**Homework Assignment**

**Due Date:** 02/16 at 11:59pm

The objective of this assignment is to learn how to design a model for retail chain (Say Star Market Stores). You will learn how to manage catalog of items that Star Market has to offer as well as understand how to manage **inventory** (the actual shelved products) for each of the stores. It is very important to understand why you must model the inventory items separate from the catalog (product).

The key use cases are:

**Star Market Admin Role:**

* Manage Product catalog: Product catalog contains the items that are generally available in Start Market stores (Across all branches). This details are inclusive of the product name and the manufacturer (product brand). Please include at least 10 attributes. This must include suggested list price for the product.
* Create Star Market Stores in different local areas
* Browse inventory of different stores. For any product in the product catalog, the admin must be able to see the quantity available in any store.

**The Store Admin Role:**

The store admin manages their inventory of the products (Each store will have its own inventory).

1) Manage Product Inventory

* The store admin should be able to search for products from the inventory
* The user should also be able to search for a specific product from the product catalog and add it to the store inventory. Product serial Number, additional quantity received, and listed price, selling price are to be updated.
* If the product to be added is already a part of the store inventory then update the above mentioned details.

**Reporting Requirements:**

* Generate an inventory report showing items not in store or in short supply. Tip: Use threshold variable for a product in inventory. Once the available quantity is less than this threshold, the store admin should be notified (In this inventory report) regarding shortage of product under consideration.
* Use JFree chart to display the Top 5 profitable product (Selling Price – Listed Price) in each store. Start Market admin should also be able to see Top 5 profitable products for each store.

**Initialization requirements:**

Define an initialization file where you create an initial set of data elements such as Products, Stores and Store Inventory. Your first step will be to display the available data on the screens and allow the user to add more items.