

**Assignment Cover Letter**

**(Individual Work)**

**Student information:**

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Major : Computer Science

Course Name : Object-Oriented Programming

Class : L2AC

Name of Lecturer : Jude Joseph Lamug Martinez

Title of Assignment : Vending Machine With Change

**The assignment should meet the below requirements.**

1. Assignment (hard copy) is required to be submitted on clean paper, and (soft copy) as per lecturer’s instructions.

2. Soft copy assignment also requires the signed (hardcopy) submission of this form, which automatically validates the softcopy submission.

3. The above information is complete and legible.

4. Compiled pages are firmly stapled.

5. Assignment has been copied (soft copy and hard copy) for each student ahead of the submission.

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Signature of Student (Student Name)

Bayu Hartho Leksono Bayu Hartho Leksono

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**Vending Machine With Change**

# Program Description

This program shall simulate the inner workings of a vending machine that will also calculate any available change. This program is created in java using Object-Oriented Design. By no means is this a ground-breaking program, this program is plan B in case the actual planned final project is unable to work.

# Class Diagram

* Coin, CoinGroup: reads the inserted amount of set coins and to help return change
* Product: determines the ID and the prices of each product
* Calculator, Second Calculator: Calculates amount entered by the user and calculates the change
* InteractVendingMachine: receives user input

# Lessons Learnt

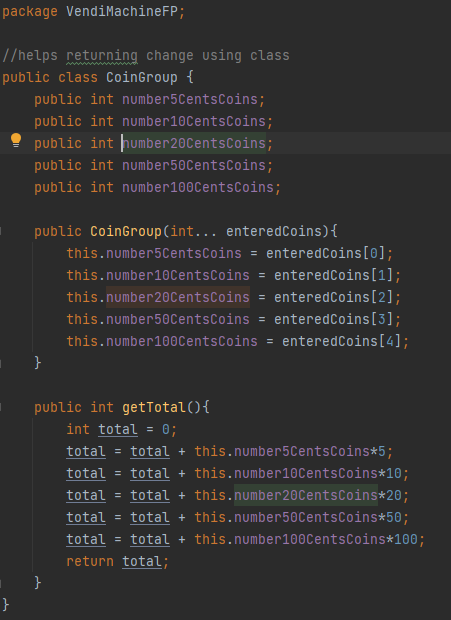
In this project, I have learned new programming workflows by implementing methods through encapsulation and writing codes according to said encapsulation. Even though I still haven’t fully grasped OOP, This project furthers my understanding of Object-Oriented Programming.



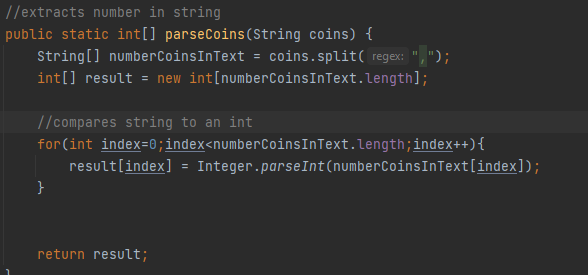
# Code Explanation

1. Coin

This code helps the machine to know which coin is inserted by the user and the value of each coin that is available to be inserted

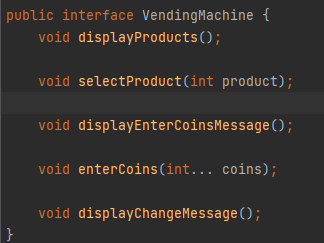


This code turns the user’s input strings into an int for the calculator



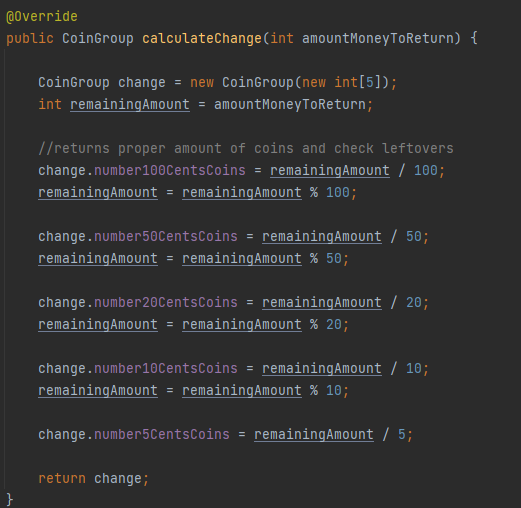
1. VendingMachine

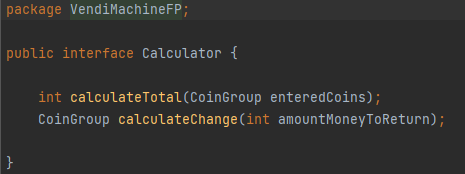
This abstract class will display text and read user inputs.



1. Calculator

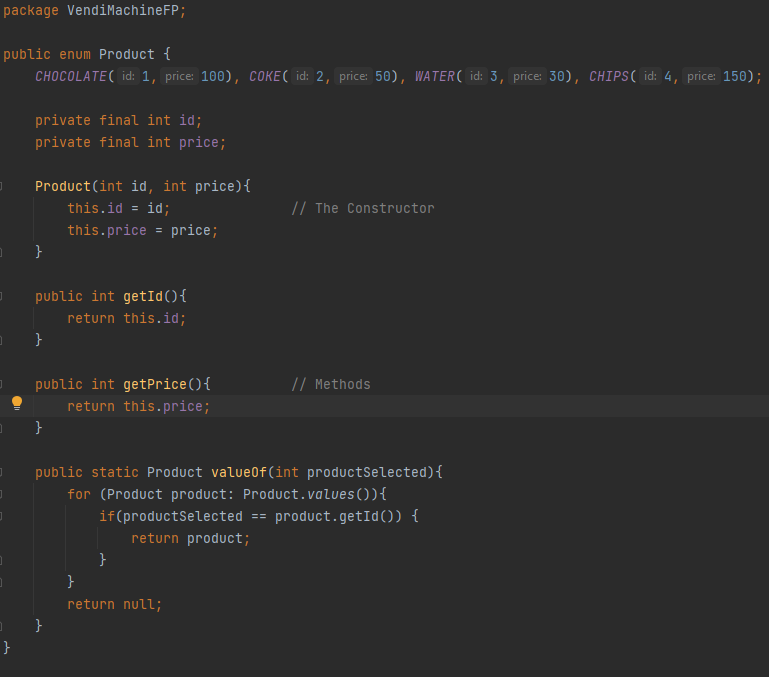
The calculator and the SecondCalculator calculate the amount from the coin class and calculates the change the user will receive. This code returns the coins and calculates the change. The calculator is an abstract class while the SecondCalculator is the actual calculator





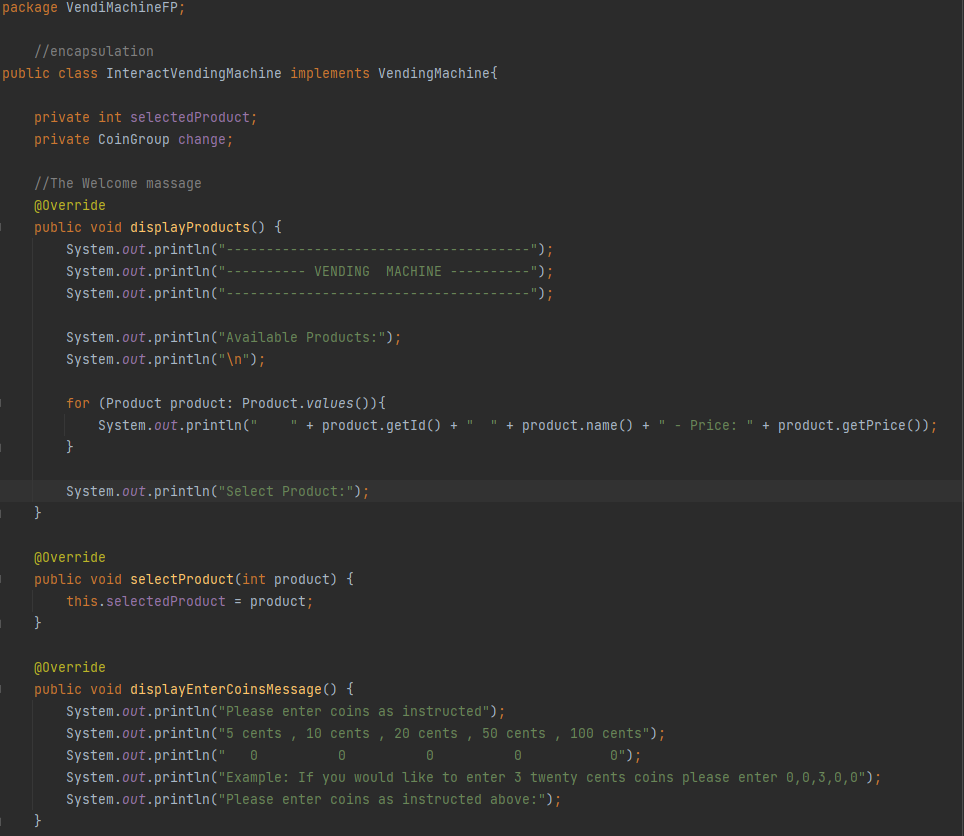
1. Product

Gives properties to the products such as product ID and value to each product



1. InteractVendingMachine

These are the messages that are going to be displayed on the console





# Github Link

<https://github.com/AcydAce/OOP_FinalProject>

# References

<https://stackoverflow.com>