

Gebze Technical University
Computer Engineering

CSE 222
2017 Spring

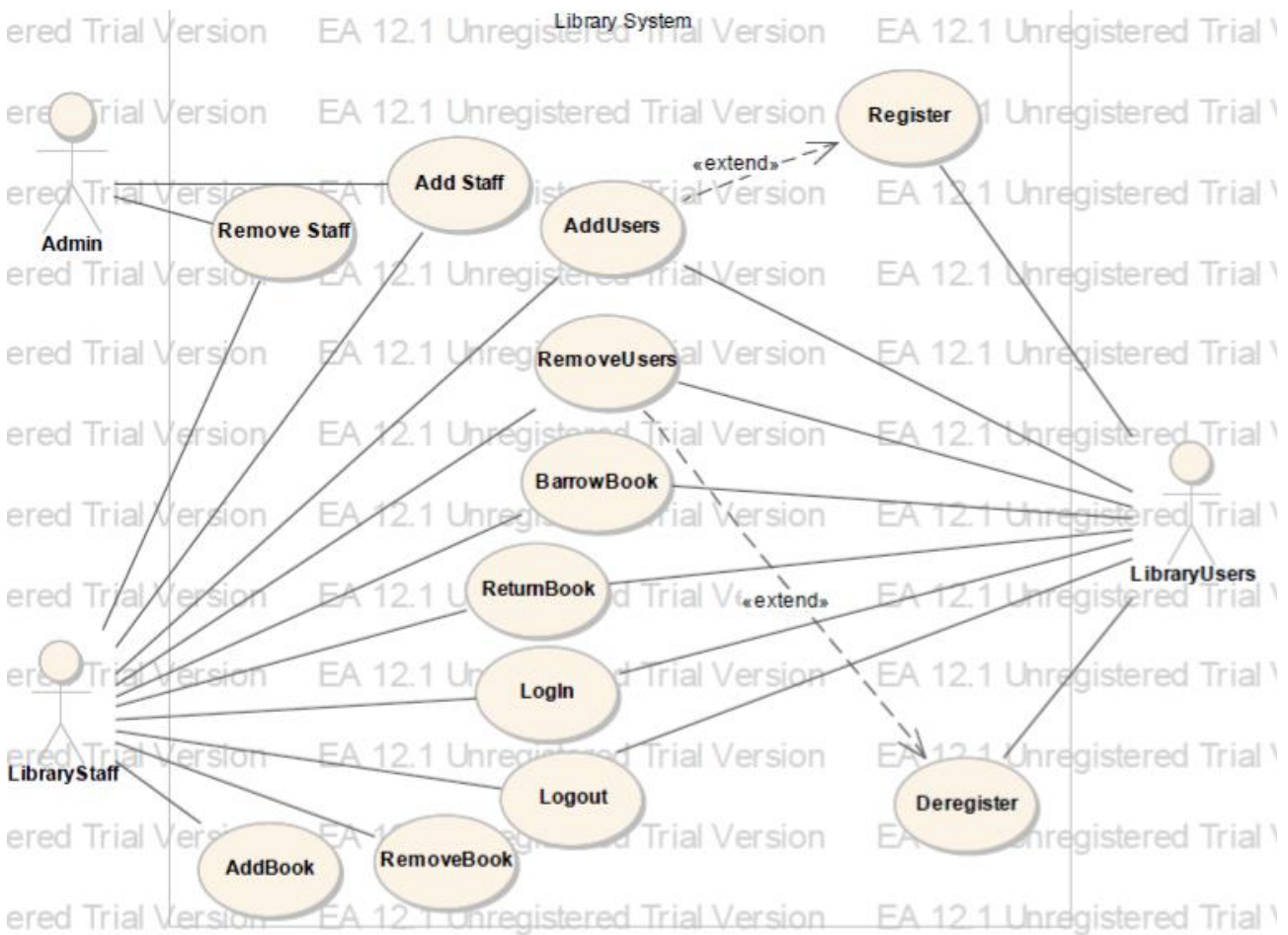
HOMEWORK 01 REPORT

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STUDENT NUMBER : 091044011

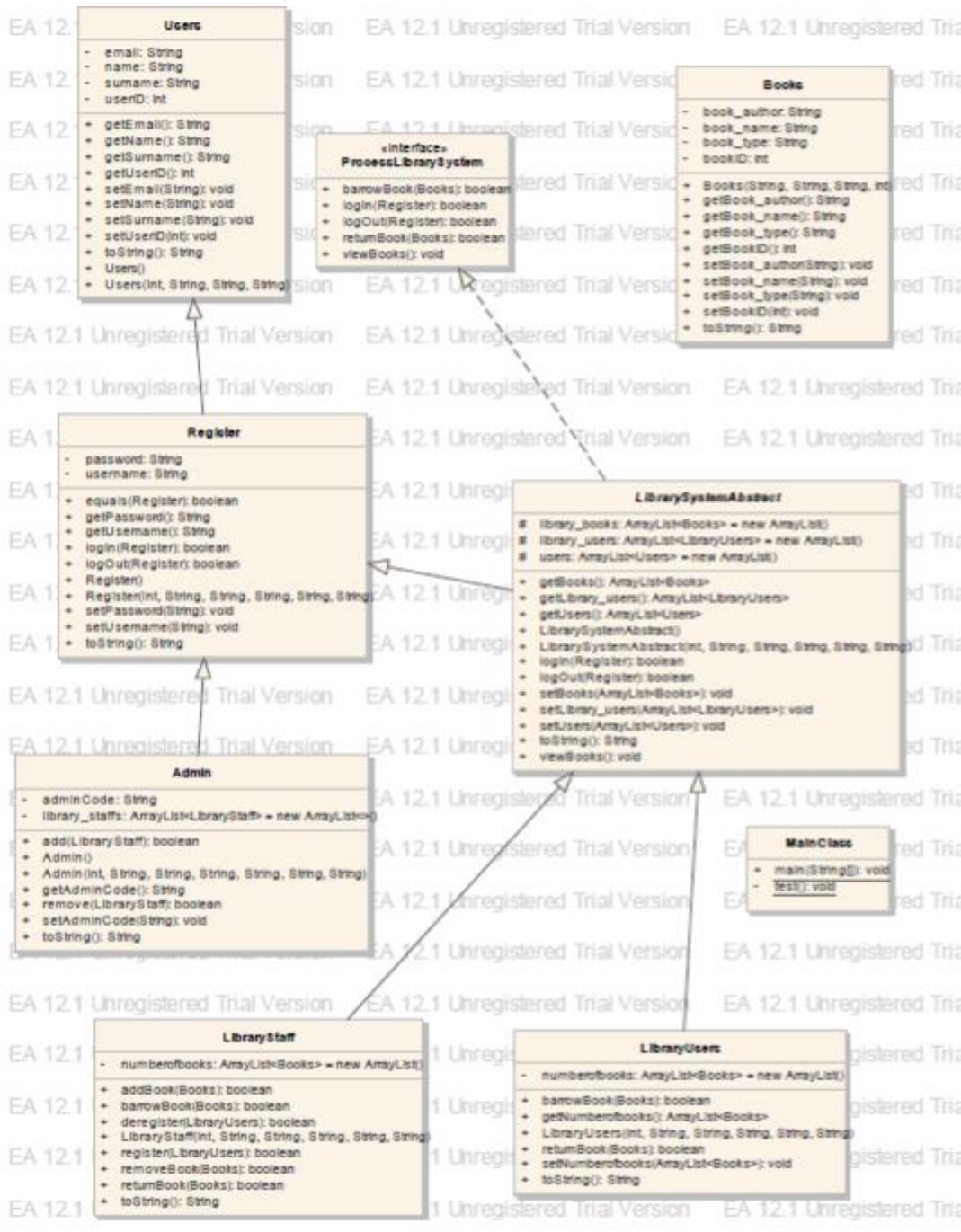
1. System Requirements

- Sistemim 8 classtan oluşuyor
- Classlarım: Admin, Users, LibraryStaff, LibraryUsers, Register, Books, LibrarySystemAbstract, ProcessLibrarySystem. Ve main Classtan oluşuyor.
- Admin Classım:
 - ✓ staffları add/remove yapabilir.
- Staff Classım:
 - ✓ User add/remove,
 - ✓ User register/deregister,
 - ✓ Book add/remove,
 - ✓ Barrow/return,
 - ✓ Log In/Log Out yapabilir.
- User Classım:
 - ✓ Log in/log out,
 - ✓ Barrow/return yapabilir.

2. Use Case Diagrams



3. Class Diagrams



4. Other Diagrams

...

5. Problem Solutions Approach

- ✓ LibrarySystemAbstract classım ile ortak yapılan işlemler (login/logout veya Barrow/return) ları bu abstract classımda tanımladım.
- ✓ Ortak olmayanlar ise bu classı extend ederek.
- ✓ Kendi yapabildiklerini kendisinde yeniden implement edebilir yapıyı sağladım.
- ✓ Bu sayede polymorphism sağlanmış oldu.
- ✓ User ve staffın ortak yaptıklarını ise yeniden implement edilebilir yapılsa ovirrede yapılmış oldu.

(Sistemin basit omurga yapısı.)

- ✓ Admin oluşturularak işleme başlandı.
- ✓ Admin staff oluşturdu.
- ✓ Staff log In yaptı.
- ✓ Staff da, register user/add user yaptı
- ✓ Ayrı olarak kitaplar oluşturuldu.
- ✓ Staff kitapları add yaptı.
- ✓ Register olan kullanıcı log in yaptı.
- ✓ Kullanıcı barrow book yaptı.
- ✓ Kitabı return book yaptı.
- ✓ Kullanıcı log out yaptı.
- ✓ Staff log out yaptı.

6. Test Cases

The screenshot displays an IDE interface with two test runs. The top run, 'Hw01_cse222_2017Suite', shows 63 tests passed in 95ms. The bottom run, 'LibraryUsersTest', shows 5 tests passed in 68ms. The code editor shows the source code for 'LibraryUsersTest.java'.

Test Results for Hw01_cse222_2017Suite:

Test Case	Duration
deregister	39ms
addBook	2ms
toString	0ms
register	0ms
removeBook	2ms
barrowBook	1ms
returnBook	1ms
testBarrowBook_NullPointerException	11ms
testReturnBook_NullPointerException	1ms
toString	30ms
getNumberOfbooks	9ms
barrowBook	
returnBook	
setNumberOfbooks	
setPassword	
getPassword	
login	
toString	
setUsername	
getUsername	
equals	
logout	
getBook_name	
getBook_type	
toString	
setBook_name	

Test Results for LibraryUsersTest:

Test Case	Duration
testToString	65ms
testGetNumberOfbooks	0ms
testBarrowBook	3ms
testReturnBook	0ms
testSetNumberOfbooks	0ms

Source Code for LibraryUsersTest.java:

```
15  import java.util.*;
16
17  /**
18   * @author ercan
19   */
20  public class LibraryUsersTest {
21
22      public LibraryUsersTest() {
23
24      }
25
26      @BeforeClass
27      public static void setUpClass() {
28
29      }
30  }
```

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/test/java/com/mycompany/hw01_cse222_2017/ProcessLibrarySystemTest

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

1_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | ProcessLibrarySystemTest | ProcessLibrarySystemTest

Project

- java
 - com.mycompany.hw01_cse222_2017
 - AdminTest
 - BooksTest
 - Hw01_cse222_2017Suite
 - LibraryStaffTest
 - LibrarySystemAbstractTest
 - LibraryUsersTest
 - MainClassTest
 - ProcessLibrarySystemTest
 - RegisterTest

ProcessLibrarySystemTest

```
17 * @author ercan
18
19 public class ProcessLibrarySystemTest {
20
21     public ProcessLibrarySystemTest() {
22     }
23
24     @BeforeClass
25     public static void setUpClass() {
26     }
27
28     @AfterClass
29     public static void tearDownClass() {
30     }
31 }
```

Run ProcessLibrarySystemTest

All 5 tests passed - 51ms

ProcessLibrarySystemTest (com.mycompany.hw01_cse222_2017) 51ms

- testLogin 43ms
- testViewBooks 0ms
- testBarrowBook 1ms
- testReturnBook 7ms
- testLogout 0ms

Process finished with exit code 0

Tests Passed: 5 passed (moments ago) 9:1 CRLF+ UTF-8+ Git: master +

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/test/java/com/mycompany/hw01_cse222_2017/RegisterTest

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CSE222_HW01_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | RegisterTest | RegisterTest

Project

- BooksTest
- Hw01_cse222_2017Suite
- LibraryStaffTest
- LibrarySystemAbstractTest
- LibraryUsersTest
- MainClassTest
- ProcessLibrarySystemTest
- RegisterTest
- UsersTest

target

classes

RegisterTest

```
14 * @author ercan
15
16
17
18
19 public class RegisterTest {
20
21     public RegisterTest() {
22     }
23
24     @BeforeClass
25     public static void setUpClass() {
26     }
27 }
```

Run RegisterTest

All 8 tests passed - 19ms

RegisterTest (com.mycompany.hw01_cse222_2017) 19ms

- testSetPassword 18ms
- testGetPassword 0ms
- testLogin 0ms
- testToString 1ms
- testSetUsername 0ms
- testGetUsername 0ms
- testEquals 0ms
- testLogout 0ms

Process finished with exit code 0

Tests Passed: 8 passed (moments ago) 12:1 CRLF+ UTF-8+ Git: master +

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/test/java/com/mycompany/hw01_cse222_2017/MainClassTest

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CSE222_HW01_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | MainClassTest | MainClassTest.testMain

Project

- java
 - com.mycompany.hw01_cse222_2017
 - AdminTest
 - BooksTest
 - Hw01_cse222_2017Suite
 - LibraryStaffTest
 - LibrarySystemAbstractTest
 - LibraryUsersTest
 - MainClassTest
 - ProcessLibrarySystemTest
 - RegisterTest

MainClassTest

```
41 * @author ercan
42
43
44 * @org.junit.Test
45 public void testMain() {
46     System.out.println("main");
47     String[] args = null;
48     MainClass.main(args);
49     // TODO review the generated test code and remove the default call to fail.
50     //fail("The test case is a prototype.");
51 }
52
53 }
```

Run MainClassTest.testMain

1 test passed - 72ms

MainClassTest (com.mycompany.hw01_cse222_2017) 72ms

testMain 72ms

Books(book_name=C++, book_author=Author2, book_type=C++, bookID=1234)

-----Library user return book one by User3!-----

View Library User 3 After return a book

LibraryUsers(RegisterUsers{

userID=2, name=Bekir, surname=Kurt, email=bekirkurt@hotmail.com)

username=bekirkurt, password=bekir11} numberOfbooks=1

Books(book_name=C++, book_author=Author2, book_type=C++, bookID=1234)

})

-----Log Out Library User3 Successfull!-----

-----END OF SYSTEM-----

Process finished with exit code 0

Tests Passed: 1 passed (moments ago) 11:31 CRLF+ UTF-8+ Git: master +

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/test/java/com/mycompany/hw01_cse222_2017/UsersTest

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CSE222_HW01_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | UsersTest

Project

- BooksTest
- Hw01_cse222_2017Suite
- LibraryStaffTest
- LibrarySystemAbstractTest
- LibraryUsersTest
- MainClassTest
- ProcessLibrarySystemTest
- RegisterTest
- UsersTest

target

classes

UsersTest.java

```
14 import ...
15
16 /**
17  * @author ercan
18  */
19 public class UsersTest {
20
21     public UsersTest() {
22     }
23
24     @BeforeClass
25     public static void setUpClass() {
26     }
27 }
```

Run UsersTest

All 9 tests passed - 32ms

Test	Duration
testGetEmail	30ms
testGetSurname	0ms
testToString	0ms
testGetName	1ms
testSetSurname	0ms
testSetUserID	0ms
testGetUserID	1ms
testSetName	0ms
testSetEmail	0ms

Process finished with exit code 0

Tests Passed: 9 passed (moments ago)

13:1 CRLF UTF-8 Git: master

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/main/java/com/mycompany/hw01_cse222_2017/Admin

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CSE222_HW01_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | AdminTest

Project

- AdminTest
- BooksTest
- Hw01_cse222_2017Suite
- LibraryStaffTest
- LibrarySystemAbstractTest
- LibraryUsersTest
- MainClassTest
- ProcessLibrarySystemTest
- RegisterTest
- UsersTest

target

Admin.java

```
76 toString()
77
78 public boolean remove(LibraryStaff staff) throws NullPointerException, Error {
79     if (staff == null)
80         throw new NullPointerException("Can't remove null object.");
81     else if (library_staffs.isEmpty())
82         throw new Error("No Library staff");
83     return library_staffs.remove(staff);
84 }
85
86 /**
87  * View information about administrator
88  * @return information of administrator
89  */
90 @Override
91 public String toString() {
92     return "Admin\n" + super.toString() + ", adminCode=" + adminCode + ",\n" + "library_staffs=" + library_staffs + "\n";
93 }
```

Run AdminTest

All 7 tests passed - 78ms

Test	Duration
testAdd_NullPointerException	51ms
testSetAdminCode	0ms
testAdd	17ms
testToString	0ms
testRemove_NullPointerException	0ms
testGetAdminCode	0ms
testRemove	10ms

Process finished with exit code 0

Tests Passed: 7 passed (moments ago)

11:1 CRLF UTF-8 Git: master

HW01_CSE222_2017 - [~/Desktop/CSE222_HW01_2017] - [HW01_CSE222_2017] - ~/Desktop/CSE222_HW01_2017/src/main/java/com/mycompany/hw01_cse222_2017/Admin

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CSE222_HW01_2017 | src | test | java | com | mycompany | hw01_cse222_2017 | BooksTest

Project

- AdminTest
- BooksTest
- Hw01_cse222_2017Suite
- LibraryStaffTest
- LibrarySystemAbstractTest
- LibraryUsersTest
- MainClassTest
- ProcessLibrarySystemTest
- RegisterTest
- UsersTest

target

Admin.java

```
76 toString()
77
78 public boolean remove(LibraryStaff staff) throws NullPointerException, Error {
79     if (staff == null)
80         throw new NullPointerException("Can't remove null object.");
81     else if (library_staffs.isEmpty())
82         throw new Error("No Library staff");
83     return library_staffs.remove(staff);
84 }
85
86 /**
87  * View information about administrator
88  * @return information of administrator
89  */
90 @Override
91 public String toString() {
92     return "Admin\n" + super.toString() + ", adminCode=" + adminCode + ",\n" + "library_staffs=" + library_staffs + "\n";
93 }
```

Run AdminTest

All 7 tests passed - 59ms

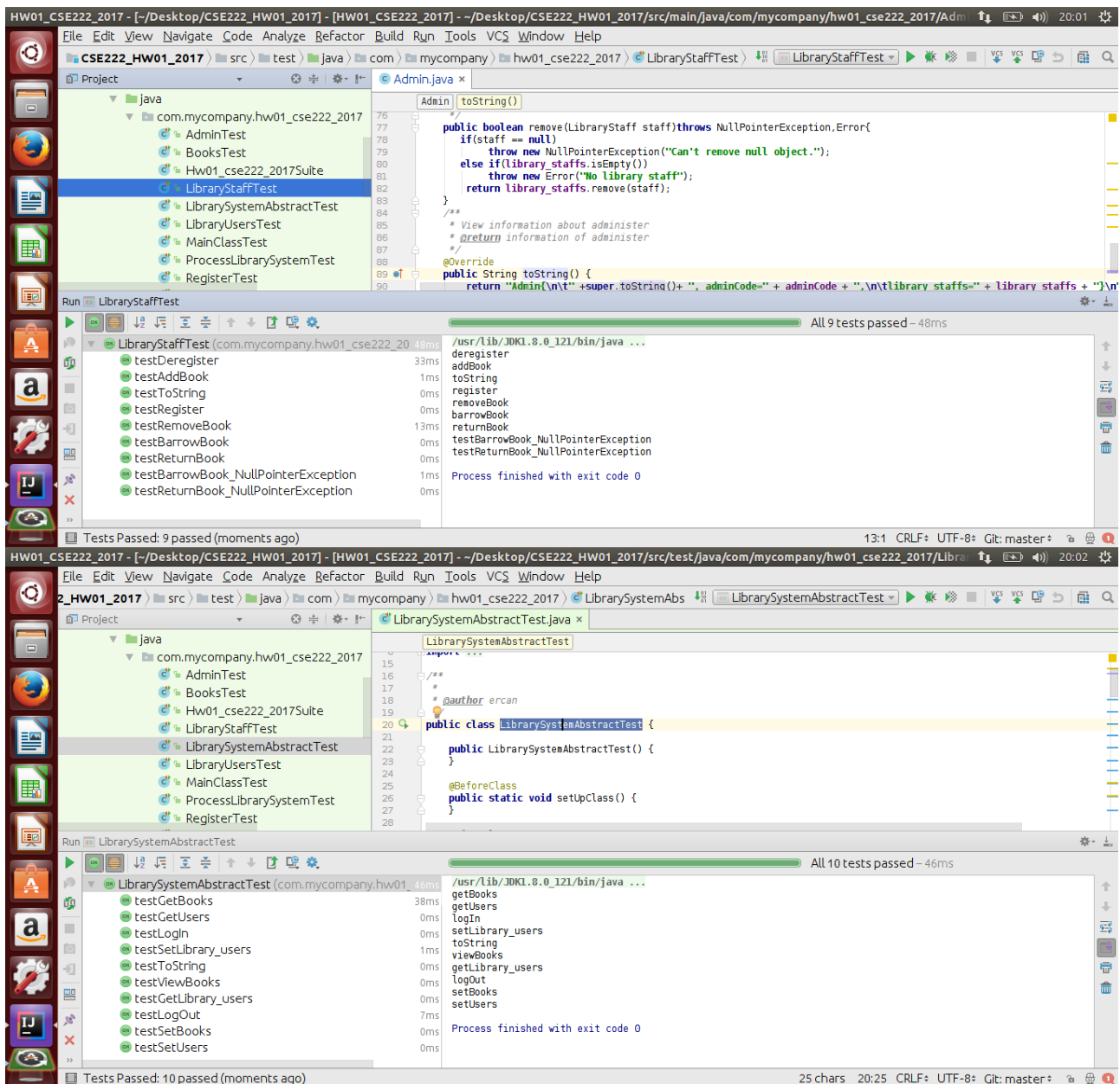
Test	Duration
testAdd_NullPointerException	41ms
testSetAdminCode	0ms
testAdd	13ms
testToString	4ms
testRemove_NullPointerException	0ms
testGetAdminCode	1ms
testRemove	0ms

Process finished with exit code 0

Tests Passed: 7 passed (moments ago)

Build

11:1 CRLF UTF-8 Git: master



7. Running and Results

-----Created admin!-----

```
View Admin
Admin{
  Register{ Users{
    userID=11, name=Ercan, surname=UCA, email=ercanuca@gmail.com}
    username=ercanuca, password=1234}, adminCode=1111,
    library_staffs=[]}
```

-----Created staff!-----

```
View Staff

LibraryStaff{
  Register{ Users{
    userID=0, name=Kenan, surname=Kurt, email=kenankara12@hotmail.com}
```

```

        username=kenankurt, password=1234}
        []
        library_books=[]
    }

```

-----Add staff by admin-----

After added Staff View Admin

```

Admin{
    Register{ Users{
        userID=11, name=Ercan, surname=UCA, email=ercanuca@gmail.com}
        username=ercanuca, password=1234}, adminCode=1111,
        library_staffs=[
            LibraryStaff{
                Register{ Users{
                    userID=0, name=Kenan, surname=Kurt, email=kenankara12@hotmail.com}
                    username=kenankurt, password=1234}
                []
                library_books=[]
            }
        ]
    }
}

```

-----Created 2 Books!-----

-----Add Books by staff-----

After added 2 books View books by staff

```

LibraryStaff{
    Register{ Users{
        userID=0, name=Kenan, surname=Kurt, email=kenankara12@hotmail.com}
        username=kenankurt, password=1234}
    []
    library_books=[
        Books{book_name=System Programlama, book_author=Author1, book_type=C and
C++, bookID=4583}
    ,
        Books{book_name=C++, book_author=Author2, book_type=C++, bookID=1234}
    ]
}

```

-----Created Library User!-----

-----Registered Library User by Staff!-----

```

LibraryStaff{
    Register{ Users{
        userID=0, name=Kenan, surname=Kurt, email=kenankara12@hotmail.com}
        username=kenankurt, password=1234}
    [LibraryUsers{ Register{ Users{
        userID=0, name=Elif, surname=Serap, email=elifserap.1@gmail.com}
        username=elif, password=222} numberOfbooks=[]}]
    library_books=[
        Books{book_name=System Programlama, book_author=Author1, book_type=C and
C++, bookID=4583}
    ,

```



```

        Books{book_name=C++, book_author=Author2, book_type=C++, bookID=1234}
    ]
}

-----Created Library User2!-----
    View Library User 2
LibraryUsers{Register{Users{
    userID=1, name=Yagmur, surname=Can, email=yagmurcan2@gmail.com}
    username=yagmurcan, password=321} numberofbooks=[]}

-----Registered Library User2!-----

-----Created Library User3!-----
    View Library User 3
LibraryUsers{Register{Users{
    userID=2, name=Bekir, surname=Kurt, email=bekirkurt@hotmail.com}
    username=bekirkurt, password=bekir11} numberofbooks=[]}

-----Register User3!-----

-----Registered Successfull!-----

-----Log In Library User3 Successfull!-----

-----Library user barrow 2 book User3!-----
    View Library User 3 After barrow 2 books
LibraryUsers{Register{Users{
    userID=2, name=Bekir, surname=Kurt, email=bekirkurt@hotmail.com}
    username=bekirkurt, password=bekir11} numberofbooks=[
        Books{book_name=System Programlama, book_author=Author1, book_type=C and
C++, bookID=4583}
    ,
        Books{book_name=C++, book_author=Author2, book_type=C++, bookID=1234}
    ]}

-----Library user return book one by User3!-----
    View Library User 3 After return a book
LibraryUsers{Register{Users{
    userID=2, name=Bekir, surname=Kurt, email=bekirkurt@hotmail.com}
    username=bekirkurt, password=bekir11} numberofbooks=[
        Books{book_name=C++, book_author=Author2, book_type=C++, bookID=1234}
    ]}

-----Log Out Library User3 Successfull!-----
-----END OF SYSTEM-----Give running information and
results of your solution. It should contain screenshots or any output.

```

8. Github Link

Link: https://github.com/erccanuca/cse222hw01_2017