CSE 3330

PROJECT 2 PART 3

Car Rental DB GUI

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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:

<u>Query 1</u>: **Add an extra column 'Returned' to the RENTAL table. Values will be 0-for non-returned cars, and 1-for returned cars. Then update the 'Returned' column with '1' for all records that they have a payment date and with '0' for those that they do not have a payment date.**

```sql
ALTER TABLE RENTAL ADD COLUMN Returned INTEGER DEFAULT 0;
```

Then we update the Rental Column

```sql
UPDATE RENTAL SET Returned = 1 WHERE PaymentDate <> 'NULL';
```

```
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    2019-05-10   400          2019-05-06   1
229     WAUTFAFH0E0010613   2019-05-06  2019-04-12  1           4    2019-05-10   400          2019-05-06   1
```

Query 2: Create a view vRentalInfo that retrieves all information per rental. The view should have the following attributes:

- OrderDate

- StartDate

- ReturnDate

- Total Days per Rental as 'TotalDays'

- Vehicle's ID as 'VIN'

- Vehicle's Description as 'Vehicle'

- Vehicle's Type as 'Type'

- Vehicle's Category as 'Category'

- Customer's ID as 'CustomerID'

- Customer's Name as 'CustomerName'

- Order Total Amount as 'OrderAmount',

- Order Remaining Amount as 'RentalBalance'

```sql
CREATE VIEW vRentalInfo AS
SELECT R.OrderDate, R.StartDate, R.ReturnDate,
CAST(JULIANDAY(R.ReturnDate) - JULIANDAY(R.StartDate) AS INTEGER) AS TotalDays,
R.VehicleId AS VIN, V.Description AS Vehicle,
CASE V.Type
    WHEN 1 THEN 'Compact'
    WHEN 2 THEN 'Medium'
    WHEN 3 THEN 'Fullsize'
    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,
CASE
    WHEN R.PaymentDate = 'NULL' THEN R.TotalAmount
    WHEN R.PaymentDate <> 'NOT NULL' THEN 0
END AS RentalBalance
FROM RENTAL AS R JOIN VEHICLE AS V ON R.VehicleId = V.VehicleId
JOIN CUSTOMER AS C ON R.CustID = C.CustID
ORDER BY StartDate ASC;
```

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	2019-05-10	400	2019-05-06	1
229	WAUTFAFH0E0010613	2019-05-06	2019-04-12	1	4	2019-05-10	400	2019-05-06	1

```
sqlite> SELECT COUNT(ReturnDate) AS N_ROWS
   ...> FROM vRentalInfo;
N_ROWS
------
23
```
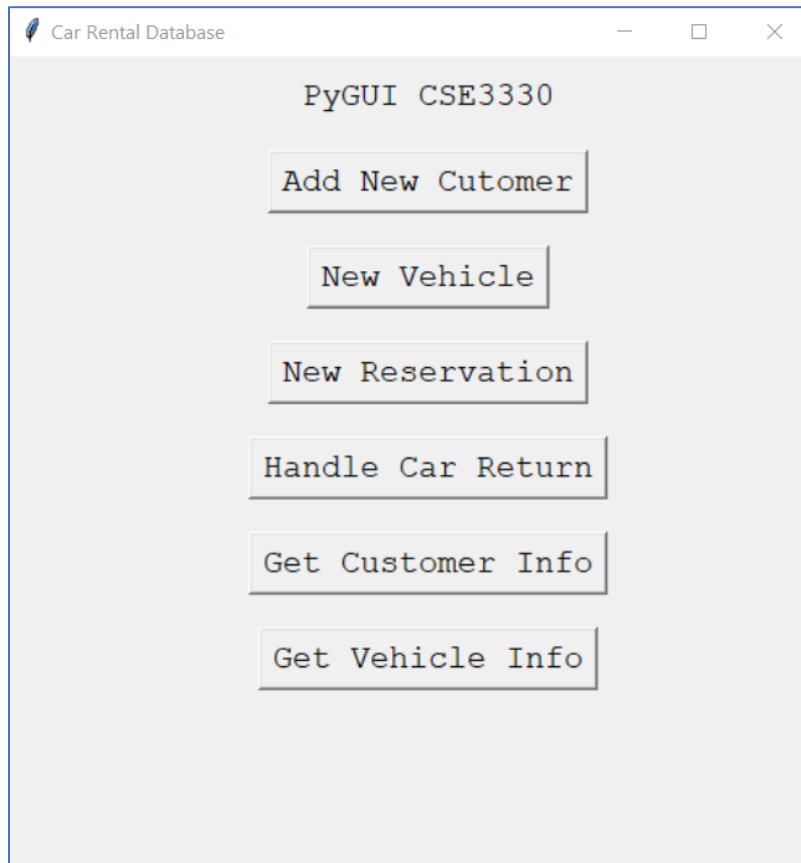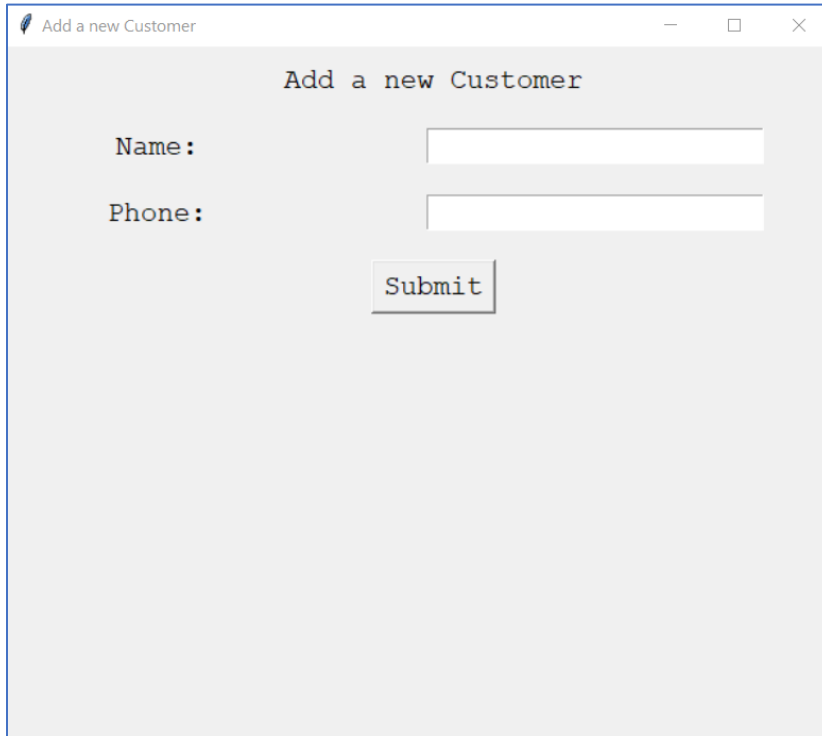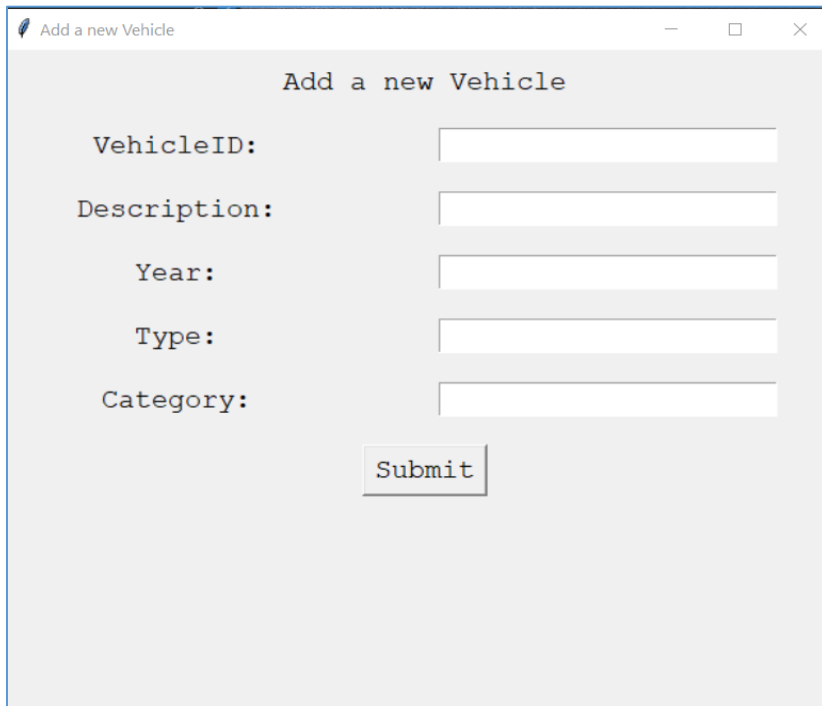
Task 2:

Main Menu:

Add a new Customer:

Add a new Vehicle:

Add a new Reservation:

Add a new Reservation   —   □   ✕

Add a new Reservation

CustID: [_____]

VehicleId: [_____]

StartDate: [_____]

OrderDate: [_____]

RentalType: [_____]

Qty: [_____]

ReturnDate: [_____]

TotalAmount: [_____]

PaymentDate: [_____]

[Submit]

Handle Car Return:
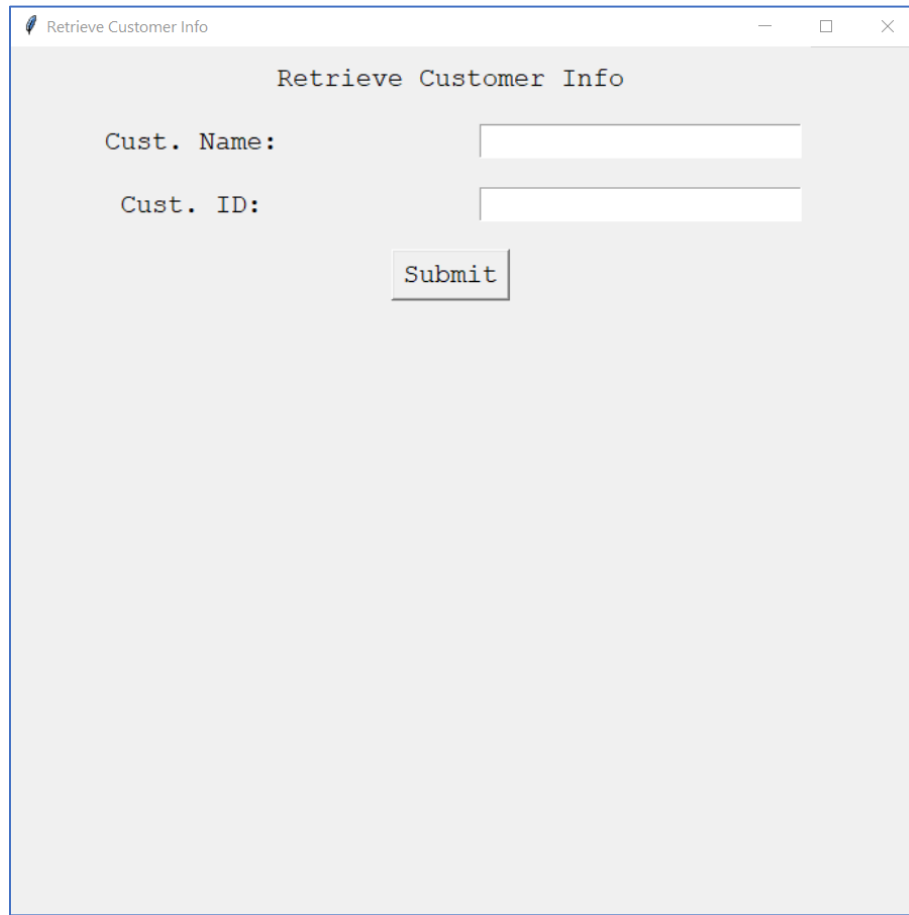
Get Customer Information:

Group Contribution(s):

Ahmed: Write the queries and the submission documents

Subash: Help Ahmed with query no.2 and Bishal with Tkinter

Bishal: Create the GUI using Tkinter (Python)