CS 313: Intermediate Computer Programming Challenge (Tuesday, 21st January 2020)

Instructions
You may work individually or in pairs for this exercise. If you work in pairs, remember that each member should be fully engaged and fully understand all work done, so that you can do the work on your own. **You are supposed to submit your work individually by 11:55pm today (Tuesday 08/02/19). [25 POINTS]**

Show competence in the following:
Collaboration: GitHub
Object-Oriented Analysis & Design (OOAD)
Big-O Notation (Space & Runtime Complexities)
Exception
Good Commenting
Java Documentation

The Essentials Shop at Ashesi University College is planning to automate the management of their shop. You have been contracted to apply your Java knowledge in <u>file input and output</u>, to undertake this project in <u>phases</u>. These phases are not completely independent of each other, and that they can be interleaved.

PHASE 1:

[5 points] Use a diagram (e.g. box and line, flowchart, entity relationship diagram, use case diagram, etc.) to depict the relationship at the shop.

[7 points] Capture (i.e. enter) the stock of products or items on the shelves, using data from the <u>keyboard</u>. You have to identify an appropriate class that will effectively facilitate this process.

(NB: Students should identify ten (10) items on the shelves of Essentials Shop).

Capture Format: <item> <quantity> <<u>GHC</u> price> e.g.

    Oil 7 GHC 12

    Milo 4 GHC 6

    Soap 17 GHC 3

PHASE 2:
[5 points] Save or write the items one after the other into a file called "essentials_stock.txt". You have to identify an appropriate Java class (e.g. Scanner class) that will effectively facilitate this process.

PHASE 3:
[5 points] Backup the data in the "essentials_stock.txt" file into another file, "backup_essentials_stock.txt".

PHASE 4:
   [3 points] Display the content of "essentials_stock.txt" file to screen. **(Add a screenshot here)**