(50 points)

1. Define the following terms and then create an example. **(3 points each)**
   a. Superkey
   b. Candidate key
   c. Primary key
   d. Foreign key

2. Look at the time_slot relation. You can find this relation on page 1271 of the textbook. In this relation the primary key is made up of 3 attributes. The only attribute not in the key is end_time. Try to tell me why this is the case. **(2 points)**

3. What is the result of the following compound relational algebra statement? Make sure you base it on the textbook data (pages 1276 – 1281) and show your work (using the textbook data) not just the answer. In otherwords, show each table of the original data, then the intermediate table(s) in the order they occur, and finally the resulting table. **(5 points)**

   a. $\sigma_{s\_id=ID}$(student x advisor)

From the textbook:

4. Do problem 2.6 **(2 points for each part)**
5. Do problem 2.7. **(2 points for each part)**
6. Do problem 2.8. **(2 points for each part)**
7. Do problem 2.10. **(3 points)**
8. Do problem 2.12 **(2 points for each part)**
9. Do problem 2.13 **(2 points for each part)**