Problem statement on POJO class

You are required to create a Java POJO class for a simple Book management system. The class should represent the attributes and behavior of a Book object.

Requirements

Here are the requirements for the Book POJO class:

- The class should have private fields to represent the following attributes of a Book: title, author, ISBN, publication year, and price.
- The class should have public getters and setters for each of the fields.
- The class should have a constructor that takes in values for all of the fields and initializes them.
- The class should override the **toString** method to provide a human-readable string representation of the Book object.

Bonus

Here are some bonus requirements that you can implement if you want to:

- Add a method to calculate the age of the book.
- Add a method to validate the ISBN format.
- Add a method to compare two books based on their publication year.

Below is detailed information about this problem

You are required to create a Java POJO (Plain Old Java Object) class for a simple Book management system. The class should represent the attributes and behavior of a Book object.

Requirements

Here are the requirements for the Book POJO class:

Fields

The **Book** class should contain private fields to represent the following attributes of a Book:

- **title** - the title of the book
- **author** - the author of the book
- **ISBN** - the ISBN (International Standard Book Number) of the book
- **publicationYear** - the year the book was published
- **price** - the price of the book

Getters and setters

The Book class should have public getters and setters for each of the fields to allow safe access to and modification of the data.

Constructor

The Book class should have a constructor that takes in values for all of the fields and initializes them.

toString method

The Book class should override the **toString** method to provide a human-readable string representation of the Book object.

Bonus

Here are some bonus requirements that you can implement if you want to:

- Add a method to calculate the age of the book.
- Add a method to validate the ISBN format.
- Add a method to compare two books based on their publication year.

Conclusion

The Book POJO class provides a simple and elegant solution for representing and managing book data.

By encapsulating book attributes into private fields and providing public getters and setters, the class ensures that data is accessed and modified safely and consistently. The constructor provides an easy way to initialize a Book object with all of its attributes, and the **toString** method allows the object to be easily printed and understood by humans.

The bonus requirements extend the functionality of the Book class and provide additional features, such as calculating the age of a book or comparing two books based on their publication year. These features can be used to build more complex book management systems.

Overall, the Book POJO class is a flexible, efficient, and scalable solution for managing book data and can be used as a building block for more complex book management systems.

```
public class Book {
    private String title;
    private String author;
    private String ISBN;
    private int publicationYear;
    private double price;

    public Book(String title, String author, String ISBN, int publicationYear, double price) {
        // TODO: Implement constructor
    }

    public String getTitle() {
        // TODO: Implement getter
        return null;
    }

    public void setTitle(String title) {
        // TODO: Implement setter
    }

    public String getAuthor() {
        // TODO: Implement getter
        return null;
    }

    public void setAuthor(String author) {
        // TODO: Implement setter
    }

    public String getISBN() {
        // TODO: Implement getter
```

```
        return null;
    }

    public void setISBN(String ISBN) {
        // TODO: Implement setter
    }

    public int getPublicationYear() {
        // TODO: Implement getter
        return 0;
    }

    public void setPublicationYear(int publicationYear) {
        // TODO: Implement setter
    }

    public double getPrice() {
        // TODO: Implement getter
        return 0.0;
    }

    public void setPrice(double price) {
        // TODO: Implement setter
    }

    @Override
    public String toString() {
        // TODO: Implement toString method
        return null;
    }
}
```

here's **Main** method that creates two **Book** objects and displays their details:

```
public static void main(String[] args) {
    // Create two Book objects
    Book book1 = new Book("The Great Gatsby", "F. Scott Fitzgerald", "978-3-16-148410-0",
1925, 10.99);
    Book book2 = new Book("To Kill a Mockingbird", "Harper Lee", "978-0-06-112008-4",
1960, 9.99);
```

```
    // Display the details of the two books
    System.out.println(book1);
    System.out.println(book2);
}
```

And here's the expected output:

Title: The Great Gatsby
Author: F. Scott Fitzgerald
ISBN: 978-3-16-148410-0
Publication Year: 1925
Price: $10.99

Title: To Kill a Mockingbird
Author: Harper Lee
ISBN: 978-0-06-112008-4
Publication Year: 1960
Price: $9.99