

**DIGITAL ASSIGNMENT II**

**ITA 5005 – OBJECT ORIENTED SOFTWARE ENGINEERING**

**SUBMISSION DEADLINE: DECEMBER 20 2022**

1.A product is to be installed to control elevators in a building with m floors. The problem concerns the logic required to move elevators between floors according to the following constraints:

* Elevator has a set of m buttons, one for each floor. These illuminate when pressed and cause the elevator to visit the corresponding floor. The illumination is cancelled when the elevator visits the corresponding floor.
* Each floor, except the first floor and top floor has two buttons, one to request an up-elevator and one to request a down-elevator. These buttons illuminate when pressed. The illumination is cancelled when an elevator visits the floor and then moves in the desired direction.
* When an elevator has no request, it remains at its current floor with its doors closed.
* In order to ensure system safety, at emergency situation the control system will be triggered and the elevator is instructed to stop at nearby floor.

Draw the state diagram for the elevator system by incorporating all necessary conditions. [5]

2.a. The bank client must able to deposit or withdraw an amount to/from his / her account using the ATM counter. Each transaction has to be recorded, and the client must be able to review all transaction performed in his / her account. All the transaction includes the following details; date, time, type of transaction, amount and account balance after the transactions.

b. Access to the bank account is provided by a PIN code.

c. PIN code allows access to the account of the bank client.

d. The system should be designed such that it automatically checks the amount in the amount of the client. If the amount to be withdrawn exceeds the amount in the account of the client, then it should check whether the client could avail the overdraft facility, as per the bank rules.

e. The bank in consultation with the client shall fix the amount that can be withdrawn on any specific day. Represent the scenario using Activity Diagram.[5]