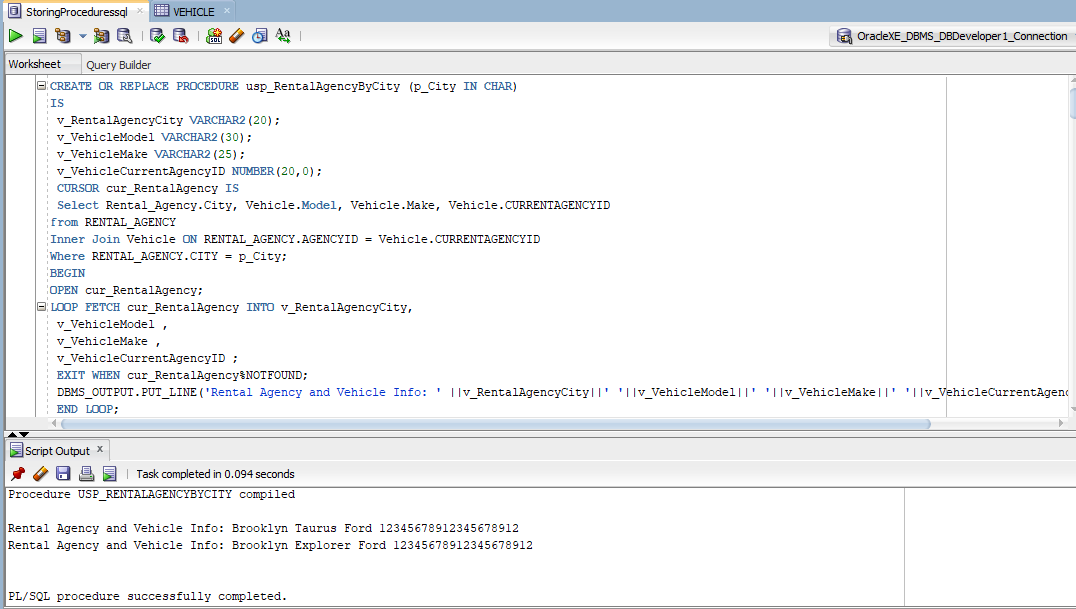
END LOOP;

CLOSE cur\_RentalAgency;

END usp\_RentalAgencyByCity;

SET SERVEROUTPUT ON;

EXECUTE usp\_RentalAgencyByCity('Brooklyn');



**Business Report #5:**

The customer wants to see all the Ford cars’ trunk capacity. Then, the customer will decide which Ford vehicle to rent based on the capacity of the trunk.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_VehicleByMake (p\_Make IN CHAR)

IS

v\_VehicleMake VARCHAR2(25);

v\_Model VARCHAR2(30);

v\_CarTrunkcapacity NUMBER(5,2);

CURSOR cur\_VehicleMake IS

Select Vehicle.Make, Model, Car.Trunkcapacity

from Vehicle

Inner Join Car ON Vehicle.VINNUMBER = Car.CVINNUMBER

Where Make = P\_Make;

BEGIN

OPEN cur\_VehicleMake;

LOOP

FETCH cur\_VehicleMake INTO v\_VehicleMake ,

v\_Model ,

v\_CarTrunkcapacity;

EXIT WHEN cur\_VehicleMake%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Vehicle Info: ' ||v\_VehicleMake|| ' '||v\_Model||' '||v\_CarTrunkcapacity);

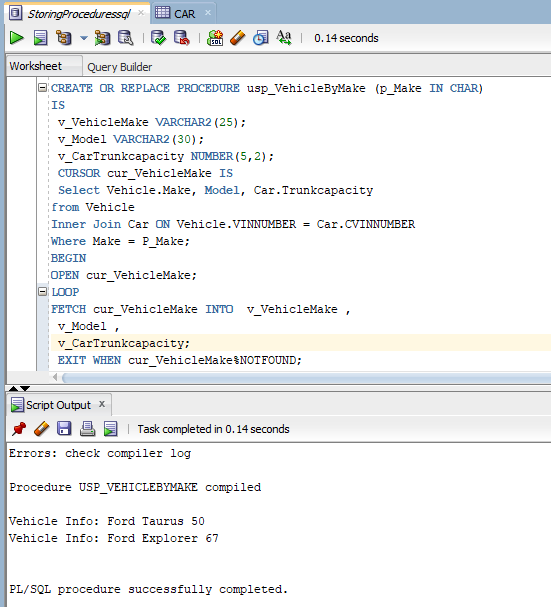
END LOOP;

CLOSE cur\_VehicleMake;

END usp\_VehicleByMake;

SET SERVEROUTPUT ON;

EXECUTE usp\_VehicleByMake('Ford');



**Business Report #6**

The Rental Agency Manager wants to see the name and information of the credit card number 1254789632154856 because this customer’s payments have not been going through. Then, the manager will decide the necessary steps to handle this situation.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_CreditCardByNumber (p\_CardNum IN NUMBER)

IS

v\_CARDNUM NUMBER(16,0);

v\_CARDOWNERNAME VARCHAR2(50);

v\_MERCHANTNAME VARCHAR2(60);

v\_EXPDATE DATE;

CURSOR cur\_CreditCard IS

Select CARDNUM ,

CARDOWNERNAME ,

MERCHANTNAME ,

EXPDATE

from CREDITCARD

Where CARDNUM = P\_CardNum;

BEGIN

OPEN cur\_CreditCard;

LOOP

FETCH cur\_CreditCard INTO v\_CARDNUM ,

v\_CARDOWNERNAME,

v\_MERCHANTNAME ,

v\_EXPDATE;

EXIT WHEN cur\_CreditCard%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Credit Card Info: ' ||v\_CARDNUM||' '||v\_CARDOWNERNAME|| ' '||v\_MERCHANTNAME||' '||v\_EXPDATE);

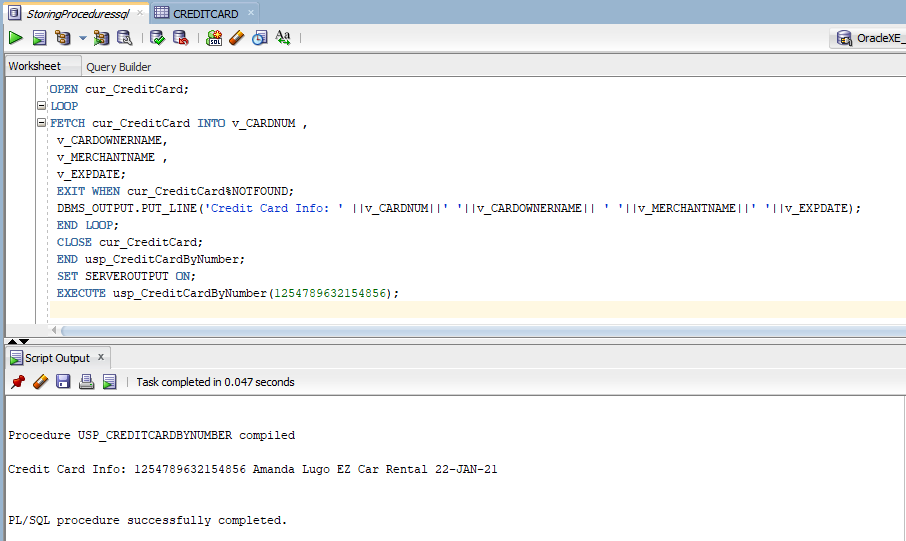
END LOOP;

CLOSE cur\_CreditCard;

END usp\_CreditCardByNumber;

SET SERVEROUTPUT ON;

EXECUTE usp\_CreditCardByNumber(1254789632154856);



**Business Report #7**

The customer Dangelo Johnson wants to know how many ezplus points he has so he can then decide when to use his points.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_EZPlusByNumber (p\_EZPlusNumber IN NUMBER)

IS

v\_EZPLUESEARNEDPOINTS NUMBER(10,0);

CURSOR cur\_EZPLUESEARNEDPOINTS IS

select ezplusearnedpoints

from EZPLUS

where EZPLUSNUMBER = p\_EZPlusNumber;

BEGIN

OPEN cur\_EZPLUESEARNEDPOINTS;

LOOP

FETCH cur\_EZPLUESEARNEDPOINTS INTO v\_EZPLUESEARNEDPOINTS;

EXIT WHEN cur\_EZPLUESEARNEDPOINTS%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('EZPlus Earned Points: ' ||v\_EZPLUESEARNEDPOINTS);

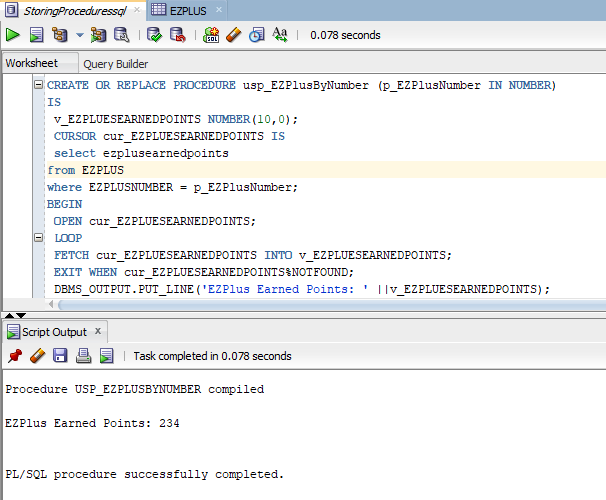
END LOOP;

CLOSE cur\_EZPLUESEARNEDPOINTS;

END usp\_EZPlusByNumber;

SET SERVEROUTPUT ON;

EXECUTE usp\_EZPlusByNumber(3652789415);



**Business Report #8**

Alex Jackson a customer will like to know what type of discount he is getting. Then, he will decide when to use his discount for his next transaction.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_DiscountByCode (p\_DiscountCode IN NUMBER)

IS

v\_discountdesc VARCHAR2(70);

CURSOR cur\_DiscountDesc IS

Select discountdesc

from discount

where DISCOUNTCODE = p\_DiscountCode;

BEGIN

OPEN cur\_DiscountDesc;

LOOP

FETCH cur\_DiscountDesc INTO v\_discountdesc;

EXIT WHEN cur\_DiscountDesc%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Discount Description: ' ||v\_discountdesc);

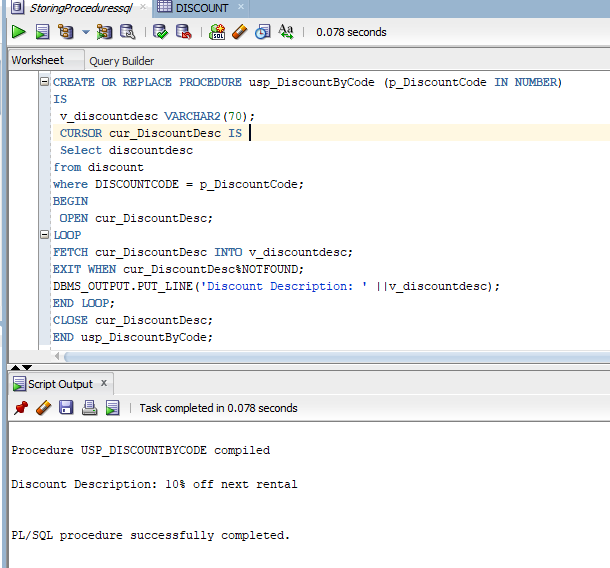
END LOOP;

CLOSE cur\_DiscountDesc;

END usp\_DiscountByCode;

SET SERVEROUTPUT ON;

EXECUTE usp\_DiscountByCode(1254789584);



**Business Report #9**

The Executives of EZ Car Rental will like to know how much EZ pluspoints private customers have earned. When they look at the total number of points they will then decide whether to decrease or increase the amount of points private customers can earn.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_EZPlusBySum (p\_EZPlusEarnedPoints IN NUMBER)

IS

v\_EZPLUSEARNEDPOINTS NUMBER(10,0);

CURSOR cur\_EZPlus IS

SELECT SUM(ezplusearnedpoints)

from EZPLUS;

BEGIN

OPEN cur\_EZPlus;

LOOP

FETCH cur\_EZPlus INTO v\_EZPLUSEARNEDPOINTS;

EXIT WHEN cur\_EZPlus%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Total EZPlus Points: '||v\_EZPLUSEARNEDPOINTS);

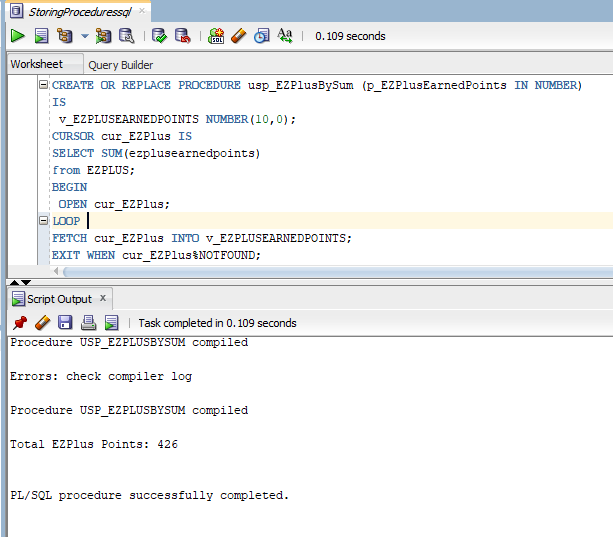
END LOOP;

CLOSE cur\_EZPlus;

END usp\_EZPlusBySum;

SET SERVEROUTPUT ON;

EXECUTE USP\_EZPlusBySum(426);



**Business Report #10**

A customer will like to see the selection of vehicles that were made in 2018. Then, the customer will decide which vehicle he will select.

**Stored Procedure:**

CREATE OR REPLACE PROCEDURE usp\_VehicleByYear(p\_Year IN NUMBER)

IS

v\_VINNUMBER NUMBER(10,0);

v\_MAKE VARCHAR2(25);

v\_MODEL VARCHAR2(30);

v\_YEAR NUMBER(4,0);

v\_RENTALCATEGORYID NUMBER(20,0);

v\_COLOR VARCHAR2(12 );

v\_PLATENUMBER VARCHAR2(12);

v\_MILEAGE NUMBER(5,0);

v\_TRANSMISSIONTYPE VARCHAR2(20);

v\_SEATCAPACITY NUMBER(3,0);

v\_DAILYRENTALCOST NUMBER(5,0);

v\_VEHICLESTATUSID NUMBER(20,0);

v\_ASSIGNEDAGENCYID NUMBER(20,0);

v\_CURRENTAGENCYID NUMBER(20,0);

v\_VEHICLETYPE VARCHAR2(20);

CURSOR cur\_Vehicle IS

Select VINNUMBER ,

MAKE ,

MODEL ,

YEAR ,

RENTALCATEGORYID ,

COLOR ,

PLATENUMBER ,

MILEAGE ,

TRANSMISSIONTYPE ,

SEATCAPACITY ,

DAILYRENTALCOST ,

VEHICLESTATUSID ,

ASSIGNEDAGENCYID ,

CURRENTAGENCYID ,

VEHICLETYPE

from VEHICLE

Where Year = p\_Year;

BEGIN

OPEN cur\_Vehicle;

LOOP

FETCH cur\_Vehicle INTO v\_VINNUMBER,

v\_MAKE,

v\_MODEL,

v\_YEAR,

v\_RENTALCATEGORYID ,

v\_COLOR ,

v\_PLATENUMBER ,

v\_MILEAGE ,

v\_TRANSMISSIONTYPE ,

v\_SEATCAPACITY ,

v\_DAILYRENTALCOST ,

v\_VEHICLESTATUSID ,

v\_ASSIGNEDAGENCYID ,

v\_CURRENTAGENCYID ,

v\_VEHICLETYPE ;

EXIT WHEN cur\_VEHICLE%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Vehicle info: '||v\_VINNUMBER|| ' '||v\_MAKE|| ' '||v\_MODEL|| ' '||v\_YEAR|| ' '||v\_RENTALCATEGORYID|| ' '||v\_COLOR|| ' '||v\_PLATENUMBER||

' '||v\_MILEAGE|| ' '||v\_TRANSMISSIONTYPE|| ' '||v\_SEATCAPACITY|| ' '||v\_DAILYRENTALCOST|| ' '||v\_VEHICLESTATUSID|| ' '||v\_ASSIGNEDAGENCYID|| ' '||v\_CURRENTAGENCYID||

' '||v\_VEHICLETYPE);

END LOOP;

CLOSE cur\_VEHICLE;

END usp\_VehicleByYear;

SET SERVEROUTPUT ON;

EXECUTE USP\_VEHICLEBYYEAR(2018);

