Project Component
Course: Object Oriented Programming (CS F213)
24th March, 2024
Course IC : Prof. Anita Agrawal

Question: Electronic Store

You are tasked with managing an Electronics Store model. The store offers a range of electronic products such as air conditioners (AC), refrigerators, televisions (TV), washing machines, and dishwashers. Your responsibility is to design and develop a system to manage inventory, including incoming and outgoing products. Details of each product must be entered and updated accordingly with purchases and sales.

In addition to inventory management, you are also responsible for managing employees. This includes tracking their joining and exit dates, salary, number of leaves taken, their role within the store, etc. Furthermore, the company provides incentives to its employees based on the number of products they sell to customers, in addition to their regular salary.

These basic minimum features are essential, but to establish a comprehensive system, additional functionalities may need to be incorporated.

The entire system has to be designed using OOP concepts:

Minimum 6 classes are required to accommodate all the requirements specified in the design problem. Additionally, it should include the following:

(I) Overloaded methods (minimum 2)
(II) Overloaded constructors (minimum 2)
(III) Vararg overloading (minimum 2)
(IV) Nested classes (static or nonstatic, atleast 1, this is a part of I above)
(V) Abstract class (minimum 1)
(VI) Interface (minimum 1, it can be nested interface or single level or multiple inheritance)
(VII) Hierarchical Inheritance (atleast 1)
(VII) Multiple Inheritance (atleast 1, this should be in addition to VI above)
(VIII) Wrappers
(IX) Package
(X) Exception handling (atleast two cases)
(XI) I/O: File Handling, scanner class etc. (atleast one from each of these)
(XII) Multithreading (by either Implementing the Runnable interface or extending the thread class)

These are the minimum requirements, but you have the freedom to incorporate a greater number of each as needed.

Note: The names of variables, methods and classes should be lexically rational and should be accompanied with their description in the comments alongside. It goes without saying that the code should

be well indented and should compile and run error free. However, do remember that a non-running code is better than a plagiarized one, and hence the latter one will be penalised heavily if it exceeds 10-15% (may result in recession of this component).

Draw the UML diagram for the above system

Your submission folder should include:

(1) Word doc which explains your project thoroughly along with the UML diagram.
(2) The actual UML diagram
(3) Code appended to the above word doc.
(4) .java files
(5) PPT.
(6) Rubrics of the usage of all of the above (I to XIII). Make a table and list the above components and mention how many have you used in each of the category.
