COSC 3337: DATABASE THEORY
Homework 2: due on Sun. 2/16/2020 at 11:59 pm

Remaining late days may be used in this assignment if needed.
Check "Late Days" policy in syllabus for more details.

Automobile Company DB

Design an ER diagram for an automobile company database that is used to assist its dealers in maintaining customer records and dealer inventory, and to assist sales staff in ordering cars. Each vehicle is identified by a vehicle identification number (VIN). Each individual vehicle is a particular model of a particular brand offered by the company (e.g., the XF is a model of the car brand Jaguar of Tata Motors). Each model can be offered with a variety of options, but an individual car may have only some (or none) of the available options. The database needs to store information about models, brands, and options, as well as information about individual dealers, customers, and cars.

For this E-R diagram, make sure to include the cardinality constraints with optionality.

Submission Instructions:

1- Your solutions should be submitted through Canvas. Email or paper submissions will not be accepted.
2- Remember that no handwritten/drawn diagrams will be accepted. Please use drawing tools such as lucidchart.com (student free version), draw.io, or any drawing tool of your choice. Also make sure your submissions are in the pdf format.
3- For every E-R diagram, make sure to list any assumptions you consider and the cardinality symbols you will use.
4- Include in your submission a video recording (5 minutes max.) explaining your solution. See video recording instructions below for specific details.
5- Make sure your ER diagram submission filename is of the format "*HW02-FirstLastName.pdf*", and your video filename is of the format "*HW02-FirstLastName.mov*" or "*HW02-FirstLastName.mp4*".

Grading: (Total points: 10 pts.)

- (8 pts.): ER diagram satisfies requirements and is correct.
- (2 pts.): Video recording explaining your solution that follows the video recording instructions.
- (- 1 pt.): For each missing entity or relationship.
- (- 0.5 pts.): For each incorrect cardinality constraint.

Video Recording Instructions:

The purpose of video recording your solution is to explain your attempt towards solving the problem presented in this assignment. Make sure the length of your video does not exceed 5 minutes, and includes the following:

1. Introduction: Student name, course, semester, homework #
2. Explain the question(s) and how you plan to solve it
3. Walk through the solution, very important to explain every step rather than just reading the solution. Explain why you chose those the different components of your solution, e.g. entities, attributes, relationships, etc.
4. List any assumptions that you may have made
5. Show the cardinality key symbols used
6. Overall picture and conclusion, and a simple thank you for watching

Final note, please be professional in the recording to a certain extent, be brief in explaining your solution and any necessary details to show your comprehension to the course material and your solution. All things recorded (picture and audio) in the video must be academically appropriate.

Submission Checklist:

Use this checklist to make sure your submission contains the following:

- ☐ ER Diagram submitted as .pdf document
- ☐ Movie file submitted as .mov or .mp4 file and follows video recording instructions
- ☐ ER diagram lists all assumptions and cardinality key symbols used
- ☐ Submission files follow the format described in the submission instructions
- ☐ Submission files downloaded and checked for missing files
- ☐ Submission files tested on a different computer (e.g. ACL lab machines)

Always let me know if you have any questions or need more clarification on the assignment or submission instructions.

Good Luck ☺