CSC343 Worksheet 15 (final)

July 14, 2020

1. **Exercise 4.7.1:** Draw a UML diagram for the problem of Exercise 4.1.1.

2. **Exercise 4.7.2:** Modify your diagram from Exercise 4.7.1 in accordance with the requirements of Exercise 4.1.2.

3. **Exercise 4.7.3:** Repeat Exercise 4.1.3 using UML.

4. **Exercise 4.7.4:** Repeat Exercise 4.1.6 using UML.

5. **Exercise 4.7.5:** Repeat Exercise 4.1. 7 using UML. Are your subclasses disjoint or overlapping? Are they complete or partial?

6. **Exercise 4.7.6:** Repeat Exercise 4.1.9 using UML.

7. **Exercise 4.7.7:** Convert the E/R diagram of Fig. 4.30 to a UML diagram.

8. **Exercise 4.7.8:** How would you represent the 3-way relationship of Contracts among movies, stars, and studios (see Fig. 4.4) in UML?

9. **Exercise 4.7.9:** Repeat Exercise 4.2.5 using UML.

10. **Exercise 4.8.1:** Convert the UML diagram of Fig. 4.43 to relations.

11. **Exercise 4.8.2:** Convert the following UML diagrams to relations:

    a) Figure 4.37.
    b) Figure 4.40.
    c) Your solution to Exercise 4.7.1.
    d) Your solution to Exercise 4.7.3.
    e) Your solution to Exercise 4.7.4.
    f) Your solution to Exercise 4.7.6.

12. **Exercise 4.8.3:** How many relations do we create, using the object-oriented approach, if we have a three-level hierarchy with three subclasses of each class at the first and second levels, and that hierarchy is:

a) Disjoint and complete at each level.

b) Disjoint but not complete at each level.

c) Neither disjoint nor complete.