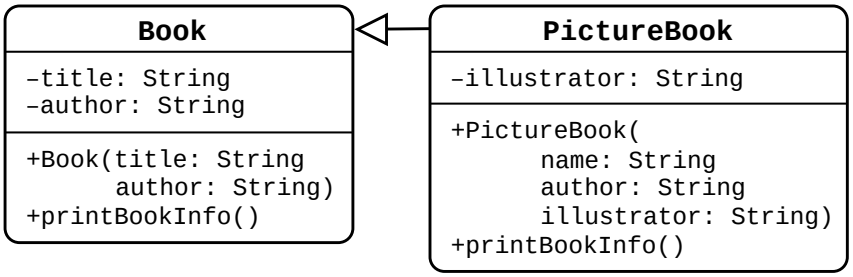
Worksheet: Writing Classes and Inheritance 2

1. Examine the UML class diagram to the right. Implement the Book class such that the following *Example code* produces the *Expected output*.



Example code

```
Book myBook = new Book("Peter and Wendy", "J.M. Barrie");
myBook.printBookInfo();
```

Expected output

```
Peter and Wendy, written by J.M. Barrie
```

Code for* Book *class

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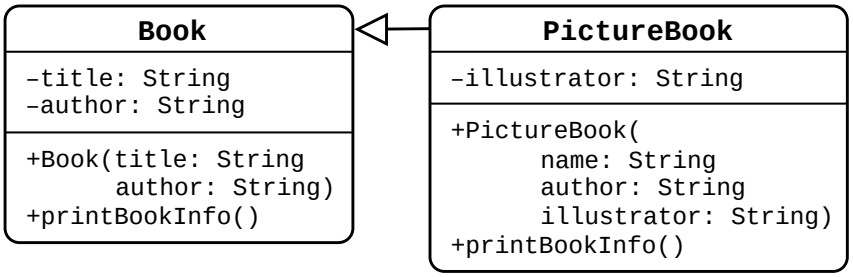
2. Given the `Book` class implemented in question 1, implement the `PictureBook` class such that the following *Example code* produces the *Expected output*.



Example code

```
PictureBook myBook = new PictureBook(
   "Peter and Wendy", "J.M. Barrie", "F.D. Bedford");
myBook.printBookInfo();
```

Expected output

```
Peter and Wendy, written by J.M. Barrie and illustrated by F.D. Bedford
```

Code for* `PictureBook` *class

3. Given the `Book` and PictureBook class implemented in questions 1 and 2, consider the following example books:
    - A book titled *Frankenstein*, written by Mary Shelly
    - A picture book titled *The Wonderful Wizard of Oz*, written by L. Frank Baum and illustrated by W.W. Denslow

    Write the code segment that performs the following
    - declares an `ArrayList` named `myLibrary` that can store `Book` objects
    - instantiates a `Book` object according to the information about the first book, above
    - instantiates a `PictureBook` object according to the information about the second book, above
    - adds both book objects to the `ArrayList`.

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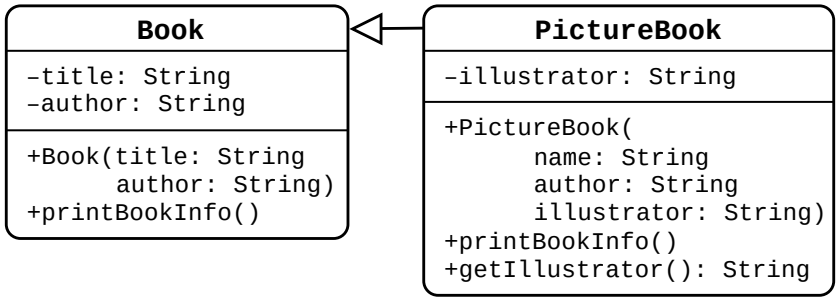
4. An accessor method named `getIllustrator` has been added to the `PictureBook` class.



a) Implement a method named `listIllustrators` that takes a single argument that is an `ArrayList` of type `Book`. The method is to use a standard `for` loop, and for each `PictureBook`, in the `ArrayList`, use the `getIllustrator` method and `System.out.println` in order to print out the illustrator.

```
public static void listIllustrators(ArrayList<Book> myLibrary) {
```

b) Rewrite the method using an ***enhanced* `for` *loop***.