

```
+-----+
|       singleton      | <<Singleton>>
+-----+
| - instance: Singleton   |
| - observers: List<Observer> |
+-----+
| + getInstance(): Singleton  |
| + addObserver(o: Observer)  |
| + notifyObservers(bookName)  |
| + addBook(book: Builder)    |
+-----+
|
| 1..* observes
v
+-----+
|       Observer        | <<interface>>
+-----+
| + update(bookName: String)  |
+-----+
^           ^
|           |
```

```
+-----+ +-----+
| Student | | Faculty | <<Observer>>
+-----+ +-----+
| - name: string | | - name: string |
| - bookInterest: string | - bookInterest: string |
+-----+ +-----+
| + update(bookName) | |
| + showPrivileges() | |
+-----+ +-----+
+-----+
| Librarian | <<Factory>>
+-----+
| - name: string |
+-----+
| + showPrivileges()|
+-----+
+-----+
| Factory | <<Factory>>
+-----+
```

```
| + createUser(role, name, bookInterest): User |
+-----+
| ^ |
| |
-----|
| Student / Faculty / Librarian |
+-----+
| Builder | <<Builder>>
+-----+
| - title: String |
| - authors: List<String> |
| - edition: String |
| - genre: String |
| - publisher: String |
+-----+
| + BookBuilder(title) |
| + authors(List<String>) |
| + edition(String) |
| + genre(String) |

```

```
| + publisher(String) |
| + build(): Builder |
+-----+
```