GEDİZUNIVERSITY

Faculty of Engineering and Architecture

Computer Engineering Department

COM 102 – OBJECT ORIENTED PROGRAMMING
POSTLAB #6

Academic Year: Spring 2016
Date : May 2 - Monday, 11.59pm (Submission)
Course Instructor: Assoc. Prof. Dr. I. Furkan INCE
Course Assistant: Res.Asst. Arzum KARATAŞ & Res. Asst. Feyza GALIP

Write a Java Program (pts)

In this application, our **customer** that **runs** a supermarket needs to **model** customer's purchases that can be **put into** their baskets. Related to **item**, we need to **keep** item **id**, item **name**, item **unit price** and item **expiration date**. The total amount of each item is **calculated** based on the **properties** of the item being either **countable** or **uncountable**. Each Uncountable item has a **weight** while each Countable item has a **quantity**. The single item cost for items purchased by a customer is calculated in the following manner:

Single Item Cost = Weight x Unit Price (for uncountable items)

Single Item Cost = Quantity x Unit Price (for countable items)

Total Basket Cost, on the other hand, is calculated by formula $\mathbf{(\sum_{i=1}^{N} Item\ Cost\ (i))*1.18}$, where N is the **total number of items** in the basket. Note that **Value Added Tax** (VAT) rate is taken as 18 %.

Your program should **check** whether item's **expiration day** is **passed** or not. If it is passed, program should **display message**: "**Warning: Expiration date of the item is passed. Please warn the staff !**" otherwise **calculate** and **display cost** for the item.

User must be able to **add** a new items to a basket, to see properties of all items in the basket, **number of total items** and calculated **total price** for the items in the basket. Use a GUI or Console menu for this operations to the user.

Note:

In your implementation,

1. Use good software engineering and object-oriented programming practices following your **UML** drawing of **Class Hierarchy Diagram** reflecting your design before your implementation.

2. The red colored **nouns** indicate potential **class** / **instance variable** names. The purple colored verbs indicate potential class methods. Before implementation decide about your classes, instance variables and methods, properly.
3. Do not forget to do **validity checking** for parameters for each classes.

NOTES & SUBMISSION RULES :

1. You are **required to add comment properly**.(It will be graded)

2. You are **strongly advised** to obey the good programming practices (like naming conventions, indentations, commenting your codes and so on.) Using good programming practices is graded.

3. You are **required** to send your source code within a zipped file named :
   COM102_ StudentNumber_YourName_PostLabX.zip
   (e.g., COM102_011XXXX_ArzumKarataş_PostLab6.zip
   COM102_011XXXX_FeyzaGalip_PostLab6.zip)

4. **Be sure whether you attached your work to the e-mail or not**, because it is your responsibility to sending the work on time and in proper format.

5. You are required to **work alone**. Teamwork is **NOT** allowed and **cheating is strictly punished**!

6. You should **submit** your homework to the address following by **e-mail** on time.
   (to com102.2016gediz@gmail.com)

7. **Late submissions** will be graded by using the formula **100 - 10*d**^{2} where **d** is the number of **late** submission **days**.