

# JAVA PROGRAMMING COURSE (SWE2023)

## FALL SEMESTER 2023

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COLLEGE OF SOFTWARE

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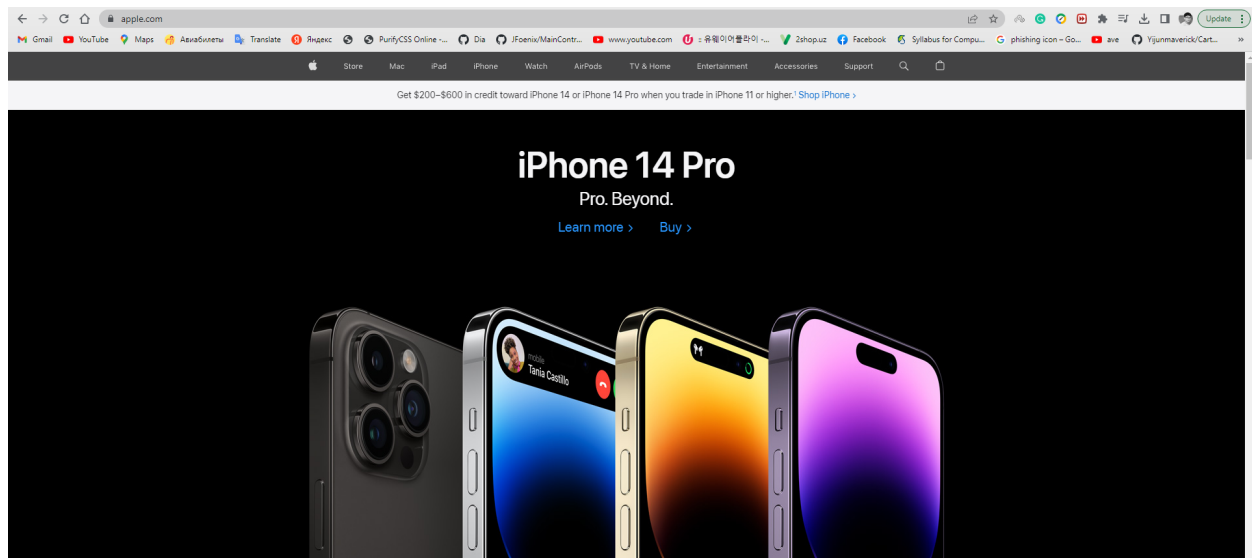
### Assignment 2

This assignment consists of 1 mini-project. Guidelines for submission format are given at the end of the assignment file.

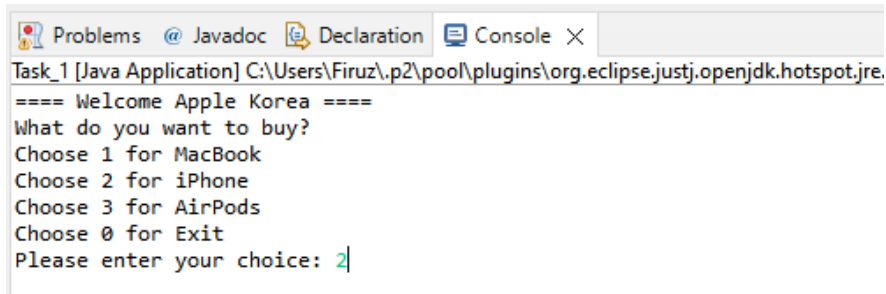
**Note:** The **green** numbers and **green** words in the console are the user's inputs

#### 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.

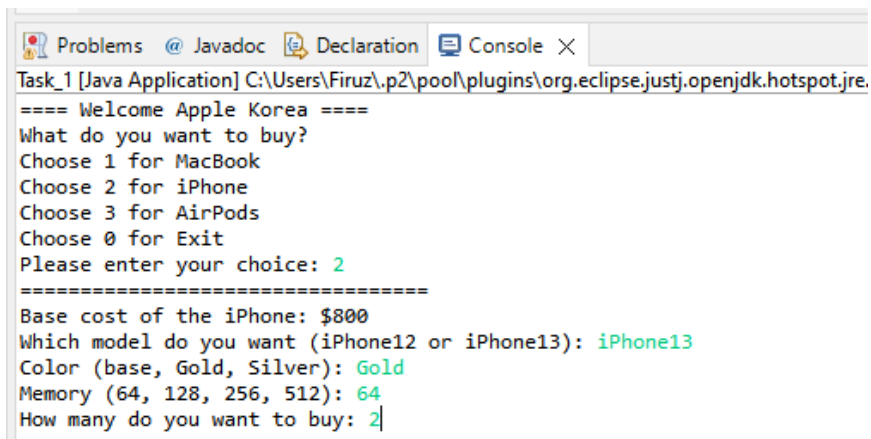


When a user runs the program, it shows the following menu:



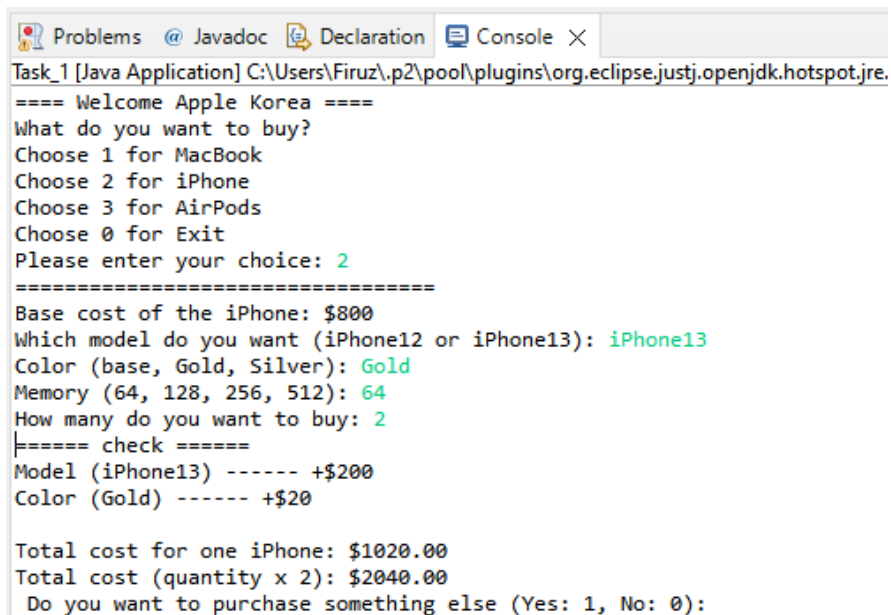
```
Task_1 [Java Application] C:\Users\Firuz\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.  
==== Welcome Apple Korea ====  
What do you want to buy?  
Choose 1 for MacBook  
Choose 2 for iPhone  
Choose 3 for AirPods  
Choose 0 for Exit  
Please enter your choice: 2
```

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



```
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 follows:



```
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 inch is base) = +\$0, Model (14 inch) = +\$100, Model (16 inch) = +\$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

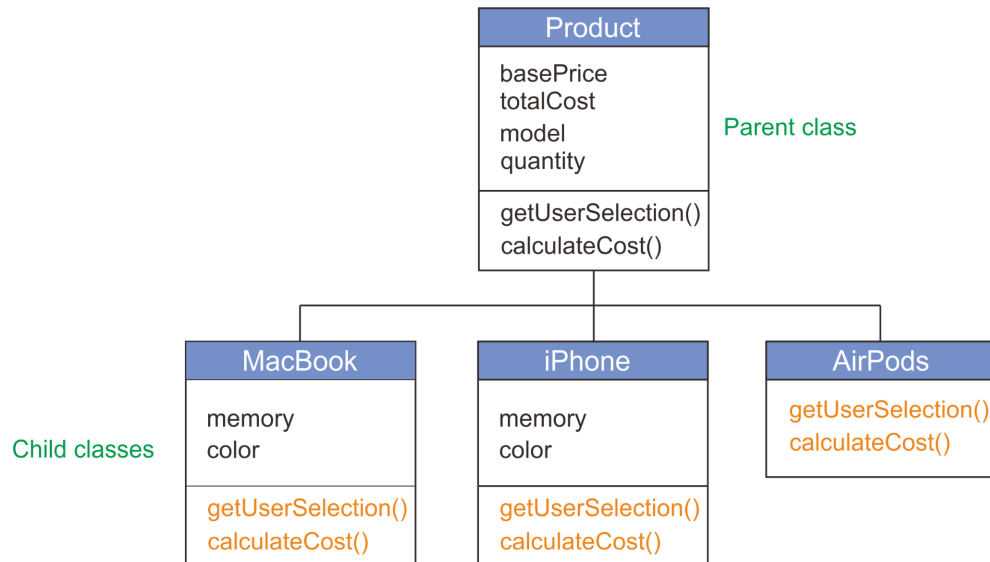
At the end of the program, it should ask whether customers will purchase more or stop:

```
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 the 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`, and `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!**