Purdue University
Computer Science Department
CS 448: Introduction to Database Systems
Prof: Bharat Bhargava

CS 448 – Homework #1

Due: 09/07/2017

Reference for HW 1: Fundamentals of Database Systems by Elmasri &
Navathe, 7th Edition (or) 6th Edition.

The questions are of the same number in their corresponding chapter of each
edition.

1. (1.3)

1.3. Discuss the main characteristics of the database approach and how it differs
from traditional file systems.

2. (1.6)

1.6. Discuss the capabilities that should be provided by a DBMS.

3. (1.12)

1.12. Cite some examples of integrity constraints that you think can apply to the
database shown in Figure 1.2.

4. (2.3)

2.3. What is the difference between a database schema and a database state?

5. (2.5)

2.5. What is the difference between logical data independence and physical data
independence? Which one is harder to achieve? Why?

6. (2.6)

2.6. What is the difference between procedural and nonprocedural DMLs?

7. (5.2)

5.2. Why are tuples in a relation not ordered?

8. (5.3)

5.3. Why are duplicate tuples not allowed in a relation?

9. (5.6)

5.6. Discuss the characteristics of relations that make them different from ordinary tables and files.