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## SQL PROJECT - KELLIES CLASSIC CARS

For this project, you will either use SQL Server to create a business database and application. It will be your choice on how to make the database, eg; the Query analyzer or Enterprise Manager. However, if you choose to do it with the Enterprise Manager you must export it as a script in order to run on my machine. I will then take and run the script to produce your database. Please save it to a flash drive, and I will transfer it to my usb drive. Do NOT send it via email. We need to make sure of the data integrity of the database and queries. Due in week 14, April 25<sup>th</sup> or 26<sup>th</sup>, depending on your class day. NO excuses, you will have 8 weeks to due this project and I will give you time in class.

**BONUS: If You Can Code this!**

To complete the assignment, you will have to create tables, and queries. You will also be expected to populate the database with a sufficient amount of sample data to prove that your database meets the specifications with respect to reporting and data entry. (10 records per table should be fine). You should build a relational database that has at least 3 tables associated to each other. I will NOT give you any instructions on the setup of the tables, fields or data types. That is part of the project and design. Pay special attention to the Project Requirements as they will guide you in this process.

Step 1. Create a blueprint (a layout) of the database on paper, showing the tables, data types and how they relate. This will make it easier to do and follow. The Business description below should guide you in how you want the database setup.

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### The Business

Your client runs the business: Kellie's Classic Cars, which sells antique, exotic, and other collectible used automobiles. No new cars are sold; they sell high-performance collectibles such as Porsche, Ferrari, Lamborghini, luxury collectibles such as Rolls Royce, Mercedes, American classics from the 50's such as 55 Chevies & Thunderbirds, muscle cars from the 60's such as GTO, Mustangs, and Camaro SS. Cars are displayed in a showroom where they are sold by a small sales force. Kellie's Classic Cars also maintains a service department to service and repair the vehicles they sell. The service department also services vehicles of this type that were not sold at the dealership. Do NOT make up your own vehicles. You will have to follow those above.

### Project Requirements

Kellie's Classic Cars needs a system to record sales and calculate commission. Simply put, this would be a database and application to record and calculate the sale of vehicles, the salesperson, etc. Here are some **EXAMPLES**. The actual queries will be given on a separate sheet for organization. Right now, I just want you to start thinking about the project.

- Date of the sale
- The vehicle sold
- The sales price
- The Salesperson who sold the vehicle
- The customer who bought the vehicle and their contact information

Periodically calculate commissions due each salesperson, inventory, sales of vehicle.

In order to do this, the system would have to:

1. Store information about each sales person (the business needs the flexibility to individually assign a different commission rate (10% for each salesperson)).
2. Store information about the customer, the vehicles.
3. Store information needed to calculate the profit on a sale (upon which the commission would be based) such as the dealer cost of the vehicle and the selling price.
4. Calculate the commission as a percentage of the profit on a sale.
5. Show the total sales rolled up by month, indicating totals for dealer cost, selling price, profit, and commissions paid.

You do not need to worry about security of any type with this project. In a real system you would, but for our purposes it would add unnecessary complexity.

How you choose to implement this system is essentially up to you. There is no one way to do it. What will be evaluated when your project is graded will be:

1. Does your system meet the basic requirements?
  - did you properly name the database, tables, and the fields? (e.g. field1 makes no sense to me, how do I know what it's purpose is)
  - the number of tables
  - the correct data types
  - primary and foreign keys interaction
2. Your selection of tables and their design:
  - are you storing data appropriately, data types with the right field?
  - are you storing things such that data is not stored redundantly?
  - are the tables joined or inter-related properly
3. 40% of you grade will be on the design and setup of you table (w/layout), the other 60% will be on how you setup and write the queries to get the data. NOTE: if you do NOT design it correctly you may/can run into problems when writing the queries. When writing and then executing the sql code ask yourself if you answered the question. Did it meet the requirements it was looking for? In other words did it provide me with the correct information.

Write 1 (one) sql query to create the database, tables, and enter the information. Save it as Kellies, along with your name commented out. So, I know who it is from. The next file will contain ALL the queries necessary to answer the questions. Instead of saving and giving me each one individually, I would like to see it in one file when you give it to me. Makes it easier for me. I suggest that you write, run and save each one separately, but then copy and paste when you are done in 1 (one) file. The query questions will follow within 2 weeks, don't wait for them. BUT, do not start coding – just yet. Figure it out first. You will make adjustments, that's normal in the beginning. But once set your committed to it.

Matthew  
Soper



## Queries to be used for the Project of CS219 Database Mgmt

Here are some of the questions that the manager of the company asked. Your job is to give him the information, based on the questions he is asking. **When you save it, label the queries as query1, query2, etc.** I need to see the right query with the right answer. You may use comments if you choose to do this in one large query. Just comment out with - - before the code.

**!!!NOTE:** Some of the queries you write may run, but not produce an output. This can depend on the data in the tables, the lack of, or a badly written query statement. This can be an ACCEPTABLE answer. I will look to see how the actual query is written, and compare it against the data. IF, I see data that should be displayed that is not – then it is wrong. Example; I wanted to see if any Rolls Royces were sold in March. But, if none were sold then you would get a blank output. This simply means there was NO data to support the query. Which is OK. Again, I am looking on how you formed the query as well.

### Requirement

A layout of your tables and entities done either as an ERD, or in an application like Word, Visio, etc. that shows the design of the table and its corresponding links. This will be a visual representation that will help me in following the database design.

- query 1. Show me which vehicles were sold.
- query 2. What was the total sales price of all the vehicles?
- query 3. Based on the first two queries business has been bad in the area for the last few months. I need to somehow target and promote the dealership. Display who bought vehicles in the Auburn zip code area. (If you do not have that zip, pick another). (302)
- query 4. It would help me to understand if I organized these reports and was able to combine them. Display for me the vehicles that were sold, their selling price and who sold the vehicle.
- query 5. I still need a better view of the information. Show me all the information from both the Sales and Car tables. (do this in 1 query, not 2 – and no duplication of information).
- query 6. I need to do follow-ups with the customers. This is just good customer service. Show me who bought the vehicle, the salesperson who sold it to them along with any contact information for both.
- query 7. Since, we are talking about sales people. Calculate and report on the total commission each salesperson did for the year. Sort, order it based on the salespersons name.
- query 8. I was helping a sales representative with a deal at one of the dealerships, when I got called away with an emergency. Going over the nightly reports, I want to see if the vehicle was sold to the customer that day. I know his name started with Z something.

query 9. The accountant noticed that there was for some reason some missing or wrong entries in the table. We need to correct this, and add the following information. Note; you may need to do this in more than 1 query (depends on the design). Also populate any additional fields with your OWN data, or make them NULL ("").

Bill Gates (718-555-1111) bought a red 1967 Corvette. It was sold to him by Joe Salesman for a price of \$100,000 dollars on January 1<sup>st</sup>, 2010. Commission of 10% was received. Original purchase price was \$50,000 dollars.

Jim Boehim (315-555-2222) bough a silver 2000 McLaren for \$250,000 dollars. It was also sold to him by Joe Salesman on March 1<sup>st</sup>, 2010. Commission of 10%. Original price was \$175,000.

query 10. After reviewing the added information. It was found that Mr.Gates's phone number was put in incorrectly. Please change it to reflect the new number of 111-222-3333

query 11. I need to see some of my revenue standings. Please display for me the most expensive car sold and how much, the lease expensive and how much, the average dealer cost of the cars, and the average sales of the cars. Add a title and a description that I know what columns I am talking about.

query 12. Show me the automobiles that were not bought at the dealership, but receive repairs through the service department. This might be an opportunity for a future sale, or buy back opportunity.

query 13. As a sales manager I need to see the quarterly sales report. Display for me the automobiles that were sold over a 4 month period, say January 1<sup>st</sup> until now. Note; if you do not have cars sold in that period, pick the dates that show me a quarterly return. If you did the entries by years (not good), just give it to me based on that 1 year period.

query 14. Some people are romantic and become impulse buyers on holidays, birthdays, anniversaries, etc...Did someone purchase a vehicle on a holiday like December 25<sup>th</sup> or January 1<sup>st</sup>? Also tell me the person who sold that vehicle. I would like to know my hard working staff that works holidays.

query 15. Display for me the total sales rolled up for a month (you pick the month), indicating totals for dealer cost, selling price, profit, and commissions paid. Also, give me a title heading for each field so I know what the columns represent.

**GIVE me these 15 commands in 1 query. OR you can copy each individual one into a folder and I will just copy the folder.**

**I will also need the query that setup the database with the tables, and the data.**

**I will also need the Database diagram either printed or in some file to look at.**

**Do NOT email me these. Let me know when you are done and I will copy them to my usb drive. I do this as a check to make sure I have everything!!!**