

# Hacettepe University

## BBS 515 – Object-Oriented Programming

### Term Project

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**Description:** The vending machine is an automated system that sells products to customers while also providing administrative privileges such as restocking and cash withdrawal.

Each product on the vending machine has a unique id, name, price & nutrition facts. The nutrition facts for each product include product-specific information such as serving size, calories, carbohydrates, fats, and proteins. This vending machine offers two types of products: bakery and coffee. The bakery products involve "Plain Bagel" and "Chocolate Croissant" while the coffee products involve "Caffe Latte" "Cappuccino" and "Espresso." Additionally, the vending machine has a panel (which displays messages and reads user input), an inventory (which stores products), a memory (which stores the administrator's password) & a register (which processes payments).

**Functions:** The system can be accessed by either a customer or an administrator. For the corresponding user access, the vending machine has the following features:

<u>Functions</u>	<u>Access</u>
• Boot up the Machine	Any User
• Sell a Product	Customer
○ Select a Product	
○ Display Product Information	
○ Process Payment	
○ Return Cash Exchange	
○ Dispense the Product	
• Change Password	Administrator
• View & Restock Inventory	Administrator
• View & Withdraw Stored Cash	Administrator
• Exit the System	Any User

The vending machine made up of the following parts and functions:

- **Product:** the item that is sold to the customer. Texture, smell, taste and temperature are all common but distinct behaviors and/ or states shared by all products.
- **Memory:** stores and verifies the admin password for admin access, as well as allowing the administrator to change the password.
- **Register:** holds cash, accepts payments, and returns cash.
- **Inventory:** keeps track of each product's inventory and allows the administrator to add (restock) and remove (dispense) products when payment is successfully processed.
- **Panel:** displays and prompts the user with messages, alongside reading user input.

## UML Diagram:

