

Download the project “BookCatalogStarter” from Moodle. It contains 4 classes. Run the Main class and you should get the following output.

```
BOOKS BY TITLE:
[Java Programming, Java, Paperback]
[Java Programming, Java, Electronic]

BOOKS BY CATEGORY:
[Java Servlets and JSP, Java, Paperback]
[Java Servlets and JSP, Java, Electronic]
[Java Programming, Java, Paperback]
[Java Programming, Java, Electronic]

BOOKS BY FORMAT:
[MySQL, Database, Paperback]
[Java Servlets and JSP, Java, Paperback]
[Java Programming, Java, Paperback]
[Android Programming, Mobile, Paperback]
```

The output represents a list of books filtered by title, category and format.

Open the BooksManager class and examine these three methods: `getBooksByTitle`, `getBooksByTech` and `getBooksByFormat`. Note, that the code for these methods is almost identical, except for the condition at the beginning of the if statement.

Add a functional interface named `TestBook` to your project. To this interface add a method named `test` that accepts a `Book` object as a parameter and returns a boolean value.

In the `BookManager` class, add a single method named `getBooksByLambda` that accepts a `TestBook` object as a parameter and uses its `test` method in the condition at the beginning of the if statement.

Open the `Main` class and replace the old calls to the methods of the `BookManager` class with three calls to the new `getBooksByLambda` method. To do that, you’ll need to pass a (three different) lambda expression to this method.

In the `BookManager` class delete the `getBooksByTitle`, `getBooksByTech` and `getBooksByFormat` methods. Not only will this reduce code duplication but will also increase the flexibility of your code.

Run the application to test it. The output should be the same as the original (see above).