This program covers basic functionality mentioned in task description. Build using Eclipse Oxygen and MySQL database. Also, Hibernate framework was used in order to create and fill out table in database. Hibernate library is added at classpath.

In order to run book library program, schema in MySQL Workbench should be created using SQL statement

```
CREATE SCHEMA `test_book_library` ;
```

and table book can be created using following statement

```
create table book(
bookId int primary key auto_increment,
    name varchar(200),
    author varchar(200)
);
```

or by changing property "hbm2ddl.auto"(in file hibernate.cfg.xml) to create during first program launch. You may also need to change some other properties such as "hibernate.connection.username"and "hibernate.connection.password"in order to make program run on your system.
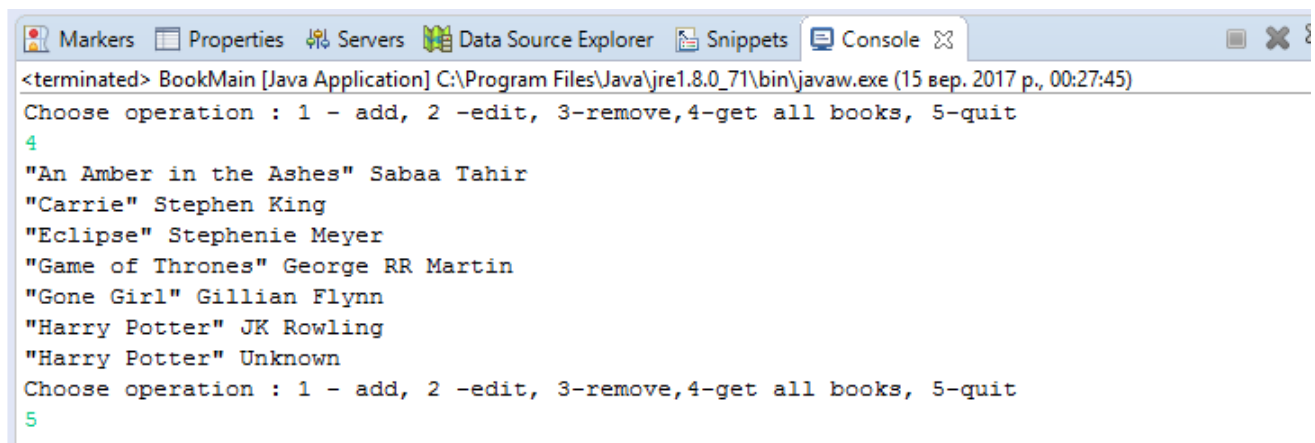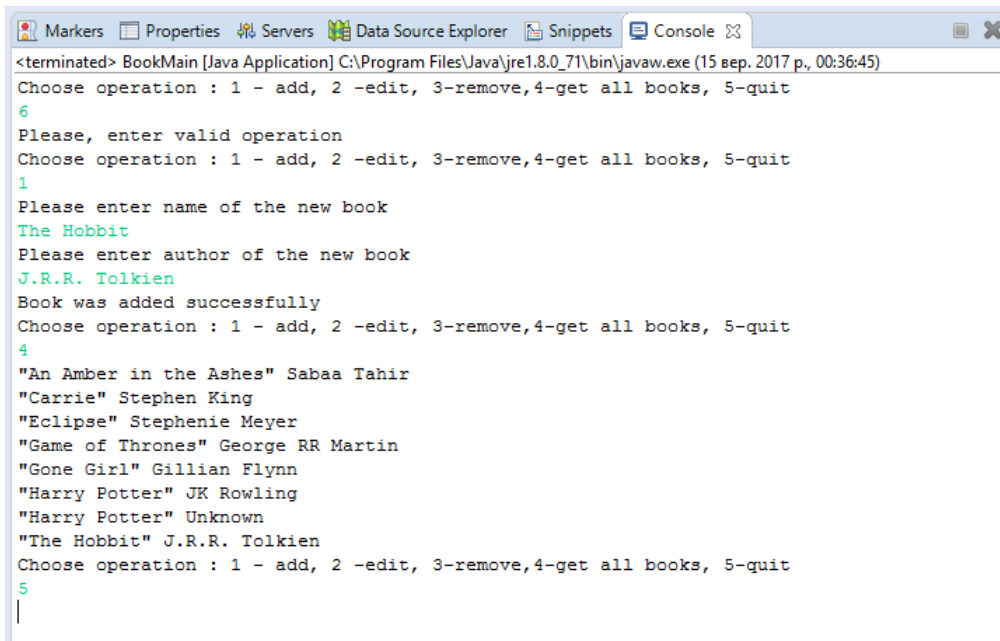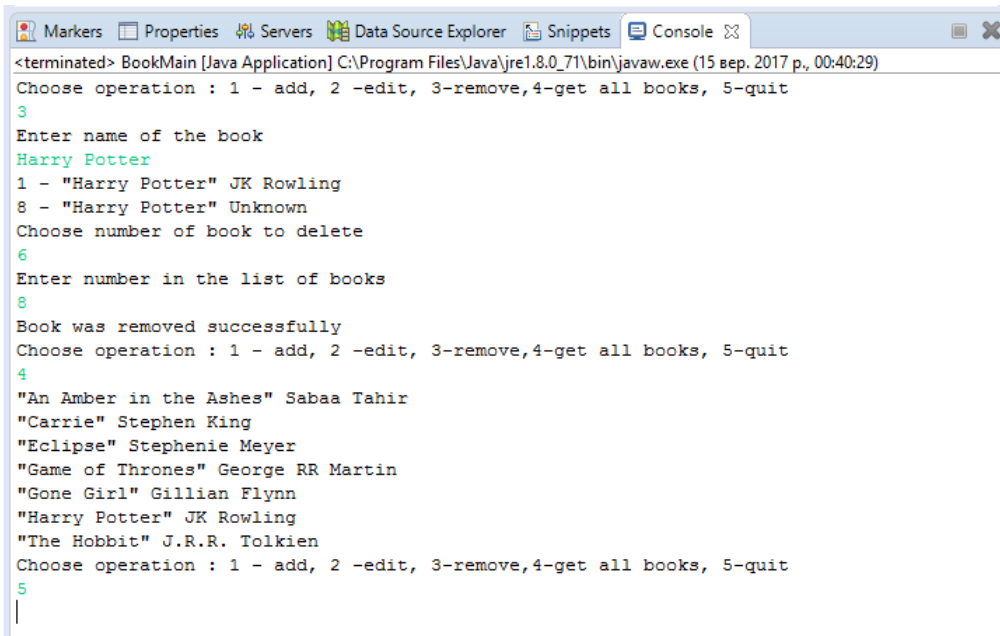
0.1 Snapshots of working program.
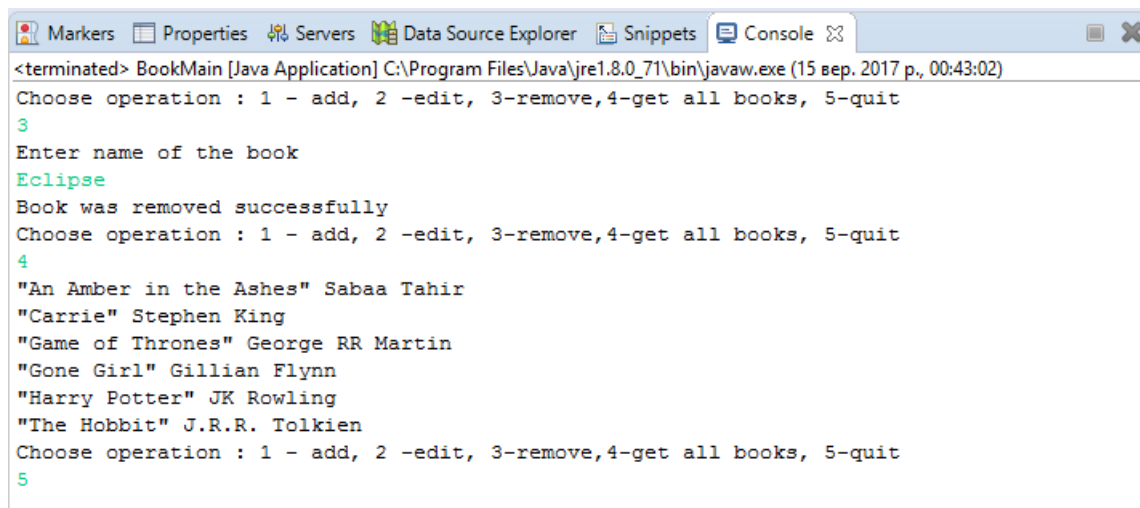

Рис. 1: Getting sorted list of all books.

```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console 
<terminated> BookMain [Java Application] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (15 вер. 2017 р., 00:36:45)
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
6
Please, enter valid operation
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
1
Please enter name of the new book
The Hobbit
Please enter author of the new book
J.R.R. Tolkien
Book was added successfully
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
4
"An Amber in the Ashes" Sabaa Tahir
"Carrie" Stephen King
"Eclipse" Stephenie Meyer
"Game of Thrones" George RR Martin
"Gone Girl" Gillian Flynn
"Harry Potter" JK Rowling
"Harry Potter" Unknown
"The Hobbit" J.R.R. Tolkien
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
5
```
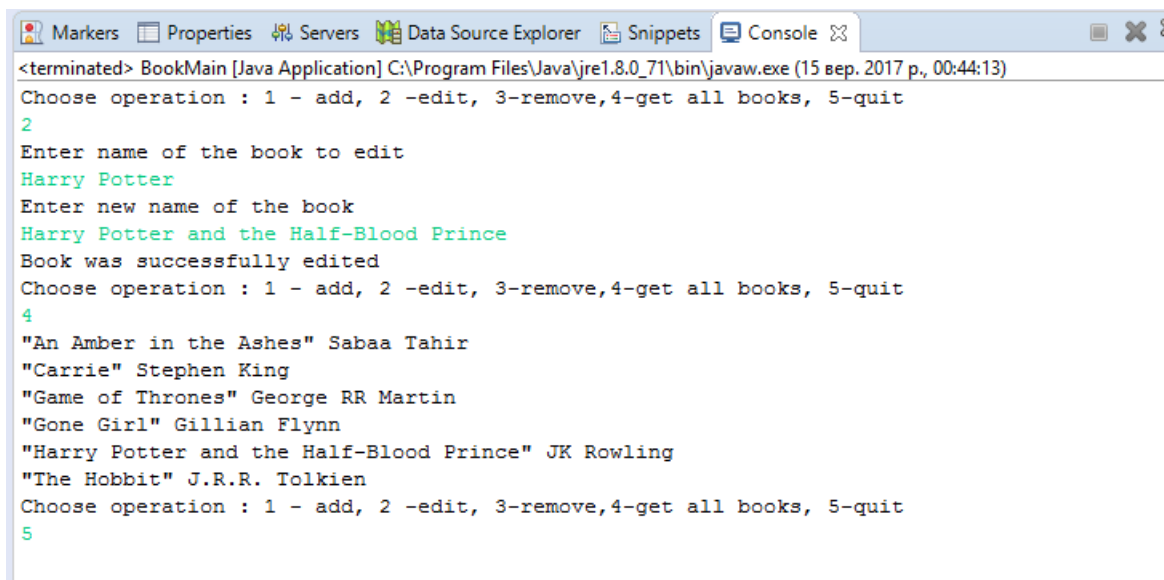
Рис. 2: Adding a new book.


```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console 
<terminated> BookMain [Java Application] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (15 вер. 2017 р., 00:40:29)
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
3
Enter name of the book
Harry Potter
1 - "Harry Potter" JK Rowling
8 - "Harry Potter" Unknown
Choose number of book to delete
6
Enter number in the list of books
8
Book was removed successfully
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
4
"An Amber in the Ashes" Sabaa Tahir
"Carrie" Stephen King
"Eclipse" Stephenie Meyer
"Game of Thrones" George RR Martin
"Gone Girl" Gillian Flynn
"Harry Potter" JK Rowling
"The Hobbit" J.R.R. Tolkien
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
5
```

Рис. 3: Removing book if there are more than one book with this name.

```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console 23

<terminated> BookMain [Java Application] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (15 вер. 2017 р., 00:43:02)
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
3
Enter name of the book
Eclipse
Book was removed successfully
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
4
"An Amber in the Ashes" Sabaa Tahir
"Carrie" Stephen King
"Game of Thrones" George RR Martin
"Gone Girl" Gillian Flynn
"Harry Potter" JK Rowling
"The Hobbit" J.R.R. Tolkien
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
5
```

Рис. 4: Removing book if there is only one in database with such name.

```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console 23

<terminated> BookMain [Java Application] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (15 вер. 2017 р., 00:44:13)
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
2
Enter name of the book to edit
Harry Potter
Enter new name of the book
Harry Potter and the Half-Blood Prince
Book was successfully edited
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
4
"An Amber in the Ashes" Sabaa Tahir
"Carrie" Stephen King
"Game of Thrones" George RR Martin
"Gone Girl" Gillian Flynn
"Harry Potter and the Half-Blood Prince" JK Rowling
"The Hobbit" J.R.R. Tolkien
Choose operation : 1 - add, 2 -edit, 3-remove,4-get all books, 5-quit
5
```

Рис. 5: Editing book.