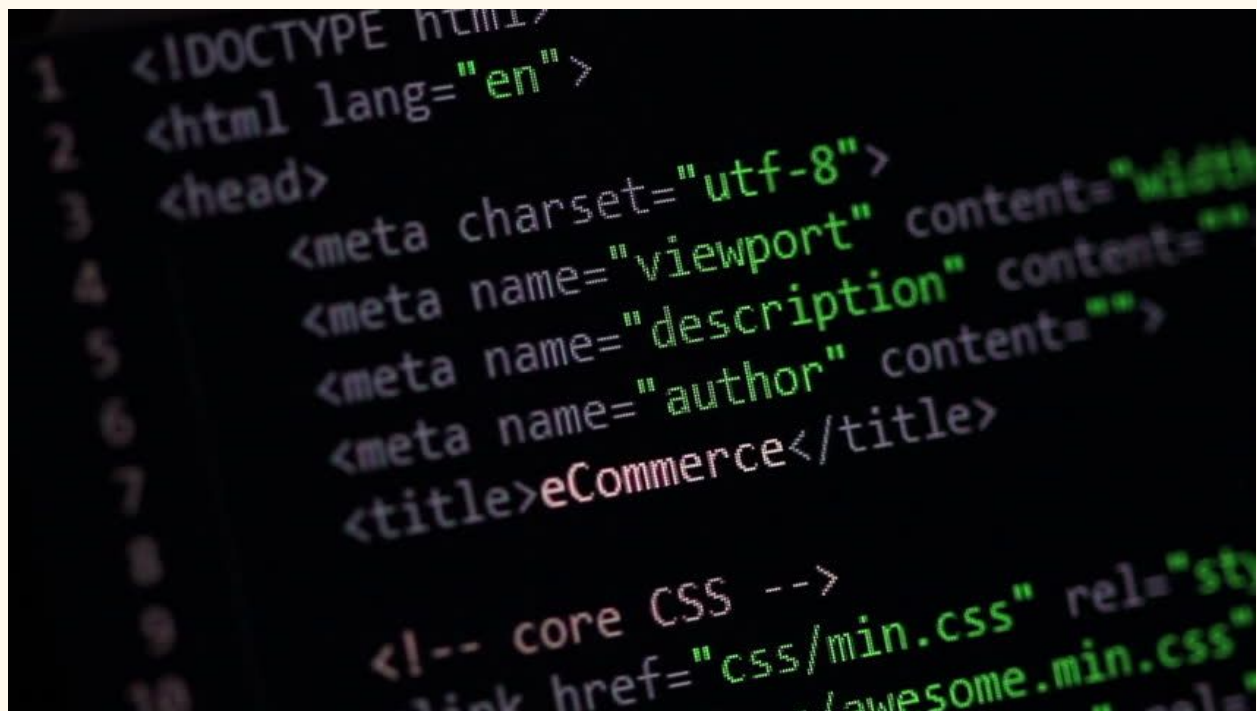# Car Rental
Phase 03

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By Samuel Diaz, Hemil Mistry

HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Task 1:

Query01:

ALTER TABLE Rental
ADD COLUMN Returned INT;

UPDATE Rental
   SET Returned = CASE
   WHEN PaymentDate = 'NULL' THEN 0
   ELSE 1
END
WHERE CustID <> -1 AND VehicleID <> '0';

CustID	VehicleID	StartDate	OrderDate	RentalType	Qty	ReturnDate	TotalAmount	PaymentDate	Returned
203	JM3KE4DY4F0441471	2019-09-09	2019-05-22	1	4	2019-09-13	460	2019-09-09	1
210	19VDE1F3XEE414842	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
210	JTHFF2C26F135BX45	2019-05-01	2019-04-15	7	1	2019-05-08	600	2019-05-08	1
210	JTHFF2C26F135BX45	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
210	WAUTFAFH0E0010613	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
210	WBA3A9G51ENN73366	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
210	WBA3B9C59EP458859	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
210	WDCGG0EB0EG188709	2019-11-01	2019-10-28	7	2	2019-11-15	1200	NULL	0
212	19VDE1F3XEE414842	2019-06-10	2019-04-15	7	3	2019-07-01	1800	2019-06-10	1
216	1N6BF0KM0EN101134	2019-08-02	2019-03-15	7	4	2019-08-30	2740	2019-08-02	1
216	1N6BF0KM0EN101134	2019-08-30	2019-03-15	1	2	2019-09-01	230	2019-08-02	1
221	19VDE1F3XEE414842	2019-07-01	2019-06-12	7	1	2019-07-08	600	2019-07-01	1
221	19VDE1F3XEE414842	2019-07-09	2019-06-12	1	2	2019-07-11	200	2019-07-01	1
221	19VDE1F3XEE414842	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
221	JTHFF2C26F135BX45	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
221	WAUTFAFH0E0010613	2019-07-01	2019-06-12	7	1	2019-07-08	600	2019-07-01	1
221	WAUTFAFH0E0010613	2019-07-09	2019-06-12	1	2	2019-07-11	200	2019-07-01	1
221	WAUTFAFH0E0010613	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
221	WBA3A9G51ENN73366	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
221	WBA3B9C59EP458859	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
221	WDCGG0EB0EG188709	2020-01-01	2019-12-15	7	4	2020-01-29	2400	NULL	0
229	19VDE1F3XEE414842	2019-05-06	2019-04-12	1	4	2019-06-10	400	2019-05-06	1
229	WAUTFAFH0E0010613	2019-05-06	2019-04-12	1	4	2019-06-10	400	2019-05-06	1

ALTER TABLE Rental ADD COLUMN Returned INT   0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0

UPDATE Rental SET Returned = CASE WHEN PaymentDate = 'NULL' THEN 0 ELSE 1 END WHERE Cu...   23 row(s) affected Rows matched: 23 Changed: 23 Warnings: 0

select * from rental LIMIT 0, 1000   23 row(s) returned

Query02:

```sql
CREATE VIEW vRentalInfo AS
   SELECT
        R.OrderDate,
        R.StartDAte,
        R.ReturnDate,
        ( R.RentalType * R.Qty) AS TotalDays,
        R.VehicleId AS VIN,
        V.Description AS Vehicle,
        CASE V.Type
                WHEN 1 THEN  'Compact'
                WHEN 2 THEN  'Medium'
                WHEN 3 THEN  'Large'
                WHEN 4 THEN  'SUV'
                WHEN 5 THEN  'Truck'
                WHEN 6 THEN  'Van'
                end as Type,
        CASE V.Category
                WHEN 0 THEN  'Basic'
                WHEN 1 THEN  'Luxury'
                end as Category,
        R.CustID AS CustomerID,
        C.Name AS CustomerName,
        R.TotalAmount AS OrderAmount,
        IF(R.PaymentDate = 'NULL', R.TotalAmount,0) AS RentalBalance
   FROM
        Rental AS R
   LEFT JOIN Vehicle AS V ON R.VehicleID = V.VehicleID
        LEFT JOIN Customer AS C ON R.CustID = C.CustID
   ORDER BY StartDAte ASC;

SELECT *
FROM vRentalInfo ;
```

OrderDate	StartDAte	ReturnDate	TotalDays	VIN	Vehicle	Type	Category	CustomerID	CustomerName	OrderAmount	RentalBalance
2019-04-15	2019-05-01	2019-05-08	7	JTHFF2C26F135BX45	"Lexus IS 250C"	Compact	Luxury	210	G. Clarkson	600	0
2019-04-12	2019-05-06	2019-06-10	4	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	229	D. Kirkpatrick	400	0
2019-04-12	2019-05-06	2019-06-10	4	WAUTFAFH0E0010613	"Audi A5"	Compact	Luxury	229	D. Kirkpatrick	400	0
2019-04-15	2019-06-10	2019-07-01	21	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	212	H. Gallegos	1800	0
2019-06-12	2019-07-01	2019-07-08	7	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	221	J. Brown	600	0
2019-06-12	2019-07-01	2019-07-08	7	WAUTFAFH0E0010613	"Audi A5"	Compact	Luxury	221	J. Brown	600	0
2019-06-12	2019-07-09	2019-07-11	2	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	221	J. Brown	200	0
2019-06-12	2019-07-09	2019-07-11	2	WAUTFAFH0E0010613	"Audi A5"	Compact	Luxury	221	J. Brown	200	0
2019-03-15	2019-08-02	2019-08-30	28	1N6BF0KM0EN101134	"Nissan NV"	Van	Basic	216	A. Hess	2740	0
2019-03-15	2019-08-30	2019-09-01	2	1N6BF0KM0EN101134	"Nissan NV"	Van	Basic	216	A. Hess	230	0
2019-05-22	2019-09-09	2019-09-13	4	JM3KE4DY4F0441471	"Mazda CX5"	SUV	Basic	203	A. Hernandez	460	0
2019-10-28	2019-11-01	2019-11-15	14	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	210	G. Clarkson	1200	1200
2019-10-28	2019-11-01	2019-11-15	14	JTHFF2C26F135BX45	"Lexus IS 250C"	Compact	Luxury	210	G. Clarkson	1200	1200
2019-10-28	2019-11-01	2019-11-15	14	WAUTFAFH0E0010613	"Audi A5"	Compact	Luxury	210	G. Clarkson	1200	1200
2019-10-28	2019-11-01	2019-11-15	14	WBA3A9G51ENN73366	"BMW 3 Series"	Compact	Luxury	210	G. Clarkson	1200	1200
2019-10-28	2019-11-01	2019-11-15	14	WBA3B9C59EP458859	"BMW 3 Series"	Compact	Luxury	210	G. Clarkson	1200	1200
2019-10-28	2019-11-01	2019-11-15	14	WDCGG0EB0EG188709	"Mercedes_Ben...	Compact	Luxury	210	G. Clarkson	1200	1200
2019-12-15	2020-01-01	2020-01-29	28	19VDE1F3XEE414842	"Acura ILX"	Compact	Luxury	221	J. Brown	2400	2400
2019-12-15	2020-01-01	2020-01-29	28	JTHFF2C26F135BX45	"Lexus IS 250C"	Compact	Luxury	221	J. Brown	2400	2400
2019-12-15	2020-01-01	2020-01-29	28	WAUTFAFH0E0010613	"Audi A5"	Compact	Luxury	221	J. Brown	2400	2400
2019-12-15	2020-01-01	2020-01-29	28	WBA3A9G51ENN73366	"BMW 3 Series"	Compact	Luxury	221	J. Brown	2400	2400
2019-12-15	2020-01-01	2020-01-29	28	WBA3B9C59EP458859	"BMW 3 Series"	Compact	Luxury	221	J. Brown	2400	2400
2019-12-15	2020-01-01	2020-01-29	28	WDCGG0EB0EG188709	"Mercedes_Ben...	Compact	Luxury	221	J. Brown	2400	2400

CREATE VIEW vRentalInfo AS SELECT R.OrderDate, R.StartDAte, R.ReturnDate, (R...	0 row(s) affected
SELECT * FROM vRentalInfo LIMIT 0, 1000	23 row(s) returned

Task 2:

(1) Add Customer:

```
$sql = "INSERT INTO Customer (Name, Phone)
VALUES ('".$_POST["name"]."','".$Phone."')";
```

Add Customer Add Vehicle Rent Vehicle Rental Return View Search

New Customer record created successfully

(2) Add Vehicle:

```
$sql = "INSERT INTO VEHICLE(VehicleID, Description, Year, Type,
Category)
VALUES
('".$_POST["VehicleID"]."','".$_POST["Description"]."',".$_POST["Year"].",'".
```

```
                    $_POST["Type"]."','".$_POST["Category"].")");
```

Add Customer Add Vehicle Rent Vehicle Rental Return View Search

New vehicle record created successfully

---

(3) Rent Vehicle:

    Search Available Rentals

```
$sql = "SELECT ".$RentalType." FROM Rate WHERE
Type=".$_POST["Type"]." AND Category=".$_POST["Category"];

$sql = "SELECT v.VehicleID, v.Description, v.Year, CASE Type WHEN 0
THEN  'Basic'

                                WHEN 1 THEN  'Luxury'
                                     end as Type,
                             CASE v.Category    WHEN 1 THEN
'Compact'
                                          WHEN 2 THEN 'Medium'
                                          WHEN 3 THEN 'Large'
                                          WHEN 4 THEN 'SUV'
                                          WHEN 5 THEN 'Truck'
                                          WHEN 6 THEN 'Van'
                                          END AS Category
        FROM vehicle v
        WHERE v.Type=".$_POST["Type"]." AND
              v.Category = ".$_POST["Category"]." AND
              v.VehicleID NOT IN (SELECT VehicleID
                    FROM rental
                    WHERE NOT ((StartDate < '".$SDate."' And ReturnDate
< '".$SDate."') or ((StartDate > '".$RDate."'))))";
```

From 2019-11-25 to 2019-11-26
Rental Amount: $80.00

Results:

Select your vehicle to rent

```
1G1JD5SB3E4240835 "Chevrolet Optra"
1N4AB7AP2EN855026 "Nissan Sentra"
2HGFB2F94FH501940 "Honda Civic"
3MZBM1L74EM109736 "Mazda 3"
3N1CE2CP0FL409472 "Nissan Versa Note"
3N1CN7APXEK444458 "Nissan Versa"
3VW2A7AU1FM012211 "Volkswagen Golf"
5NPDH4AE2FH565275 "Hyundai Elantra"
fdasfad best car ever
fdasfads best car ever
JF1GPAA61F8314971 "Subaru Impreza"
JM1BM1V35E1210570 "Mazda 3"
KMHTC6AD8EU998631 "Hyundai Veloster"
KNAFZ4A86E5195895 "KIA Forte"
```

Rows: 14

Payment Day? On Return Date / On Order Date

Select

Select and insert the new Rental

```
$sql = "INSERT INTO Rental
(CustID,VehicleID,StartDate,OrderDate,RentalType,Qty,ReturnDate,TotalAmount,PaymentDate,Returned)
VALUES
(".$_POST["CustID"].",'".$_POST["VehicleID"]."','".$_POST["StartDate"]."',CURDATE(),".$_POST["RentalType"].",".$_POST["Qty"].",'".$_POST["ReturnDate"]."',
    ".$_POST["TotalAmount"].","
    .$_POST["PaymentDate"].",0)";
```

Add Customer Add Vehicle Rent Vehicle Rental Return View Search

New rental record created successfully

---

(4) Rental Return

Search for Rentals

```
$sql = "SELECT CustID, Name, VehicleID, StartDate, OrderDate,
ReturnDate, PaymentDate, TotalAmount, Description, Year, CASE Category
WHEN 0 THEN  'Basic'

                              WHEN 1 THEN  'Luxury'
                                  end as Category,
                              CASE Type   WHEN 1 THEN 'Compact'
                                          WHEN 2 THEN 'Medium'
                                          WHEN 3 THEN 'Large'
                                          WHEN 4 THEN 'SUV'
                                          WHEN 5 THEN 'Truck'
                                          WHEN 6 THEN 'Van'
                                          END AS Type
        FROM (Rental natural join Customer) natural join vehicle
        WHERE Type like '%".$_POST["Type"]."%' AND
              Category like '%".$_POST["Category"]."%' AND
              VehicleID like '%".$_POST["VehicleID"]."%' AND
              Year like '%".$_POST["Year"]."%' AND
              ReturnDate like '%".$_POST["ReturnDate"]."%' AND
              Name like '%".$_POST["Name"]."%' AND
              Description like '%".$_POST["Description"]."%' And Returned =
0
              ";
```

Results:

Select your vehicle to return

Customer ID	Customer Name	Vin	Description	Year	Type	Category	Return Date	
210	G. Clarkson	19VDE1F3XEE414842	"Acura ILX"	2014	Compact	Luxury	2019-11-15	Select
210	G. Clarkson	JTHFF2C26F135BX45	"Lexus IS 250C"	2015	Compact	Luxury	2019-11-15	Select
210	G. Clarkson	WAUTFAFH0E0010613	"Audi A5"	2014	Compact	Luxury	2019-11-15	Select
210	G. Clarkson	WBA3A9G51ENN73366	"BMW 3 Series"	2014	Compact	Luxury	2019-11-15	Select
210	G. Clarkson	WBA3B9C59EP458859	"BMW 3 Series"	2014	Compact	Luxury	2019-11-15	Select
210	G. Clarkson	WDCGG0EB0EG188709	"Mercedes_Benz GLK"	2014	Compact	Luxury	2019-11-15	Select
221	J. Brown	19VDE1F3XEE414842	"Acura ILX"	2014	Compact	Luxury	2020-01-29	Select
221	J. Brown	JTHFF2C26F135BX45	"Lexus IS 250C"	2015	Compact	Luxury	2020-01-29	Select
221	J. Brown	WAUTFAFH0E0010613	"Audi A5"	2014	Compact	Luxury	2020-01-29	Select
221	J. Brown	WBA3A9G51ENN73366	"BMW 3 Series"	2014	Compact	Luxury	2020-01-29	Select
221	J. Brown	WBA3B9C59EP458859	"BMW 3 Series"	2014	Compact	Luxury	2020-01-29	Select
221	J. Brown	WDCGG0EB0EG188709	"Mercedes_Benz GLK"	2014	Compact	Luxury	2020-01-29	Select
210	G. Clarkson	3N1CN7APXEK444458	"Nissan Versa"	2014	Compact	Basic	2019-11-26	Select
210	G. Clarkson	3N1CN7APXEK444458	"Nissan Versa"	2014	Compact	Basic	2019-11-26	Select

Rows: 14

Updating the Rental as Returned
$sql = "UPDATE Rental
    SET Returned = 1, PaymentDate = '".$_POST["ReturnDate"]."'
    WHERE CustID = ".$_POST["CustID"]." AND VehicleID
='".$_POST["VehicleID"]."' AND ReturnDate = '".$_POST["ReturnDate"]."'"
;

Add Customer Add Vehicle Rent Vehicle Rental Return View Search

Amount Due is $1,200.00
2019-11-15

Vehicle returned successfully

(5) Rental Views:
    Filtering views by Customer Name and ID
    $sql = "SELECT cust.CustomerID,
    cust.CustomerName,concat('$',format(IFNULL(sum(V.RentalBalance),0),2)) as
    RentalBalance
        FROM   (Select CustID as CustomerID, name as CustomerName from
    customer) as cust
            LEFT OUTER JOIn vRentalInfo as V on cust.CustomerID =
    V.CustomerID

WHERE cust.CustomerID like '%".$_POST["CustID"]."%' AND
cust.CustomerName like '%".$_POST["Name"]."%'
Group by CustomerID";

Results:

Customer ID	Customer Name	Remaining Balance
201	A. Parks	$0.00
204	G. Carver	$0.00
210	G. Clarkson	$6,160.00
215	C. Pearce	$0.00
226	R. Armstrong	$0.00

Rows: 5

Filtering Views by Vehicle ID and Description

$sql = "SELECT V.VIN, V.Vehicle,
IFNULL(concat('$',format(sum(VR.OrderAmount)/sum(VR.TotalDays),2)),'Not Applicable') as DailyPrice
     FROM (SELECT VehicleID as VIN, Description as Vehicle FROM Vehicle) as V left outer join vRentalinfo as VR on V.VIN = VR.VIN

     where V.Vin LIKE '%".$_POST["VehicleID"]."%' AND V.Vehicle LIKE '%".$_POST["Description"]."%'
     group by V.VIN;
";

Results:

Vehicle Id	Description	Daily Average
1N4AB7AP2EN855026	"Nissan Sentra"	Not Applicable
1N6BA0EJ9EN516565	"Nissan Titan"	Not Applicable
1N6BF0KM0EN101134	"Nissan NV"	$99.00
1VWCH7A3XEC037969	"Volkswagen Passat"	Not Applicable
3N1CE2CP0FL409472	"Nissan Versa Note"	Not Applicable
3N1CN7APXEK444458	"Nissan Versa"	$80.00
5FNRL6H58KB133711	"Honda Odyssey"	Not Applicable
JN8AS5MV0FW760408	"Nissan Rogue Select"	Not Applicable

Rows: 8

References

Toutountzi, Theodora. "CSE 3330 Car Rental Project - Phase 03."