

CS 4611 – Spring 2017 – Homework 2

Assigned: 09/19/2017

Due: 09/26/2017

Submit both a hard copy of your work in class, and a soft copy to canvas.

Objectives: The objectives of this homework are the following:

- Practice writing queries in both SQL and relational algebra.
- Learn how to capture business requirement using an E-R diagram.
- Learn how to reduce an E-R diagram into a “good” set of relation schemas that satisfy the same specification of user requirements.

Note: Despite that, as of September 19, 2017, we haven’t fully covered all the topics related to the E-R model and the reduction from the E-R model to the relational model, I decided to assign Question 3. The reason for this is to give you more time to work on this homework.

Question 1: Do exercise 7.23 of the “ER Exercises Elmasri....pdf” file that is posted in Canvas.

Question 2: Do exercise 7.28 of the “ER Exercises Elmasri....pdf” file.

Question 3: For each of the following exercises from the “ER Exercises Elmasri....pdf. file, write the associated E-R diagram, and then transform that diagram into the relational model. You can draw your E-R diagram by hand, or you can use any other tool you like, like Dia. Don’t forget to write the participation constraints and the user-defined constraints for each scenario.

- a. Exercise 7.16
- b. Exercise 7.34