OBJECT-ORIENTED ANALYSIS AND DESIGN
GROUP LAB

For this Lab, you work in a team of 2-3 students.

THE PURPOSE OF THIS LAB IS

- to find the expected requirements
- to discover classes
- to determine the responsibilities of each class
- to determine (and describe) the relationships between the classes

PROBLEM STATEMENT: VENDING MACHINE SIMULATOR

An unknown company is thinking of producing a new vending machine that would sell four different kinds of unusual items:

- Apples
- Aspirin
- Pencils
- Fruit Juice

To better investigate the feasibility of such a vending machine (it is pretty unusual), and its interaction with customers and the supplier, they ask you, a Java software developer, to write a vending machine simulator; a program that simulates a vending machine by allowing customers to perform the same operations (e.g. purchasing items) as if they were using a real vending machine. The simulator should also allow the supplier of the material to restock the vending machine.

Notes:

- Products can be purchased by inserting coins with a value at least equal to the cost of the product.
- A user selects a product from a list of available product, add coins, and either gets the product or gets the coins returned if insufficient money was supplied or if the product is sold out.
- The machine does not give change if too much money was added.
- Products can be restocked and money removed by an operator.

ASSIGNMENT REQUIREMENTS

For this Lab, you should do the ***analysis*** and ***design*** phases of the above *Vending Machine simulator* application.

Please work on:

1. Understanding what you need to build.
2. Create UML Use Case diagram for this application.
3. Create a list of Test cases for this application.
4. A sketch of the GUI you are planning to develop.
5. Create a CRC for each class you are planning to use in your design. This outlines the functionalities provided by your classes in your design.
6. A UML class diagram showing the classes in your design and the relationship between them.

The presentation starts at 9:45 a.m.

- One team should present the UML Use Case diagram.
- One team should present a list of Test Cases.
- One team should present a sketch of the GUI.
- One team should present the CRC for the classes
- One team should present the UML Class diagram.