**Library Management System – OOP Design**

You are tasked with designing a basic Library Management System. The system should demonstrate the principles of **encapsulation**, **inheritance**, and **abstraction**.

**1. Encapsulation:**

Implement a **Book** class that securely stores information about a book, such as:

* BookID
* Title
* Author
* CopiesAvailable

Ensure that:

* Data is accessible and modifiable only through **getter and setter methods**.
* Add **validation in setters** to prevent invalid data (e.g., negative number of copies).

**2. Inheritance:**

Extend the **Book** class to create specific types of books:

* **EBook**: Includes additional properties like FileSizeMB and Format.
* **PrintedBook**: Includes additional properties like Pages and Publisher.

**3. Abstraction:**

Design an **abstract class Transaction** that represents a generic library transaction. This class should:

* Have properties such as TransactionID, MemberName, and TransactionDate.
* Include an **abstract method CalculateFine()** that must be implemented by subclasses.

**4. Create a class BorrowTransaction that:**

* Inherits from Transaction.
* Implements CalculateFine() by calculating the fine based on the number of days late (e.g., $2 per day late).

**5. Write a main program that:**

* Creates a **BorrowTransaction** with a mix of EBook and PrintedBook.
* Displays transaction details, book details, and calculates the fine.

**Expected Output Example:**

Books Borrowed:

EBook: "C# Fundamentals" by John Doe (File Size: 5 MB, Format: PDF)

PrintedBook: "Design Patterns" by Gamma et al. (Pages: 395, Publisher: Addison-Wesley)

Transaction Details:

Transaction ID: T001

Member: Alice

Late Days: 3

Fine: $6