CSCI 360 Final Practice Questions

1. In a room with two doors, it is common to have two switches controlling a single light: one by each door. Flipping either switch changes the light’s state from on to off, or vice versa. Make a state diagram illustrating this situation with a concurrent composite state that includes regions for each switch and the light. Your state diagram should track the states of switches A and B (Up or Down) and the state of the Light (On or Off.) The events are all switch flips.

2. Create a use case diagram for a vending machine that sells beverages and snacks. Make use of inclusion and extension associations, mark multiplicities and remember that a vending machine may need technical assistance from time to time.

3. Create a sequence diagram for the vending machine in 2.

4. Model a scenario of the Withdraw Money use case of a Bank ATM system with an SSD. The user is able to make withdrawal of money. The system employs a standard procedure of validating the card and account holder’s password.

5. Write the Java code for the following diagram:
1. Student indicates wish to enroll
2. Student inputs name and number
3. System verifies student
4. System displays seminar list
5. Students pick a seminar
6. System determines eligibility to enroll
7. System determines schedule
8. System calculates fee
9. System displays fee
10. System verifies students wishes to enroll
11. Students indicate yes.
12. System enrolls student in seminar