



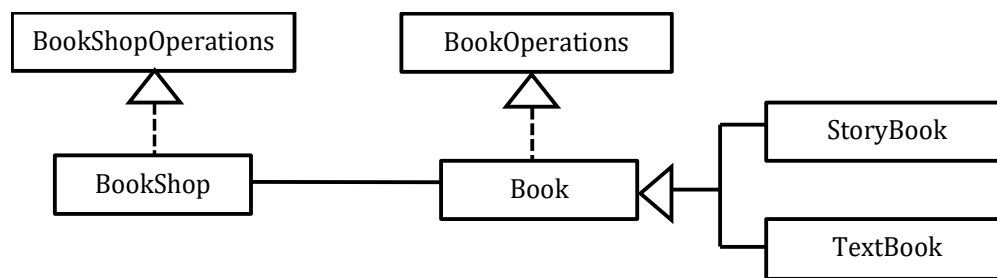
# AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

Faculty of Science and Technology (FST)  
Department of Computer Science (CS)

**Course Title :** CSC1205: Object Oriented Programming 1 (JAVA)

**Lab Task – 8 :** Developing a basic Java program with Inheritance, Association, Polymorphism, Abstraction and Interface.

Look at the following class notations and class diagram carefully, and develop the program.



Class Diagram

| Book   |
|--|
| String isbn<br>String bookTitle<br>String authorName<br>double price<br>int availableQuantity  |
| Book( )<br>Book(String isbn, String bookTitle, String authorName, double price, int availableQuantity)<br><br>void setIsbn(String isbn)<br>void setBookTitle(String bookTitle)<br>void setAuthorName(String authorName)<br>void setPrice(double price)<br>void setAvaialbeQuantity(int availableQuantity)<br><br>String getIsbn( )<br>String getBookTitle( )<br>String getAuthorName( )<br>double getPrice( )<br>int getAvailableQuantity( )<br>abstract void showDetails( ) |

| StoryBook   |
|---|
| String category   |
| StoryBook( )<br>StoryBook(String isbn, String bookTitle, String authorName, double price, int availableQuantity, String category)<br>void setCategory(String category)<br>String getCategory( ) |

| TextBook   |
|--|
| int standard   |
| TextBook( )<br>TextBook(String isbn, String bookTitle, String authorName, double price, int availableQuantity, int standard)<br>void setStandard(int standard)<br>int getStandard( ) |

| BookShop   |
|--|
| String name<br>Book listOfBooks[ ] //size of array should be 100.                      |
| BookShop( )<br>BookShop(String name)<br>void setName(String name)<br>String getName( ) |

| BookOperations  |
|---|
| void addQuantity(int amount)<br>void sellQuantity(int amount) |

| BookShopOperations   |
|--|
| boolean insertBook(Book b)<br>boolean removeBook(Book b)<br>void showAllBooks( )<br>Book searchBook(String isbn) |

| Start  |
|--|
| The Start class contains the main method. Inside the main method, create Five objects of StoryBook, Five objects of TextBook and One object of BookShop. Demonstrate all the methods and constructors. |