**Problem Statement : Inventory Management System**

**Duration: 4 hrs**

# Instructions

1. Please make sure that your code does not have any compilation errors while submitting your case study solution.
2. Implement the code using best design standards and Javacoding standards
3. Use Java8 features,concurrent classes ,layered architecture and use appropriate logging methods for logging statements/variable/return values.
4. Use Maven to build the project and include required dependencies
5. Implement the code using console application
6. Associate need to upload /share code.

**Software Requirements**

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| Tools/APIs | Java8,Eclipse IDE,Maven |

**Problem Statement: Inventory Management System**

Create Product class with following columns:

1. Id
2. Description
3. Weight
4. Price
5. Manufacturing Date
6. Use Before Months
7. Expiry Date

Inventory contains following Items

Here is the functionality for the initial version of your prototype:

## Functional Specifications:

1. **Item Initialization**

Implement the functionality to add item details that consist types of items available in the Inventory.

1. **Calculate Expiry Date**

Every item has a manufacturing date and for many months that item can be consumed. In this functionality, you have to calculate the **Expiry Date** of the **item.**

1. **Remove Expired Items**

In this functionality you have to remove the expired items from the inventory. For this, compare the expiryDate calculated in the previous functionality with the **today’s date**.

You can find today’s date from the system using the Date API. Make sure your system date gives correct date.

1. **Sort Items**

Sort the item list updated in the previous method in descending order of **expiryDate.**

1. **Apply Discounts**

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In this functionality you have to reduce the price of the items by applying 20% discounts on theexisting price which will expire in 6 months. For this compare if the **expiryDate** of the item is within 6 months from now.

1. **Search Item**

Write a code to search an item in the inventory list. For example, if I send “**Wheat**” as the itemType, the itemType should be searched in the description of all the items. If any of the description has “Wheat”, that item should be added in the searched item list which should be by the functionality.

In case, none of the items has the itemType as the description, the method should throw an exception**“Item NotFound Exception”**.