

CSC 230 – Introduction to Database Systems

Homework #1

1. Do chapter 4 exercise 6.2.

2. It is some time in the distant past, late in the previous century. Smith's registrar has approached you because they want to improve their course registration process, which to date has always relied on people shuffling lots of pieces of paper. They are hoping that you can design a system that uses one of these newfangled "electronic computers" to make the process easier and fairer for everyone.

- a) Think about the information such a system will need to contain. What will you include? What will you not include? Draw an entity-relationship diagram illustrating your data model. Be sure to include relevant attributes for the entities you have chosen to model.
- b) Convert your diagram into a schema for a relational database. In other words, describe a set of tables that will store the information, applying the principles of good design we have studied.
- c) What functional dependencies would you expect to hold in the relations you have created? Identify a primary key for each relation.
- d) Write a set of SQL commands that will create the tables you have designed.

Note: For purposes of discussion I may from time to time share some student homework responses anonymously with the entire class.