JAVA PROGRAMMING COURSE (SWE2023)
SPRING SEMESTER 2022
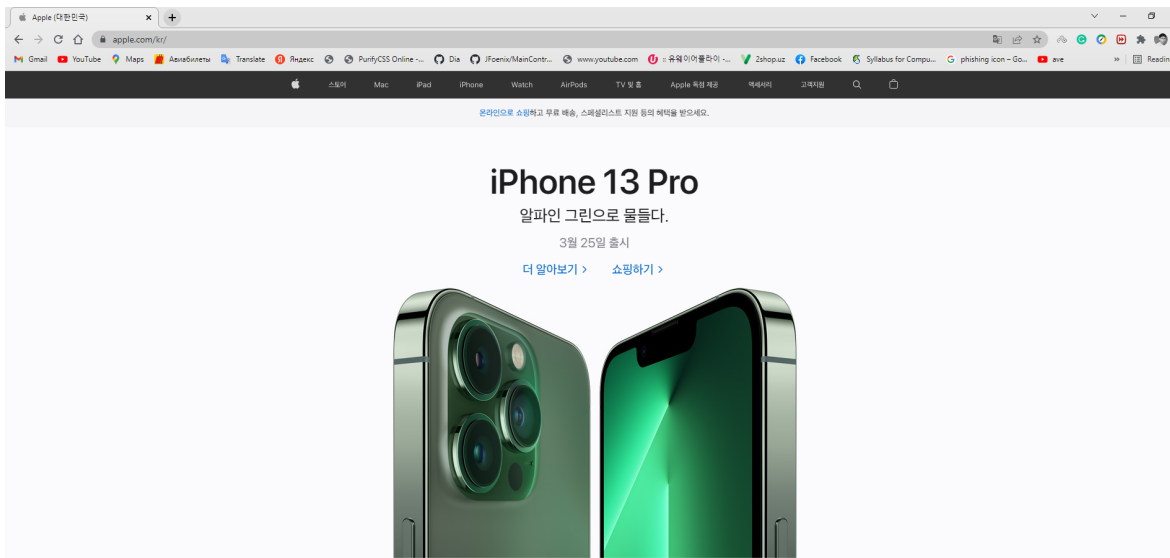
INSTRUCTOR: Prof. TAMER ABUHMED
COLLEGE OF SOFTWARE

Assignment 2

This assignment consists of 1 mini-project. Guidelines for submission format are given at the end of the assignment file.
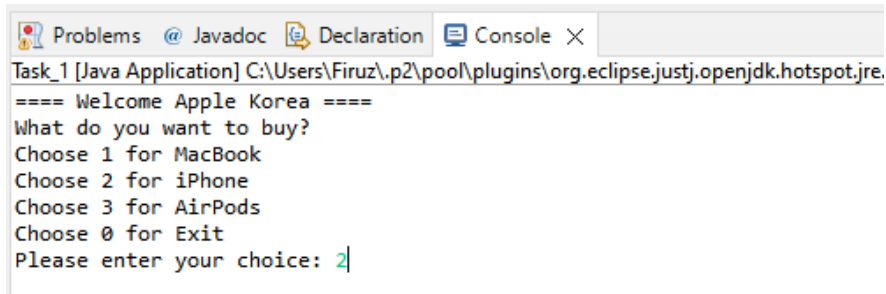
Note: The green numbers and green words in the console are the user's inputs

Mini project description

Apple Korea has a website to sell its products. But Apple Korea wants to create a Java program to sell its products. Help Apple Korea to create this program.
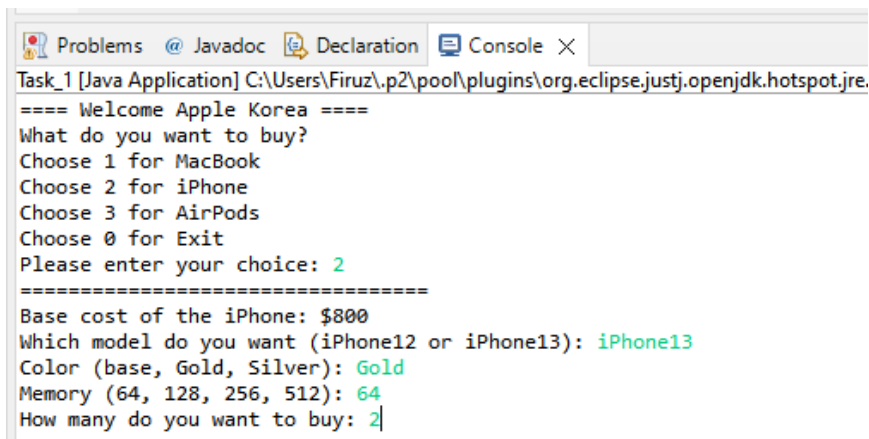
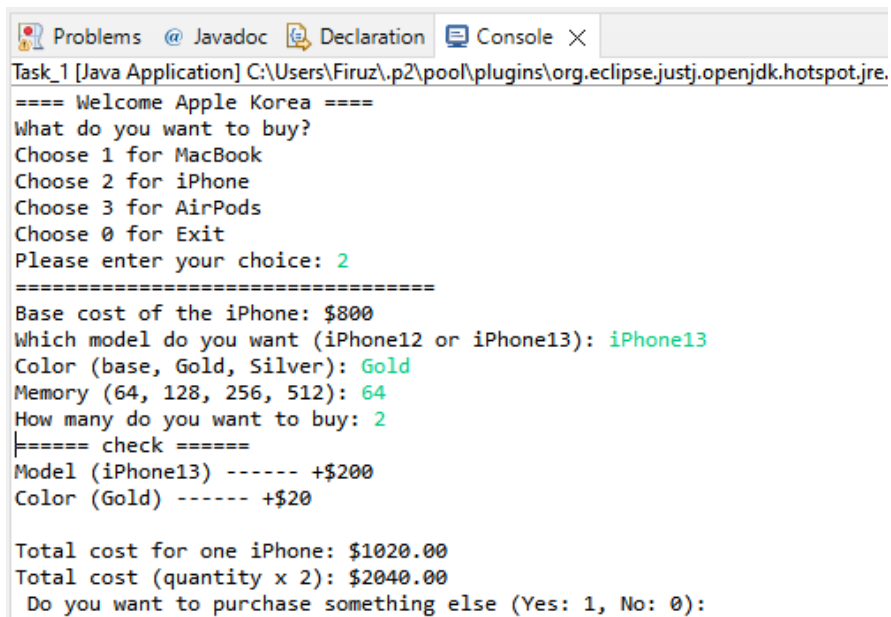When a user runs the program, it shows the following menu:

```
Problems  @ Javadoc  Declaration  Console ×
Task_1 [Java Application] C:\Users\Firuz\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.
==== Welcome Apple Korea ====
What do you want to buy?
Choose 1 for MacBook
Choose 2 for iPhone
Choose 3 for AirPods
Choose 0 for Exit
Please enter your choice: 2
```

Then, the user enters the features of the desired product as follow:

```
Problems  @ Javadoc  Declaration  Console ×
Task_1 [Java Application] C:\Users\Firuz\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.
==== Welcome Apple Korea ====
What do you want to buy?
Choose 1 for MacBook
Choose 2 for iPhone
Choose 3 for AirPods
Choose 0 for Exit
Please enter your choice: 2
====================================
Base cost of the iPhone: $800
Which model do you want (iPhone12 or iPhone13): iPhone13
Color (base, Gold, Silver): Gold
Memory (64, 128, 256, 512): 64
How many do you want to buy: 2
```

After entering all features, the user gets payment information as follow:

```
Problems  @ Javadoc  Declaration  Console ×
Task_1 [Java Application] C:\Users\Firuz\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.
==== Welcome Apple Korea ====
What do you want to buy?
Choose 1 for MacBook
Choose 2 for iPhone
Choose 3 for AirPods
Choose 0 for Exit
Please enter your choice: 2
====================================
Base cost of the iPhone: $800
Which model do you want (iPhone12 or iPhone13): iPhone13
Color (base, Gold, Silver): Gold
Memory (64, 128, 256, 512): 64
How many do you want to buy: 2
====== check ======
Model (iPhone13) ------ +$200
Color (Gold) ------ +$20

Total cost for one iPhone: $1020.00
Total cost (quantity x 2): $2040.00
 Do you want to purchase something else (Yes: 1, No: 0):
```

There are base costs for each product and if the user chooses extra features, they will be

charged extra. The first option in each selection is the base option (no extra charge) and if

the user chooses them, they will not appear on check at the end. On the check, only extra charges will appear.

Extra charges:

MacBook (base cost = $1000):

Model (Air is base) = +$0, Model (Pro) = +$200

Size(13 is base) = +$0, Model (15) = +$200

Color(base) = +$0, Color (Gold) = +$20, Color (Silver) = +$10

Memory(128) = +$0, Memory(256) = +$100, Memory(512) = +$300

iPhone (base cost = $800):

Model (iPhone12 is base) = +$0, Model (iPhone13) = +$200

Color(base) = +$0, Color (Gold) = +$20, Color (Silver) = +$10

Memory(64) = +$0, Memory(128) = +$100, Memory(256) = +$200, Memory(512) = +$300

AirPods (base cost = $120):

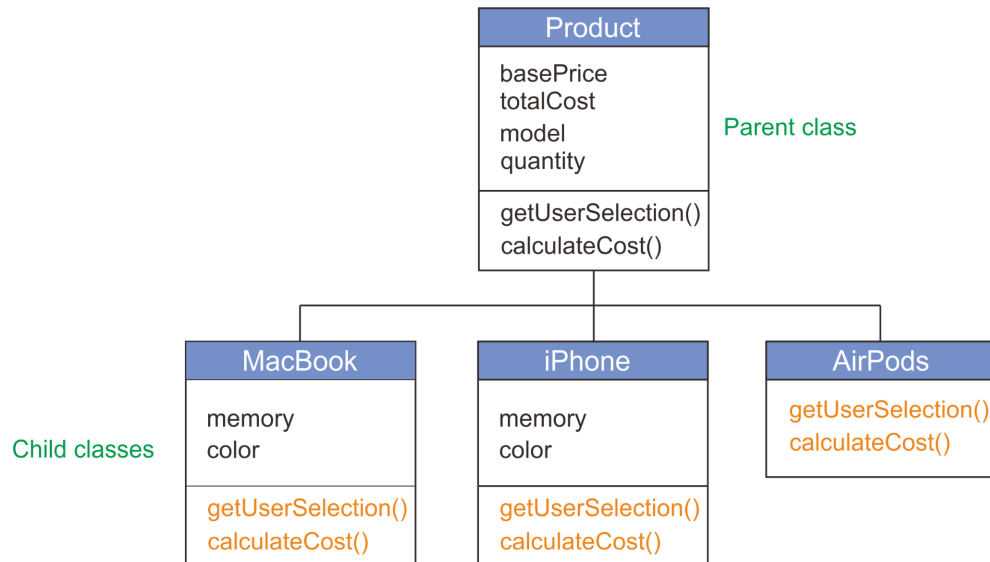Model (AirPods3 is base) = +$0, Model (AirPodsPro) = +$100, Model (AirPodsMax) = +$200

At the end of the program, it should ask whether customers will purchase more or stop:

```
 Do you want to purchase something else (Yes: 1, No: 0): 0
Thank you for your purchase!
```

If the customer wants to buy something else, the whole process will be repeated again.

Program Requirements:

Your program must have the following classes:

- Create all required classes in the diagram.
- Use getter and setter methods

Note: watch the video for more insight!

Grading:

- Correctness of code (should be run without errors)
- Comments (for important lines)
- Coding style (meaningful naming variables and methods)
- Number of classes (as asked in task description)
- Usage of Inheritance and Composition

Hint: for comparing string use **equals()** (ex: string1.equals("string2"), it will return True or False).

Submission format: Submit **5 separate files (only .java files, not the whole project folder)**. Main.java, Product.java, Macbook.java, iPhone.java nad AirPods.java. Files must include the implementation code of the mini-project and comments for important lines of code to explain the purpose. All the files should be submitted as a **zip** file.

Name of zip file: {student ID}_{Student name}_assignment2.zip

Example: 2020712837_Frank_Thomas_assignment2.zip

Important: Plagiarism is strictly prohibited. If there is any plagiarism found in the code, you will be given an "F" for the assignment evaluation.

If you have any questions about the assignment, you can ask in the discussion section of the week or contact the TAs directly.

Good luck!