# Course 3 - Sprint 1: Think and model real world as Objects

## Problem Statement: C3PC1.1 – Bookstore

The Hammond Bookstore sells books of various genres, such as fiction, religion, adventure, cooking, travel, autobiographies, etc., written by different authors.The bookstore has had a good sale this past year. Now, the end of the year sale is on, and the books from the fiction genre are being sold at a discount of 25%.

Perform the following tasks.

- Identify the objects.
- Identify the attributes and behavior.
- Illustrate using class diagrams.

## Practice Challenge - Boilerplate URL - C3PC1.1

https://myrepos.stackroute.niit.com/core_java_boilerplates/sprint17_pc17.1.git

## Problem Statement:  C3PC1.2 – Report Generation

Educational institutions are overburdened with paperwork and manual processes. They also find it difficult to maintain records of the students' results, their attendance, assessments, etc. The management and teachers of the Oak Bridge School have already conducted exams for their high school students and the evaluation of the answer sheets is also complete. The teachers with the help of the technical team have to set up a system that automates the grading system. Teams are formed and each team is assigned a task.

Evaluation and Grading Team: This team needs to evaluate the results and grades of the students. In order to do this, the below calculations have to be made on the data entered.

Calculate the total marks scored by each student.

Find the class average marks.

Find the average marks obtained by students for each subject and store them.

Report Generation Team: This team has to find the top scorer in the exam and also the students who have failed and passed the exam -

Find the top scorer of the class and display the name of the student.

Find the students who have cleared the examination.

Find the students who have failed in a subject and have to reappear for that exam.

Survey and Statistics Team: The school conducts a statistical survey to determine the pass percentage and performance of the students. This team builds the necessary statistics for the same.

It generates grades obtained by each student

Displays the roll numbers of the students on the class board in ascending order of the total marks scored in the exam.

Tasks:
1. Identify the objects from the problem statement.
2. Identify the classes from the problem statement.
3. Identify the attributes from the classes.
4. Identify behavior for the classes.
5. Identify the relationship between the objects (Composition and Aggregation).
6. Illustrate using class diagrams.

## Practice Challenge - Boilerplate URL - C3PC1.2

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