Project 1

Fast Order Machine

You have a machine on the campus that provides you with a cup of coffee or a cup of hot water (for tea or noodles) if you have inserted the required amount of money. The machine can handle coins of the value 10 and 20 and 30 for a cup of tea, coffee, and noodles respectively.

The following rules are applied:

- If a coin with the value 30 is inserted and the noodles button is pressed, you receive a cup of hot water and a pack to prepare noodles.
- If a coin with the value 20 is inserted and the coffee button is pressed, the customer receives a cup of coffee.
- If a coin with the value 10 is inserted and the tea button is pressed, the customer receives a cup of hot water and a packet to prepare tea.
- If the coin you inserted is less than the amount needed to serve your order then the machine returns the money inserted and does not serve your order.
- If the coin you inserted is more than the amount needed to serve your order then the machine gets the change back to you and serves your order.

Note that you have 3 kinds of output from the machine hot water, prepared coffee (requires some special part of the machine to be working like filter and compressor), and packets (2 kinds of packets noodles and tea). Assume that the time to boil the water is the same to make coffee. (assume that the machine has 3 connected subsystems one for packets and the other for hot water and the last is for coffee [which uses the hot water subsystem]).

The customer inserts a coin and presses the button of the order. Then the machine fills a container (boiler) with water then heats the water and prepares a

cup to pour then fills it. While at the same time it prepares a packet to present to the customer and output it. If the order is coffee then the machine passes the hot water into a filter with a compressor that contains coffee and prepares a cup to pour coffee then fill it.

** You are required to deliver:

- Use Case Diagrams
- Class Diagram
- Sequence diagram
- State machine diagram
- Activity diagrams