CSE 460
Software Analysis and Design
(Spring 2019)

Homework #5
Assigned Date: April 6, 2019
Due Date: April 15, 2019

Posting ID |__|__|__|__|-|__|__|__|

Hardcopy is due at the start of the class; softcopy is due in Blackboard at the start of the class.

Note 1: Your submission must include the header shown in the above rectangle. **Do not** put your names on your submission.
Note 2: Homework is to be done **individually**. You may discuss the homework problems with your fellow students but are NOT allowed to copy – either in part or in whole – anyone else's answers. You are also encouraged to meet the TAs and instructor.
Note 3: All submitted materials must be legible. Text-based answers must be typed. Figures/diagrams must follow given instructions.
Note 4: Help save some trees! Please do not include the questions or instructions in your answer. Still, you must organize your answers according to the exercise numbers and parts.
Note 5: Please check the Blackboard discussion for further instructions, questions, answers, and hints.

This assignment is a continuation of the Blackjack game in Hw #4. We consider a game where there are one dealer and one or more players.

1. [15 points] Provide a concise description (at most 100 words) of how you will approach creating a sequence diagram for the game. For simplicity, assume there is only one player.

2. [15 points] What is the number of objects for a sequence diagram for a game among the players and the dealer using a deck of cards if there are three players?

3. [15 points] Describe how sequence and state machine diagrams complement each other.

4. [55 points] Develop one state machine specification for the dealer. The specification shows the states of the dealer and changes from one state to another defined by state transitions. The specification must include all possible states for playing a complete (start to finish) game. Your solution needs to account for the player and the dealer playing with a deck of cards.

   Rubric:

   States: 20 points. For each state include a definition.
   Transitions: 30 points. For each transition, complete its Base tab (i.e., specify Trigger, Guard, and Action parts as needed).
   State Machine: 5 points.

Submission: Provide hardcopy of your solution in class. Upload a softcopy and the Astah file of your solution in Bb. Astah file naming convention: Hw5 concatenated with the last three digits of your Posting ID. Example: If your posting ID is 1234-999, the file name would be Hw5-999. Submit a zip file that has both the softcopy and the Astah file. Use the same file naming convention for the zip file.

NOTE: All UML specifications must be developed in Astah.