Faculty of Information Technology

SYSTEM ANALYSIS AND DESIGN

Fall 2021

Chapter 7: Introduction to UML

Practice exercises

Question 1. Create the use case diagram according to the following learning management system functional requirements:

1. The system allows students to log in, after logging in, he or she can see announcements, update profile, enroll in courses, view all information of the courses, view his/her marks, and submit exercises.
2. The system allows teachers to log in, see announcements, and student list, export student list of each course, view students' submissions and grade the submissions. Moreover, the teacher can also post announcement and documents for his or her courses.
3. An administrator can approve students' request for logging in to the system, add or remove one student from a course, as well as download enrolment reports.

Question 2. Draw a UML class diagram that models the relationships between the classes in the following lists. Focusing on using aggregation, association, composition and inheritance relationships, you are not required to list any attributes and methods for the classes.

Bank, Customer, Savings Account, Loan, Checking Account. Checking, savings and loan have some attributes as following:

- Checking: Acct-no, Date-opened, Balance, Service-charge
- Savings: Acct-no, Date-opened, Balance, Interest-rate
- Loan: Acct-no, Date-opened, Balance, Acct-limit

Question 3. Draw a sequence diagram for the situation when one Student Login to Fit Portal

1. List step by step to implement the function in your own words
2. Draw the diagram
    a. Make sure your diagram clearly shows which objects are in this process
    b. Objects that you must include are
        - Student
        - Login Pages
        - Home Pages
        - Account Controller
        - Student Entity
    c. You can include other objects if you need them to make your diagram clearly