**Problem Statement**

Consider the following situation: Of-the-Month Club (OTMC) is an innovative young firm that sells memberships to people who have an interest in certain products. People pay membership fees for one year and each month receive a product by mail. For example, OTMC has a coffee-of-the month club that sends members one pound of special coffee each month. OTMC currently has six memberships (coffee, wine, beer, cigars, flowers, and computer games), each of which costs a different amount. Customers usually belong to just one, but some belong to two or more. When people join OTMC, the telephone operator records the name, mailing address, phone number, e-mail address, credit card information, start date, and membership service(s) (e.g., coffee). Some customers request a double or triple membership (e.g., two pounds of coffee, three cases of beer).

The computer game membership operates a bit differently from the others. In this case, the member must also select the type of game (action, arcade, fantasy/science fiction, educational, etc.) and age level. OTMC is planning

to greatly expand the number of memberships it offers (e.g., video games, movies, toys, cheese, fruit, vegetables), so the system needs to accommodate this future expansion. OTMC is also planning to offer three-month and six-month memberships.

Make additional assumptions as needed and using your imagination, design the system with the following diagrams:

* + Create Use Case Diagrams
  + Create Class Diagrams
  + Create Sequence Diagrams
  + Create State Diagrams. Note that there are multiple stakeholders for this system.
  + Create Activity Diagrams

Make assumptions on the problem statement that are reasonable. Document your assumptions in your report.

**This is an individual assignment to ensure that all students have a hands-on experience with an industrial strength ICASE system.**

Generate a report with the details of your OTMC *System*. You should briefly discuss why you chose the entities, the attributes, the relationships etc. Please clearly state your assumptions. Provide screenshots of the following: (You can also include other screenshots relevant to the report):

* + Use Case Diagram.
  + Class Diagram (Document the entities, attributes, attribute data types and relationships)
  + Sequence Diagrams
  + State Chart Diagram
  + Activity Diagrams