

Gebze Technical University
Computer Engineering

CSE 222
2017 Spring

HOMEWORK 1 REPORT

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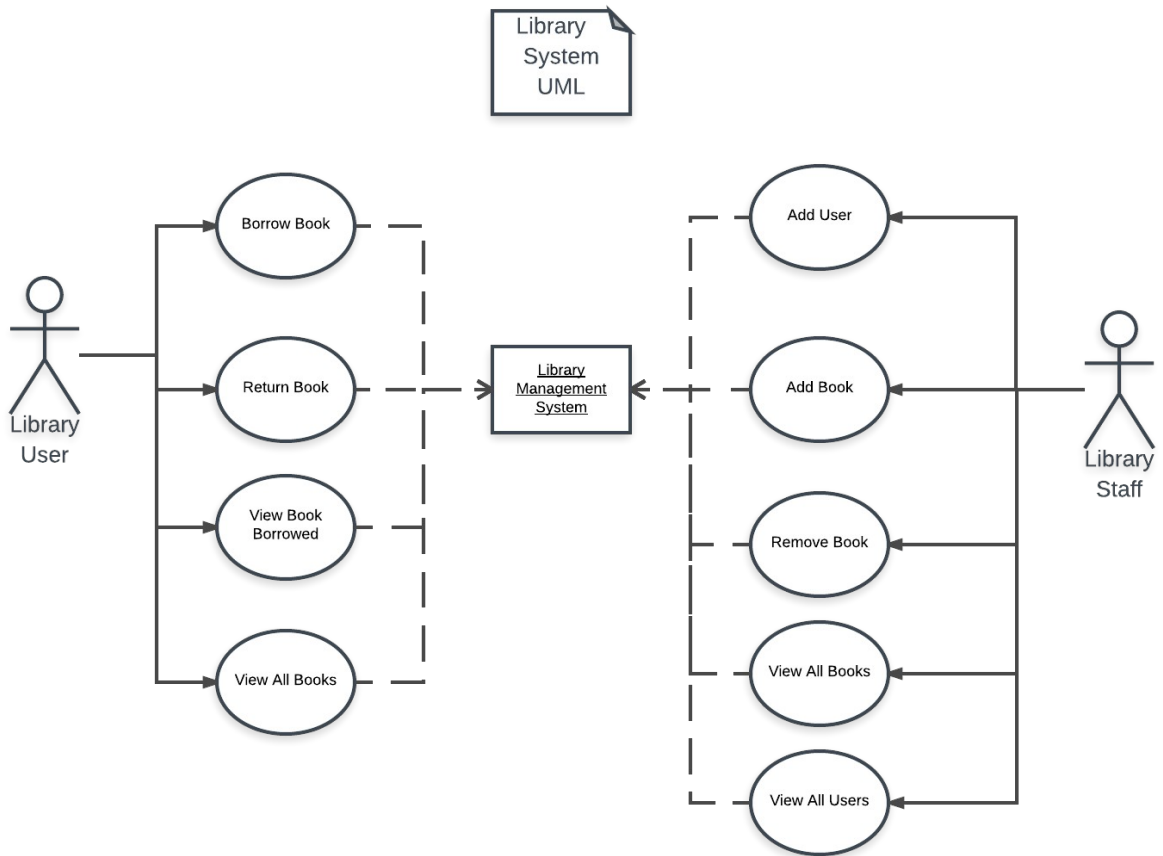
6. Running and Results(Sayfa 6)

7. PART 2(Sayfa 11)

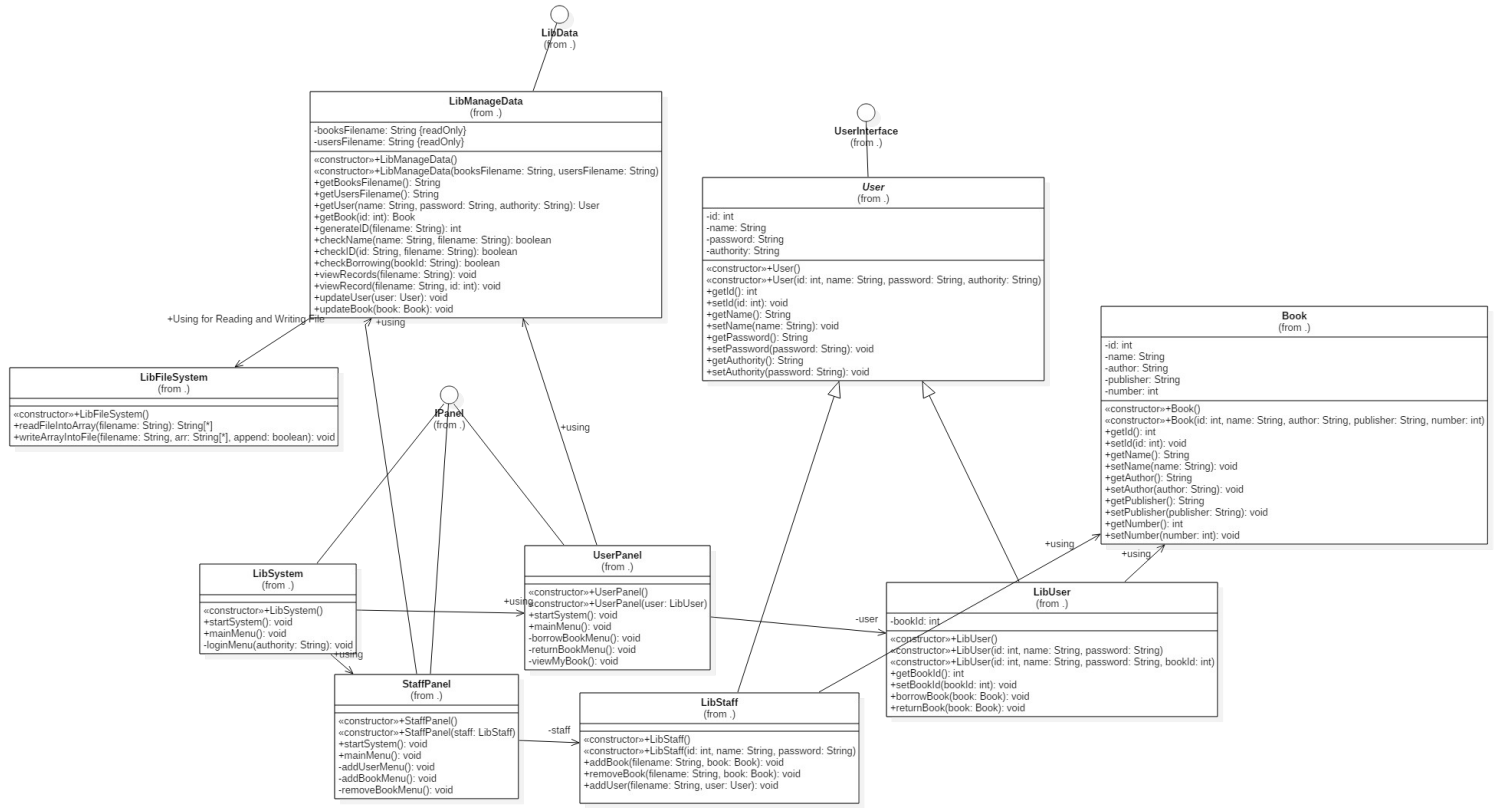
1. System Requirements

Programın çalıştırılacağı sistemin jdk 8 ve javac(terminalden çalıştırılacaksa) içermesi gerekmektedir.make komutuyla derlenip java Main komutuyla çalıştırılabilir.IntelliJ projesi olarak da çalıştırılabilir.Kütüphane sistemi veritabanı olarak csv dosyalarıyla çalışmaktadır.Bu dosyalar aynı dizinde olmalı ve erişim engellenmemelidir.Program çalıştırılınca gerekli inputlar girildiği sürece sistem işlemeye devam eder.(Programı yönetmek için gerekli Staff adı : “staff” , şifresi : “staff”)

2. Use Case Diagrams



3. Class Diagrams



StarUML programını kullanarak çizdim.

4. Problem Solutions Approach

Öncelikle bu kütüphane sisteminin aktörlerini düşünüp ortak özelliklere ve ortak işlere sahip olanlarını belirleyip hiyerarşiyi planladım ve aklımda bunların birbirleriyle olan bağlarını , işlemlerini düşünüp aralarındaki ilişkiyi kurdum. Tekrar kullanılabilir şeklinde olması gereken bu sınıfları olabildiğinde çok iş parçaçığına bölüp problemi parçaçıklara ayırmaya çalıştım. Bu parçaçıkların hem çok kullanışlı , hem de farklı programlar için kullanılabilir ve geliştirilebilir olmasını amaçladım. Daha sonrasında programı yazmaya başlayınca planladığım şeyleri uygulayıp hedeflediğim şeyleri işler hale getirmeye başladım.

5. Test Cases

(Bu senaryolar aşağıda bazı resimlerde (Error Case) gösterilmiştir.)

1-) Senaryo : Staff kitap eklerken veya kullanıcı kitap ödünç alırken gireceği id tamsayı olmalıdır.

Test Aşaması : Id olarak tamsayı girilmesi

Beklenen Sonuç : Kitap işlemlerinde bir problem olmaması dahilinde girilen tamsayı inputun doğru kabul edilmesi.

Gerçek Sonuç : Program inputu doğru kabul eder.

2-) Senaryo : Staff kitap eklerken veya kullanıcı kitap ödünç alırken gireceği id tamsayı olmalıdır.

Test Aşaması : Id olarak harflerden ve karakterlerden oluşan bir ifade girilmesi

Beklenen Sonuç : Kitap işlemlerinde bir problem olmaması dahilinde girilen karakter inputun hatalı olarak kabul edilmesi.

Gerçek Sonuç : Programın inputu hatalı sayıp hata mesajı verir ve tekrar input ister.

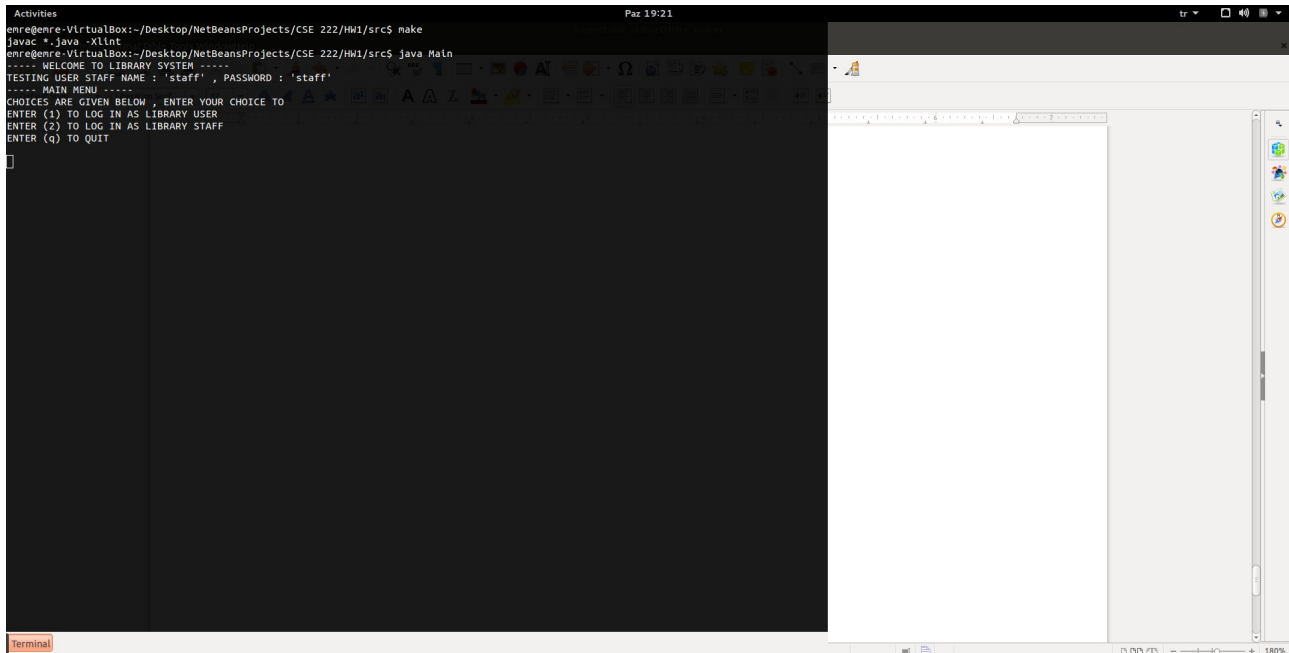
3-) Senaryo : Kullanıcı isimlerinin birbirlerinden farklı olması

Test Aşaması : Staff'ın daha önceden var olan bir kullanıcı adıyla kullanıcı eklemesi

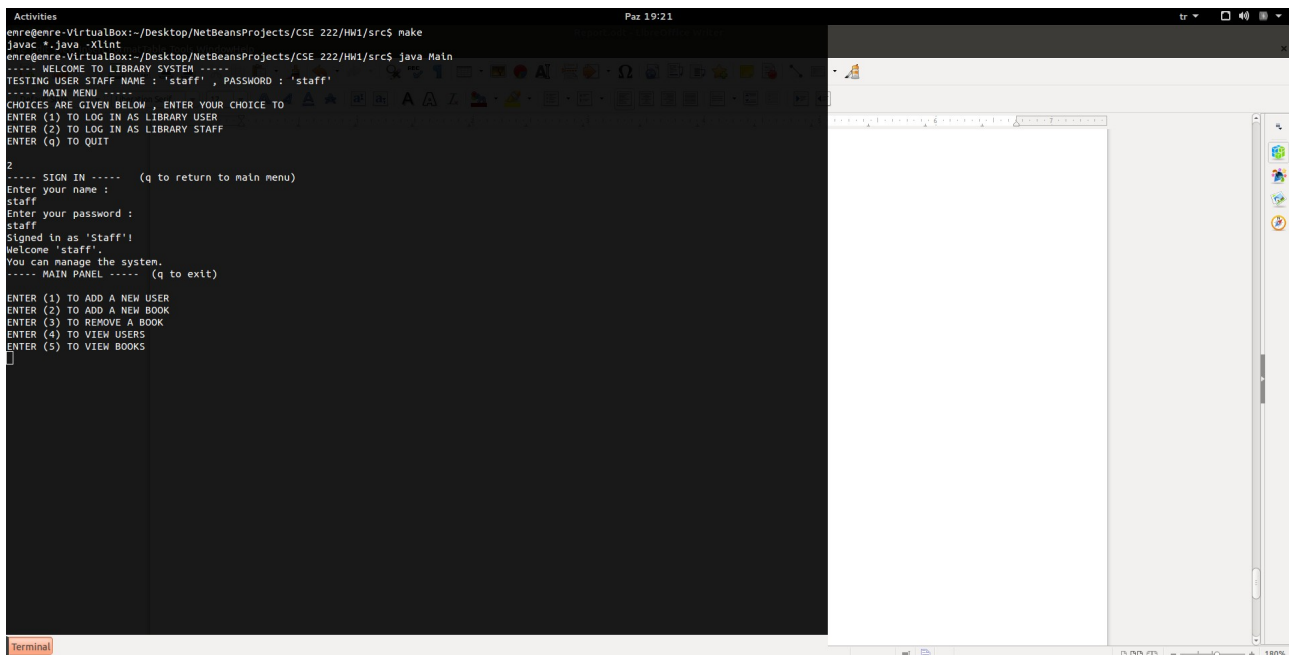
Beklenen Sonuç : Programın ismi kabul etmemesi.

Gerçek Sonuç : Program bu kullanıcı adının başkasına ait olduğunu söyledi ve tekrar input girilmesini istedi.

6. Running and Results



```
Activities Paz 19:21
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ make
javac *.java -Xlint
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
```



```
Activities Paz 19:21
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ make
javac *.java -Xlint
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
2
----- SIGN IN ----- (q to return to main menu)
Enter your name :
staff
Enter your password :
staff
Signed in as 'Staff'!
Welcome 'staff'.
You can manage the system.
----- MAIN PANEL ----- (q to exit)
ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
```

```
Activities Paz 19:22
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ make
javac *.java -Xlint
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
2
----- SIGN IN ----- (q to return to main menu)
Enter your name :
staff
Enter your password :
staff
Signed in as 'Staff'!
Welcome 'staff'.
You can manage the system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
1
----- ADD USER ----- (q to return main panel)

ENTER A NAME :
all
ENTER A PASSWORD :
123
ENTER AUTHORITY (1 for User , 2 for Staff) :
1
User added successfully!
ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
]
```

```
Activities Paz 19:22
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
2
----- SIGN IN ----- (q to return to main menu)
Enter your name :
staff
Enter your password :
staff
Signed in as 'Staff'!
Welcome 'staff'.
You can manage the system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
1
----- ADD USER ----- (q to return main panel)

ENTER A NAME :
all
ENTER A PASSWORD :
123
ENTER AUTHORITY (1 for User , 2 for Staff) :
1
User added successfully!
ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
4


| ID | NAME  | PASSWORD | BOOKID | AUTHORITY |
|----|-------|----------|--------|-----------|
| 1  | staff | staff    | -1     | Staff     |
| 2  | emre  | 123      | -1     | User      |
| 3  | all   | 123      | -1     | User      |


ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
]
```

```
Activities Paz 19:35
----- SIGN IN ----- (q to return to main menu)
Enter your name :
staff
Enter your password :
staff
Signed in as 'Staff'!
Welcome 'staff'.
You can manage the system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
5


| ID | NAME        | AUTHOR      | PUBLISHER     | NUMBER |
|----|-------------|-------------|---------------|--------|
| 1  | auc ve ceza | dostoyevskl | elif kitabevi | 5      |
| 2  | emre        | 123         | q             | 2      |


ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
]
```

ERROR CASE

```
Activities Paz 19:36
123
Signed in as 'User'!
Welcome 'enre'.
You can manage your system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
3
| ID | NAME | AUTHOR | PUBLISHER | NUMBER |
| 1 | suc ve ceza | dostoyevski | elif kitavevi | 5 |
| 2 | enre | 123 | q | 2 |
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
4
YOU HAVE NO BOOK
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
Terminal
```

```
Activities Paz 19:36
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff', PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
1
----- SIGN IN ----- (q to return to main menu)
Enter your name :
enre
Enter your password :
123
Signed in as 'User'!
Welcome 'enre'.
You can manage your system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
4
----- MY BOOK ----- (q to return main panel)
| ID | NAME | AUTHOR | PUBLISHER | NUMBER |
| 1 | suc ve ceza | dostoyevski | elif kitavevi | 4 |
| 2 | enre | 123 | q | 2 |
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
Terminal
```



```
Activities Paz 19:37
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
1
----- SIGN IN ----- (q to return to main menu)
Enter your name :
enre
Enter your password :
123
Signed in as 'User'!
Welcome 'enre'!
You can manage your system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
4
----- MY BOOK ----- (q to return main panel)

| ID | NAME | AUTHOR | PUBLISHER | NUMBER |
| 1 | suc ve ceza | dostoyevski | elif kitabevi | 4 |

ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
1
YOU CANNOT BORROW A BOOK AT THE MOMENT , YOU HAVE ONE BOOK , PLEASE RETURN IT THEN BORROW!
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
2
----- RETURN BOOK ----- (q to return main panel)
Do you want to return book? (1) yes , (0) no
1
1
RETURNED BOOK SUCCESSFULLY!
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
```

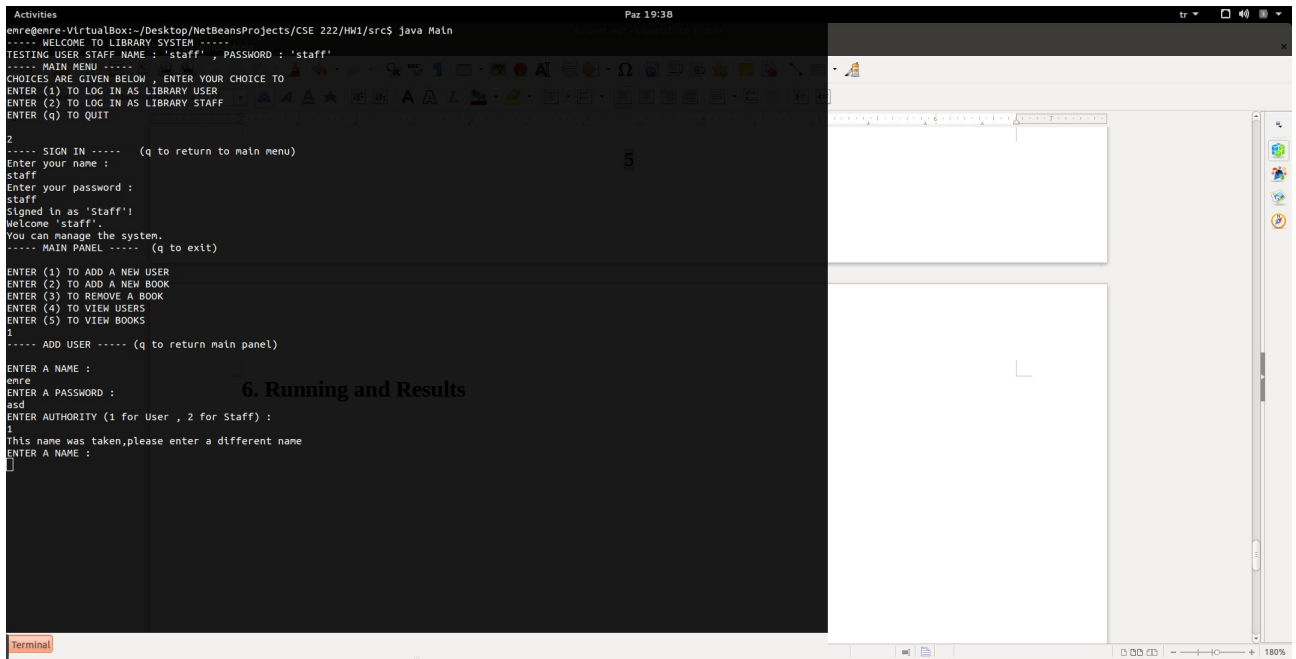
ERROR CASE

```
Activities Paz 19:37
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT
1
----- SIGN IN ----- (q to return to main menu)
Enter your name :
enre
Enter your password :
123
Signed in as 'User'!
Welcome 'enre'!
You can manage your system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
1
----- BORROW BOOK ----- (q to return main panel)

ENTER BOOK ID :
aaaaafafasfsafasa
ID is invalid or doesn't exist.Enter a different ID!
1
1
BOOK BORROWED SUCCESSFULLY!
ENTER (1) TO BORROW A BOOK
ENTER (2) TO RETURN BOOK
ENTER (3) TO VIEW BOOKS
ENTER (4) TO VIEW YOUR BOOK
1
```

ERROR CASE



```
enre@enre-VirtualBox:~/Desktop/NetBeansProjects/CSE 222/HW1/src$ java Main
----- WELCOME TO LIBRARY SYSTEM -----
TESTING USER STAFF NAME : 'staff' , PASSWORD : 'staff'
----- MAIN MENU -----
CHOICES ARE GIVEN BELOW , ENTER YOUR CHOICE TO
ENTER (1) TO LOG IN AS LIBRARY USER
ENTER (2) TO LOG IN AS LIBRARY STAFF
ENTER (q) TO QUIT

2
----- SIGN IN ----- (q to return to main menu)
Enter your name :
staff
Enter your password :
staff
Signed in as 'Staff'!
Welcome 'staff'.
You can manage the system.
----- MAIN PANEL ----- (q to exit)

ENTER (1) TO ADD A NEW USER
ENTER (2) TO ADD A NEW BOOK
ENTER (3) TO REMOVE A BOOK
ENTER (4) TO VIEW USERS
ENTER (5) TO VIEW BOOKS
1
----- ADD USER ----- (q to return main panel)

ENTER A NAME :
enre
ENTER A PASSWORD :
and
ENTER AUTHORITY (1 for User , 2 for Staff) :
1
This name was taken, please enter a different name
ENTER A NAME :
1
```

6. Running and Results

7. PART 2

C de verileri saklamak ve dışarıdan erişimi kısıtlamak structlar ve pointer lar ile mümkündür.Örneğin struct pointerına bir isim verip onun üzerinde değişken oluşturmaya çalışalım.İçindeki verilere doğrudan erişmeye çalıştığımızda compiler bu pointerın gösterdiği yerde ne kadar veri olduğunu bilemeyeceğinden doğrudan erişme hakkımız olmaz ve member ları değiştiremeyiz veya ilklendiremeyiz.Bunu yapmak için ve fonksiyonlar yazarız ve bu fonksiyonlar struct pointer için yer alıp ilklendirme veya set etme işlevlerini gerçekleştirebilir.Bu şekilde veriyi dışarıdan doğrudan erişimi engellemiş oluruz ve kullanıcı yine veriye fonksiyonlarla erişmiş,değiştirmiş ve ilklendirmiş olur.