Due: February 11, 2019, before class
Total Points: 3 points

Provide enough detail to support your answers. If possible, use bullets to organize the ideas in your answer.

**Question 1. (1.0 point)**

Suppose that each of the following operations is applied directly to the database state shown in the Figure 5.6 in the Textbook (7th Edition). The figure 5.6 is shown in the slides 5-31. Discuss all integrity constraints violated by each operation, if any, and the different ways to enforce the constraints. For example, the operation Delete the PROJECT tuple with Pname = ‘ProductX’ violates a referential integrity constraint with WORKS_ON. The ways to enforce the operation are: (i) reject the delete; (ii) delete all tuples in WORKS_ON for Pno = 1.

(a) Delete the WORKS_ON tuples with Essn = ‘333445555’.
(b) Modify the Super_ssn attribute of the EMPLOYEE tuple with Ssn = ‘999887777’ to ‘943775543’.
(c) Insert tuple <‘ProductX’, 4, ‘Bellaire’, 2> into PROJECT.
(d) Delete the DEPARTMENT tuples where Dnumber < 2

**Question 2. (1.0 point)**

Database design often involves decisions about the storage of attributes. For example, the address can be stored as a single attribute or split in multiple attributes (City, State, ZIP, Street Address). Discuss specific scenarios where is useful store the address in one attribute or multiple attributes. Explain your answer.

Discuss specific scenarios of other attributes that can benefit of such decisions (split in multiple attributes)? Explain you answer.
Question 3. (1.0 point)

Write SQL statements to do the following on the database schema shown in Figure 5.6 in the Textbook (7th Edition).

(a) Insert a new project, <‘Product ABC’, 4, ‘Houston’, 1>, in the database.
(b) Modify location from Department 1 to ‘Bellaire’
(c) Delete all dependent of employee whose salary is greater than 35000.
(d) Retrieve the name of employees (Fname, Minit, Lname) whose salary is greater than any employee working in Department 5.