SYSTEM DESIGN

Team members:

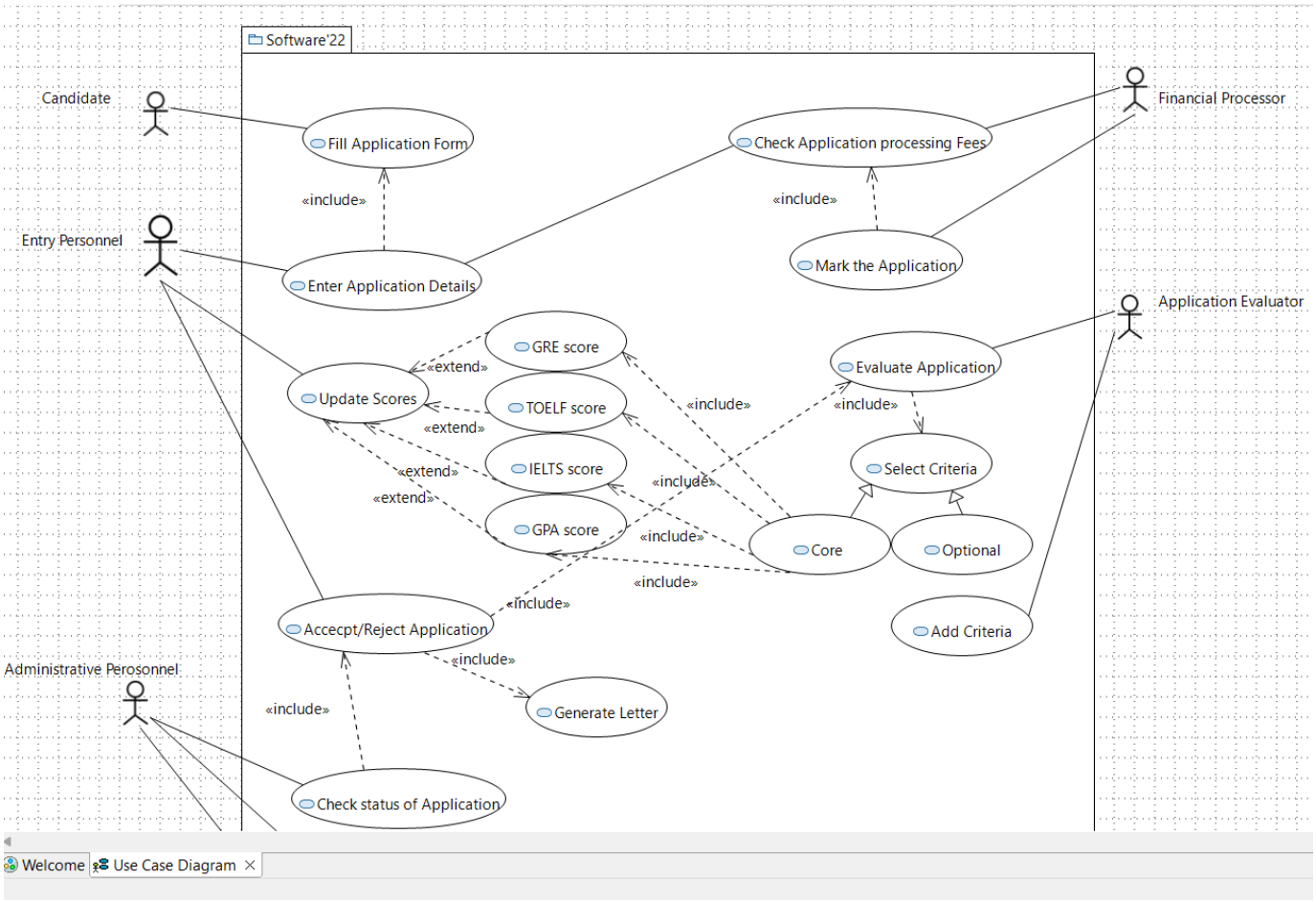
Ehtesham Zafar k20-1655

Hassan Ali k20-1052

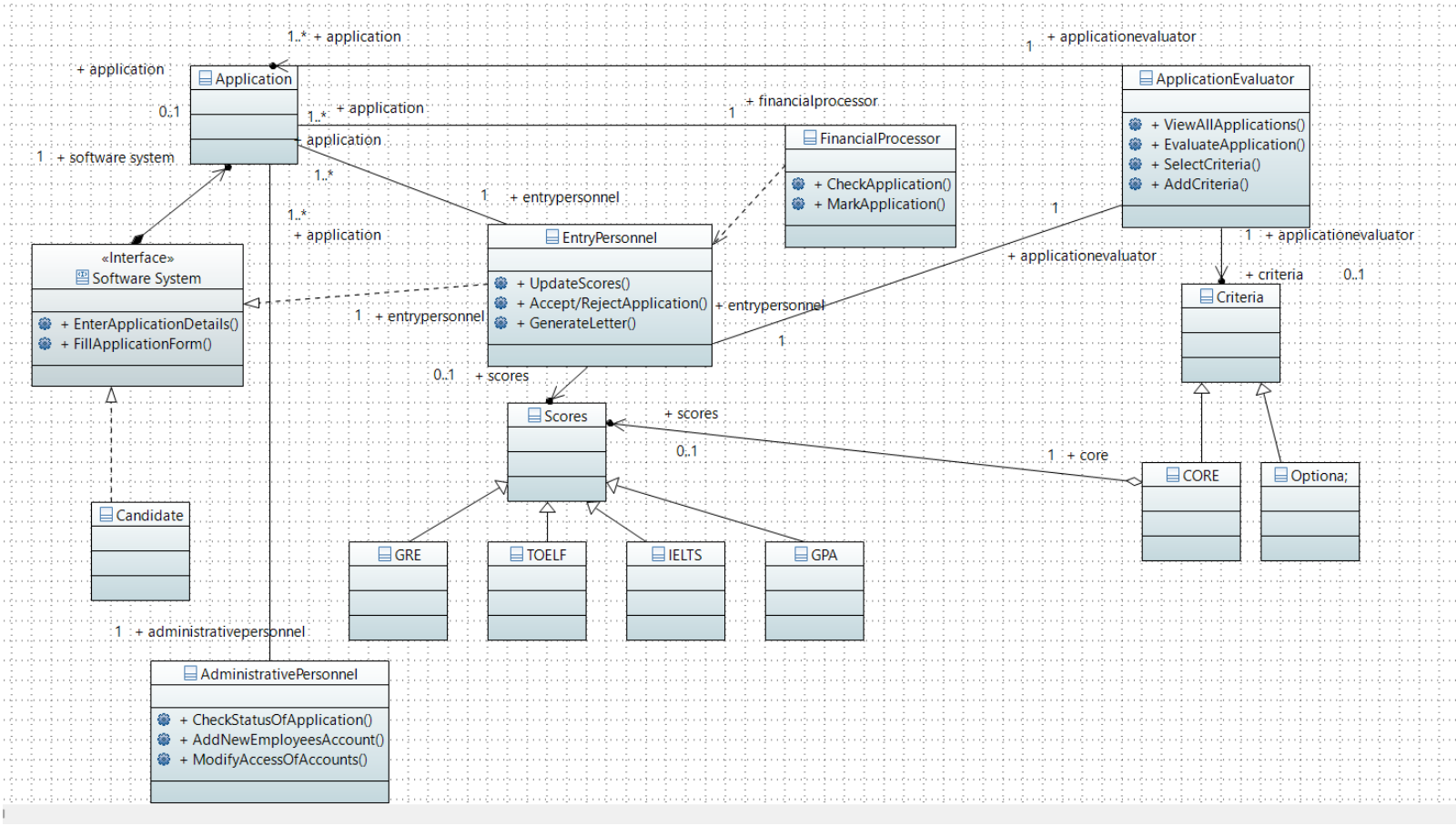
Raza Abidi k20-1061

Q1.

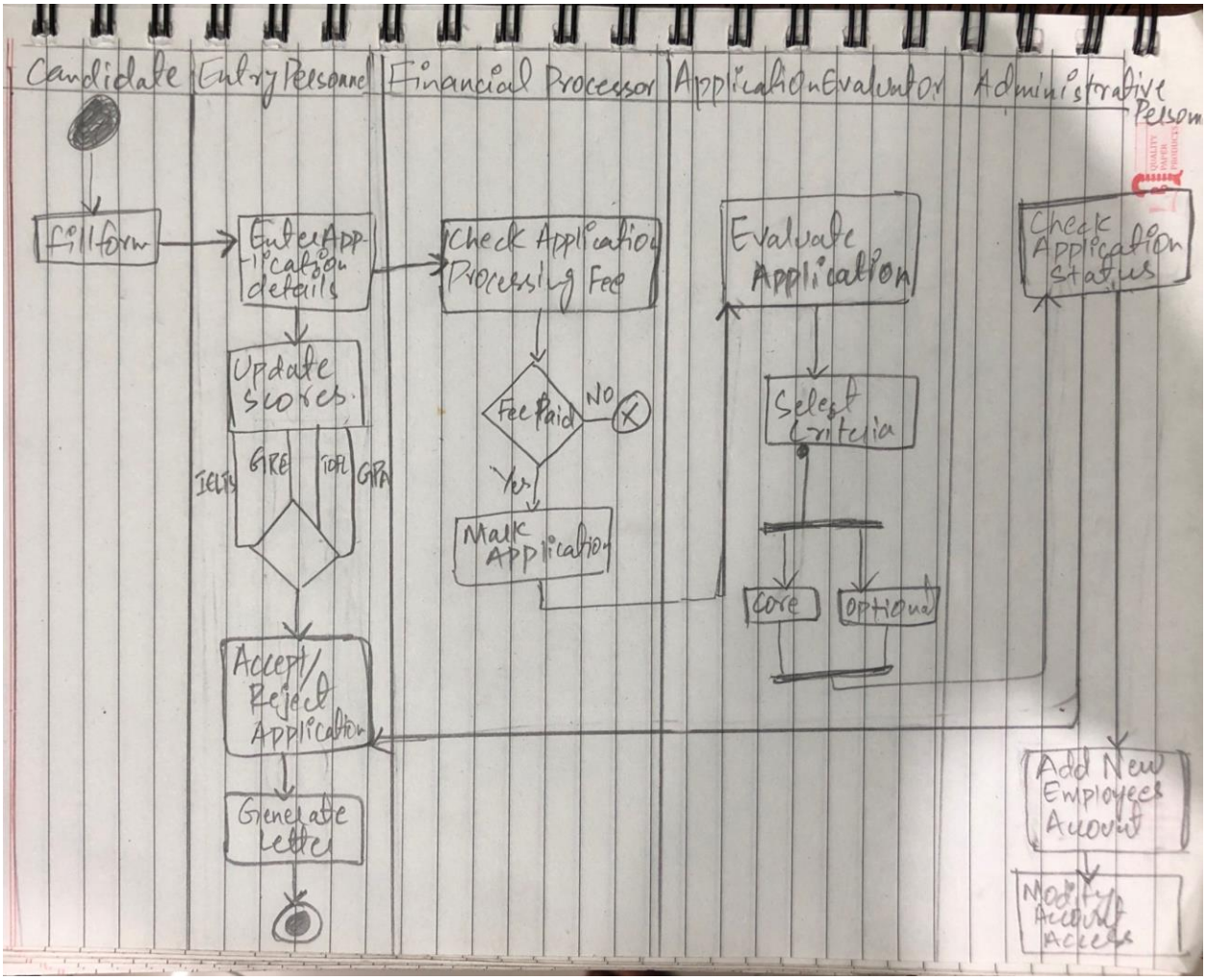
a)


Software'22
Candidate
Entry Personnel
Administrative Perosonnel
Financial Processor
Application Evaluator
Fill Application Form
Check Application processing Fees
Enter Application Details
Mark the Application
GRE score
Update Scores
TOELF score
IELTS score
GPA score
Evaluate Application
Select Criteria
Core
Optional
Add Criteria
Accecpt/Reject Application
Generate Letter
Check status of Application
«include»
«extend»
Welcome
Use Case Diagram
Check status of Application
Add New Emplyees Account
Modify Access of Accounts

b)

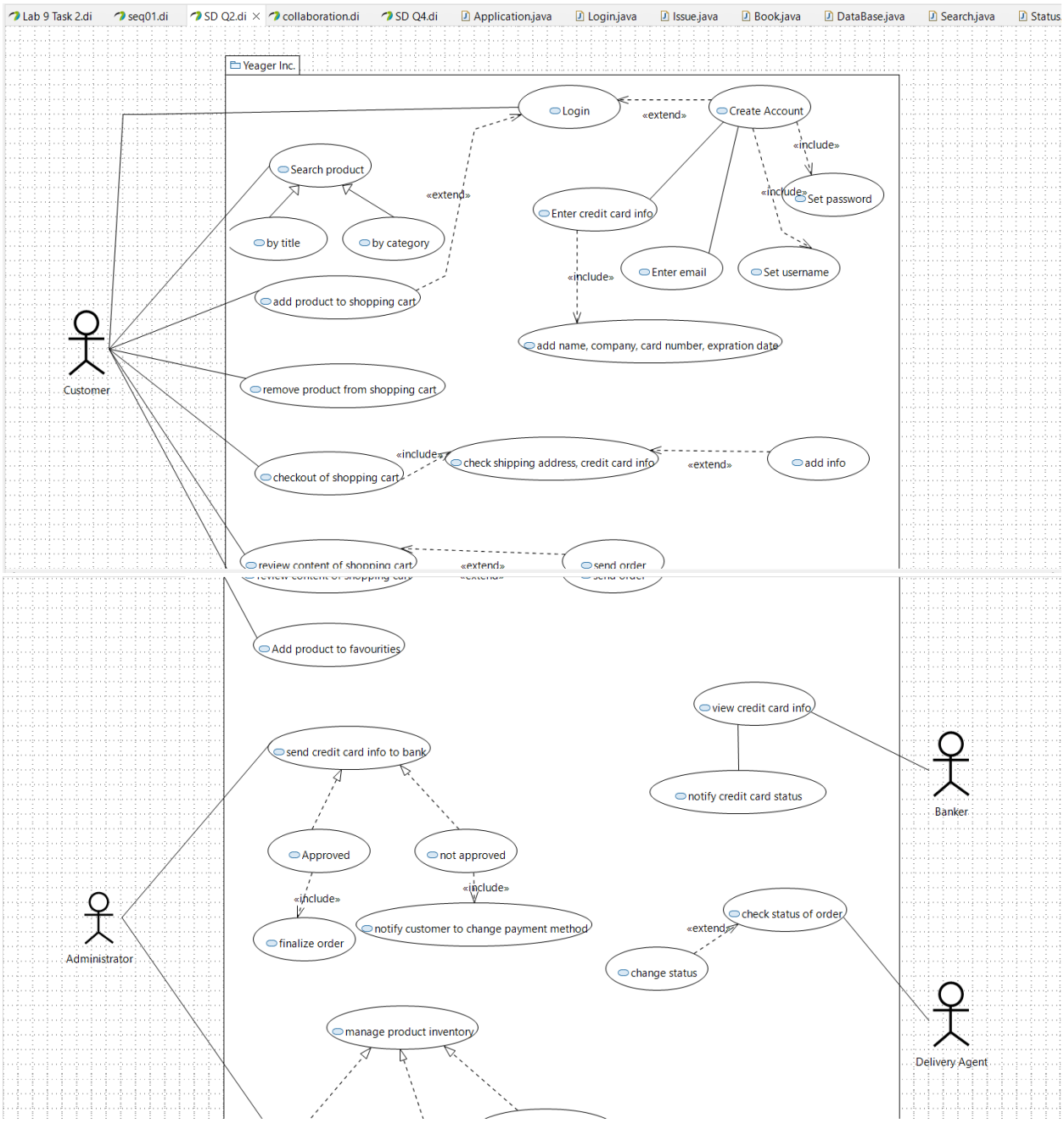

Application
ApplicationEvaluator
FinancialProcessor
EntryPersonnel
«Interface»
Software System
Candidate
Scores
Criteria
CORE
Optiona;
GRE
TOELF
IELTS
GPA
AdministrativePersonnel
+ ViewAllApplications()
+ EvaluateApplication()
+ SelectCriteria()
+ AddCriteria()
+ CheckApplication()
+ MarkApplication()
+ UpdateScores()
+ Accept/RejectApplication()
+ GenerateLetter()
+ EnterApplicationDetails()
+ FillApplicationForm()
+ CheckStatusOfApplication()
+ AddNewEmployeesAccount()
+ ModifyAccessOfAccounts()
1..* + application
+ application
0..1
1..*
application
1 + software system
1..*
1 + entrypersonnel
1..*
+ application
+ financialprocessor
1
1 + applicationevaluator
1
+ applicationevaluator
1 + applicationevaluator
+ criteria
0..1
1 + entrypersonnel
+ entrypersonnel
1
0..1 + scores
+ scores
0..1
1 + core
1 + administrativepersonnel

c)

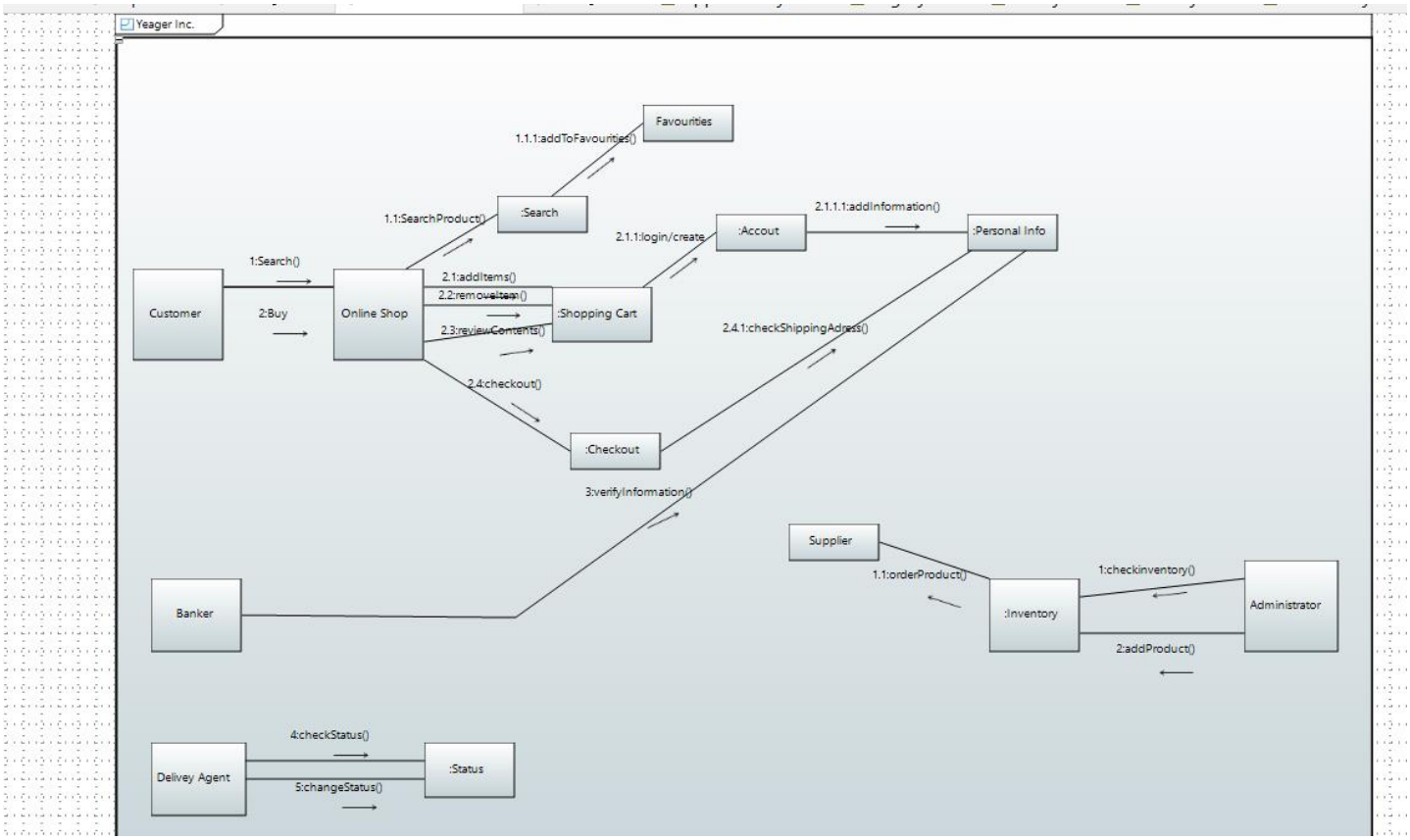

Candidate
Entry Personnel
Financial Processor
Application Evaluator
Administrative Person
Fill form
Enter Application details
Update scores
IELTS
GRE
TOFL
GPA
Accept/ Reject Application
Generate Letter
Check Application Processing Fee
Fee Paid
NO
Yes
Mail Application
Evaluate Application
Select Criteria
Core
Optional
Check Application Status
Add New Employees Account
Modify Account Access

QUESTION 2

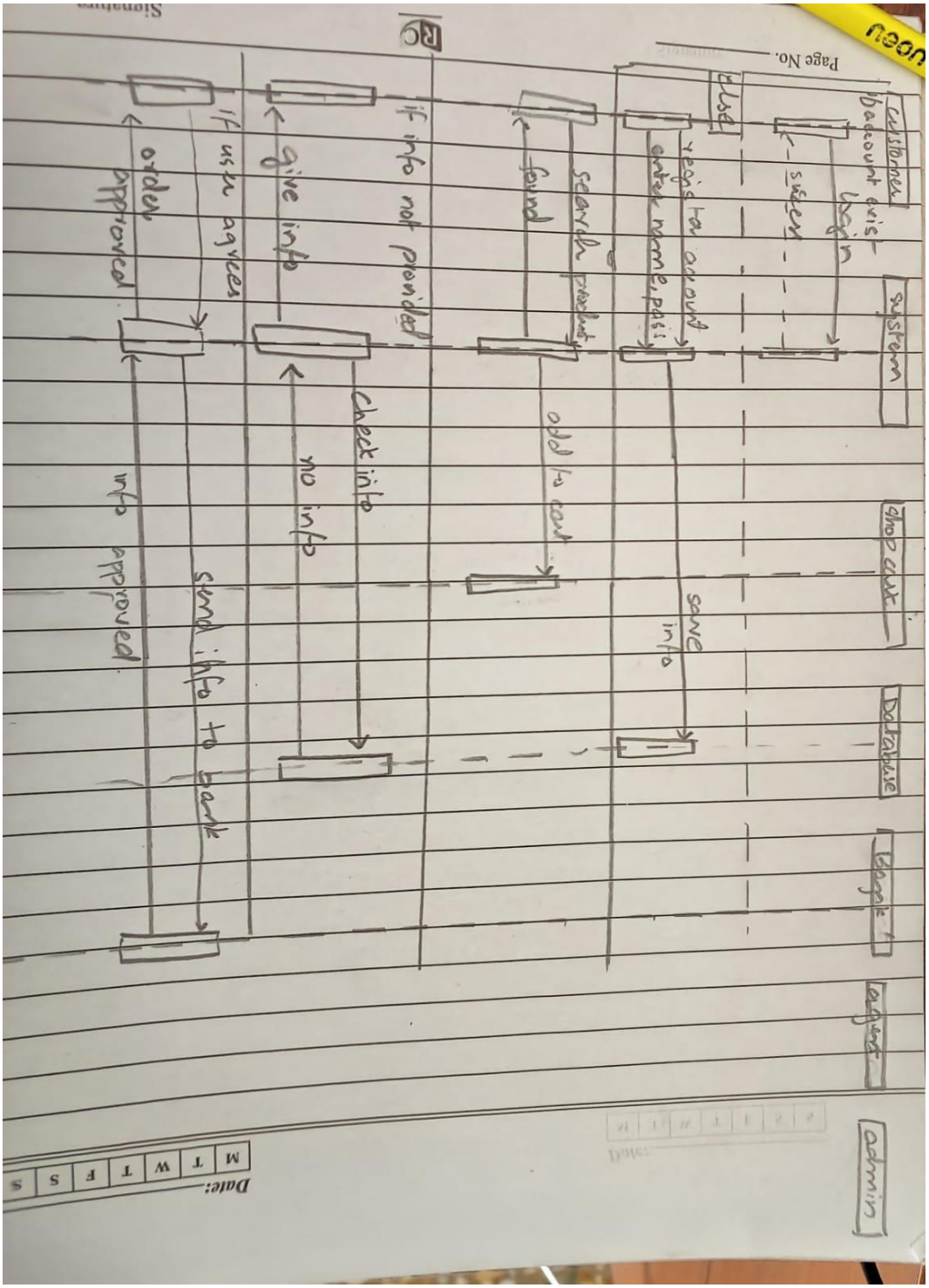
a)

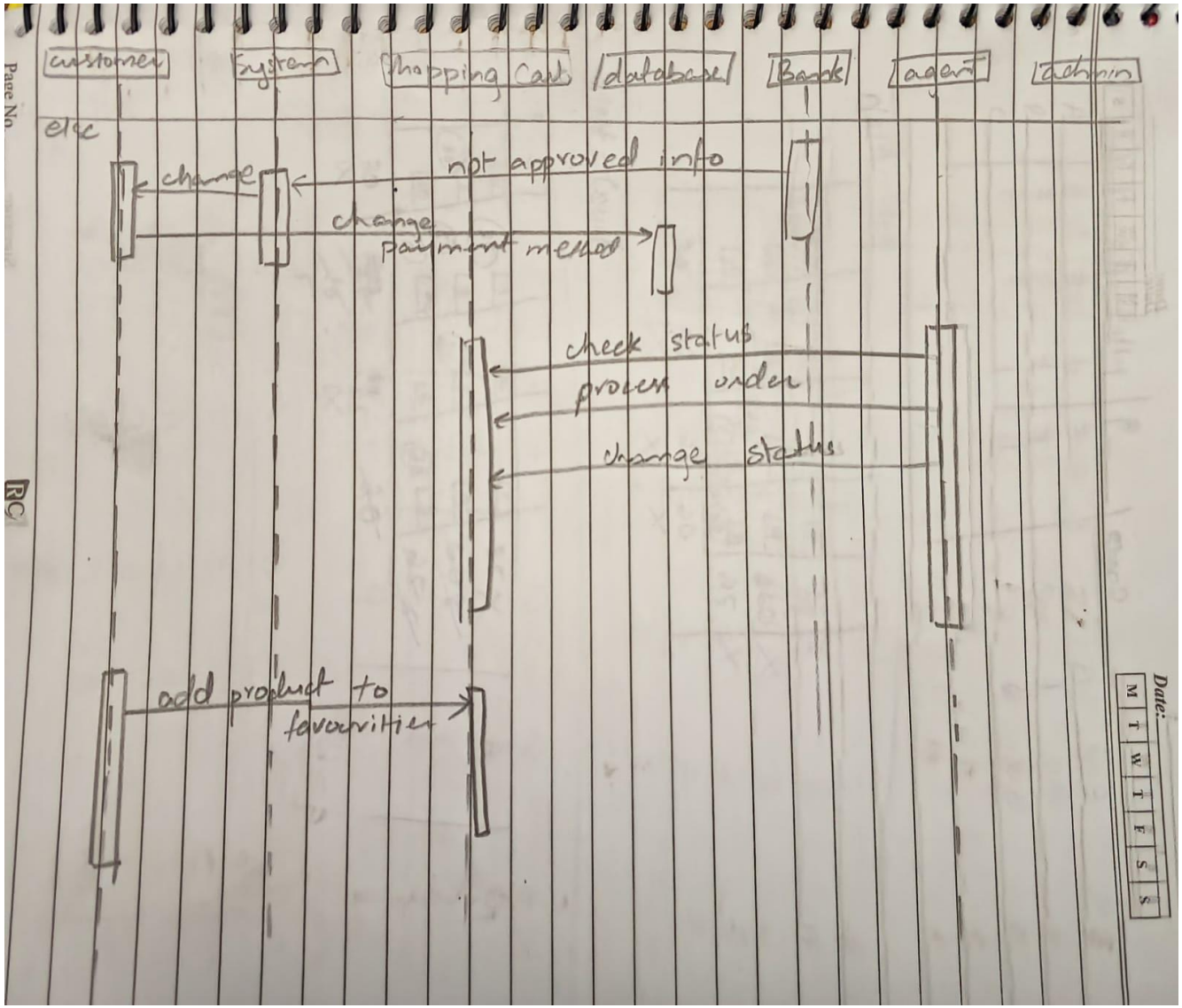

Lab 9 Task 2.di
seq01.di
SD Q2.di
collaboration.di
SD Q4.di
Application.java
Login.java
Issue.java
Book.java
DataBase.java
Search.java
Status
Yeager Inc.
Login
Create Account
«extend»
«include»
Search product
«extend»
Enter credit card info
«include»
Set password
by title
by category
Enter email
Set username
«include»
add product to shopping cart
add name, company, card number, expration date
Customer
remove product from shopping cart
«include»
check shipping address, credit card info
«extend»
add info
checkout of shopping cart
review content of shopping cart
«extend»
send order
Add product to favourities
view credit card info
send credit card info to bank
notify credit card status
Banker
Approved
not approved
«include»
«include»
finalize order
notify customer to change payment method
check status of order
«extend»
change status
Administrator
manage product inventory
Delivery Agent

b)


Yeager Inc.
Favourities
1.1.1:addToFavourities()
:Search
1.1:SearchProduct()
2.1.1.1:addInformation()
:Accout
:Personal Info
2.1.1:login/create
1:Search()
Customer
2:Buy
Online Shop
2.1:addItems()
2.2:removeItem()
2.3:reviewContents()
:Shopping Cart
2.4.1:checkShippingAdress()
2.4:checkout()
:Checkout
3:verifyInformation()
Supplier
1.1:orderProduct()
1:checkinventory()
:Inventory
Administrator
2:addProduct()
Banker
4:checkStatus()
Delivey Agent
:Status
5:changeStatus()

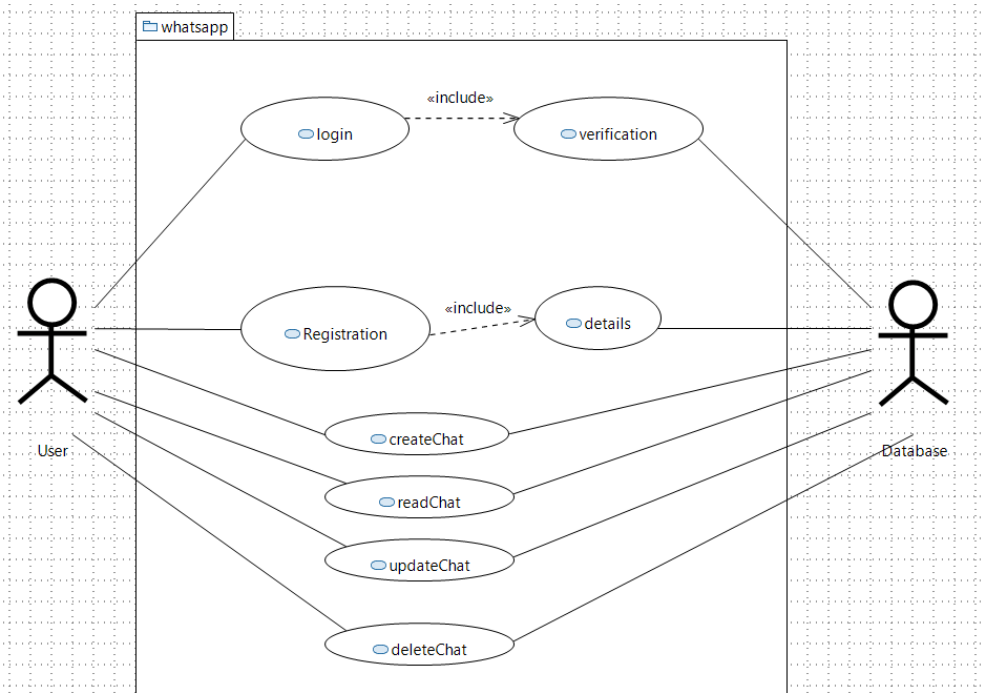
C)


customer
account exist
login
success
else
register account
enter name, pass
search product
found
if info not provided
give info
if user agrees
order approved
check info
no info
add to cart
save info
info approved
send info to bank
system
shop cart
Database
Bank
agent
admin

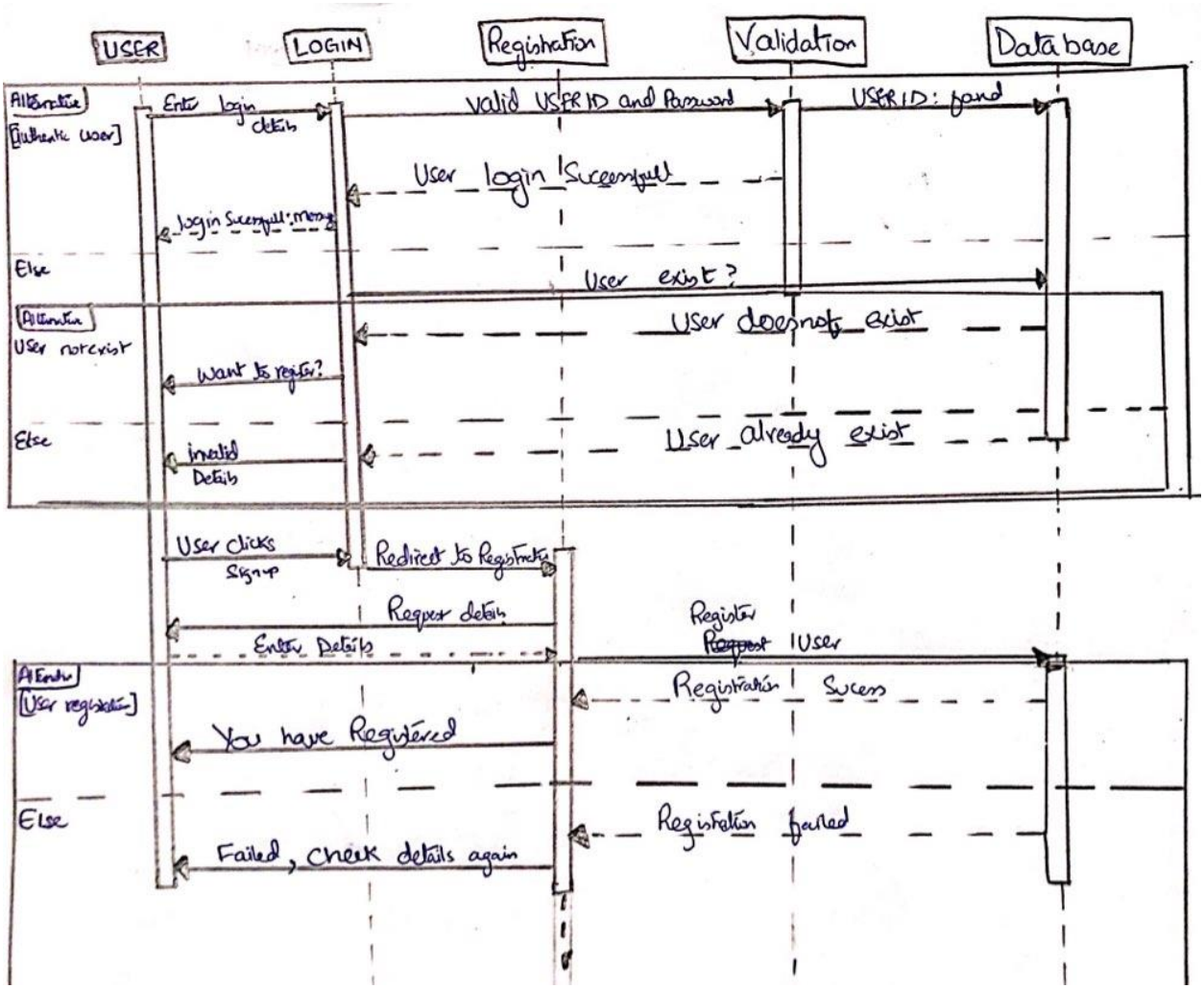

customer
system
shopping cart
database
Bank
agent
admin
etc
change
not approved info
change payment method
check status
process order
change status
add product to favorities

Question 3

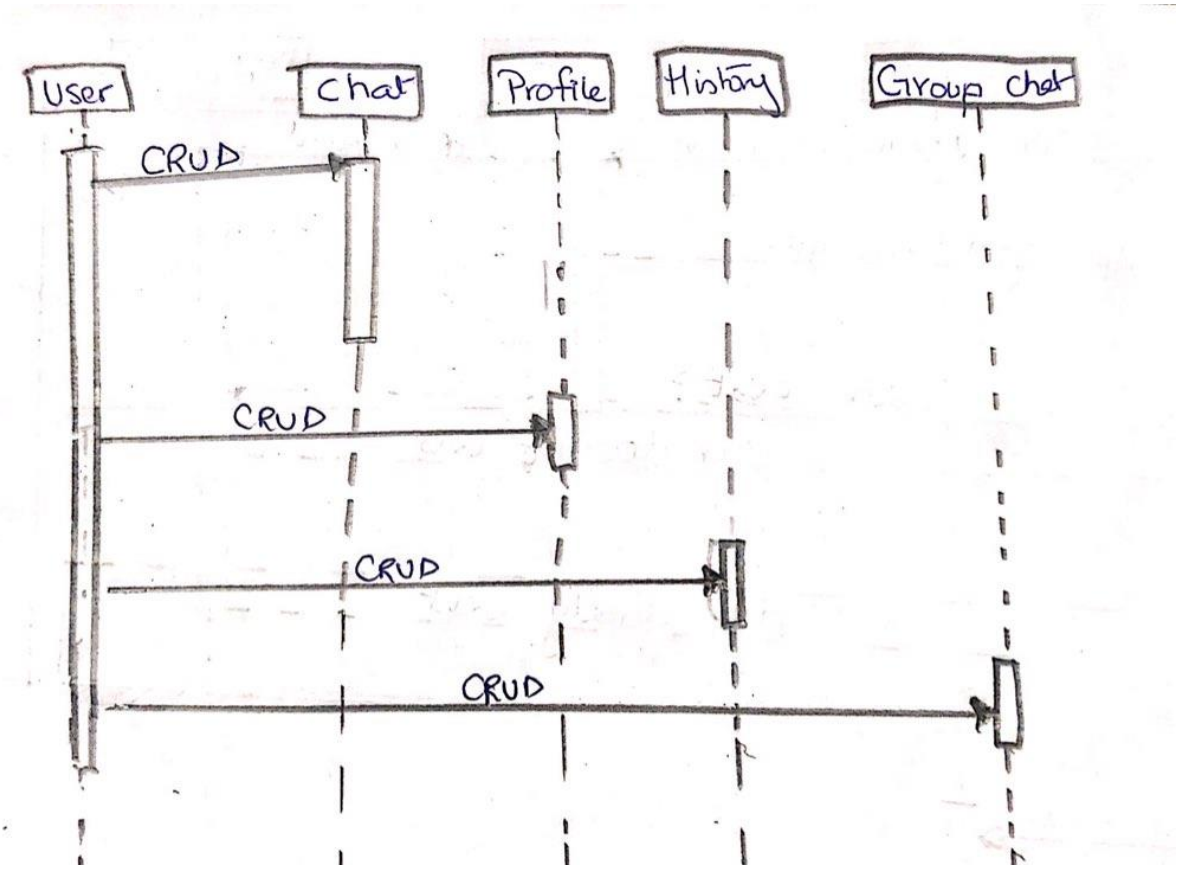
a)


whatsapp
«include»
login
verification
Registration
«include»
details
User
Database
createChat
readChat
updateChat
deleteChat

b)


USER
LOGIN
Registration
Validation
Database
Alternative
[Authentic user]
Enter login details
Valid USERID and Password
USERID: found
User login Successfull
login Successfull: msg
Else
User exist?
Alternative
User not exist
User doesn't exist
Want to register?
Else
invalid Details
User already exist
User clicks Signup
Redirect to Registration
Request details
Enter Details
Register Request User
Alternative
[User registration]
Registration Sucess
You have Registered
Else
Registration failed
Failed, check details again

c)



QUESTION 4

a) Objects: User, Login, Book, Database

Functionalities:

1) Enter your details.
2) Verify details.
3) Search for a book.
4) Issue Book.
5) Pay the fine if the due date is passed.
6) Update database.

b)

```
public class Application {

    /**
     *
     */
    public void issueBook() {
        // TODO Auto-generated method
     }

    /**
     *
     */
    public void returnBook() {
        // TODO Auto-generated method
     }

}
```

Lab 9 Task 2.di | seq01.di | SD Q2.di | collaboration.di | SD Q4.di | Application.java | Login.java × | Issue.java

```java
public class Login {

    /**
     *
     */
    public String password;
    /**
     *
     */
    private int user_ID;

    /**
     *
     */
    public void verifyDetails() {
        // TODO Auto-generated method
     }

    /**
     *
     */
    public void enterDetails() {
        // TODO Auto-generated method
     }

    /**
     * Getter of password
     */
    public String getPassword() {
         return password;
    }

    /**
     * Setter of password
     */
    public void setPassword(String password) {
```

Lab 9 Task 2.di | seq01.di | SD Q2.di | collaboration.di | SD Q4.di | Application.java | Login.java | Issue.java × | Book.java

```java
import java.util.List;

public class Issue {

    /**
     *
     */
    public List<Book> book;

    /**
     * Getter of book
     */
    public List<Book> getBook() {
         return book;
    }

    /**
     * Setter of book
     */
    public void setBook(List<Book> book) {
         this.book = book;
    }

    /**
     *
     */
    public void issueBook() {
        // TODO Auto-generated method
     }

}
```

Lab 9 Task 2.di | seq01.di | SD Q2.di | collaboration.di | SD Q4.di | Application.java | Login.java | Issue.

```java
public class Book {

    /**
     *
     */
    public String ISBN;
    /**
     *
     */
    public String Author_name;
    public String name;
    /**
     * Getter of ISBN
     */
    public String getISBN() {
        return ISBN;
    }
    /**
     * Setter of ISBN
     */
    public void setISBN(String ISBN) {
        this.ISBN = ISBN;
    }
    /**
     * Getter of Author_name
     */
    public String getAuthor_name() {
        return Author_name;
    }
    /**
     * Setter of Author_name
     */
    public void setAuthor_name(String Author_name) {
        this.Author_name = Author_name;
    }
    /**
```

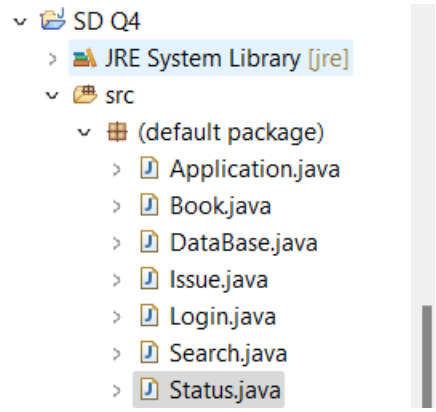
Lab 9 Task 2.di | seq01.di | SD Q2.di | collaboration.di

```java
public class DataBase {

    /**
     *
     */
    public Issue issue;

    /**
     * Getter of issue
     */
    public Issue getIssue() {
        return issue;
    }

    /**
     * Setter of issue
     */
    public void setIssue(Issue issue) {
        this.issue = issue;
    }

    /**
     *
     */
    public void updateDatabase() {
        // TODO Auto-generated method
     }

}
```

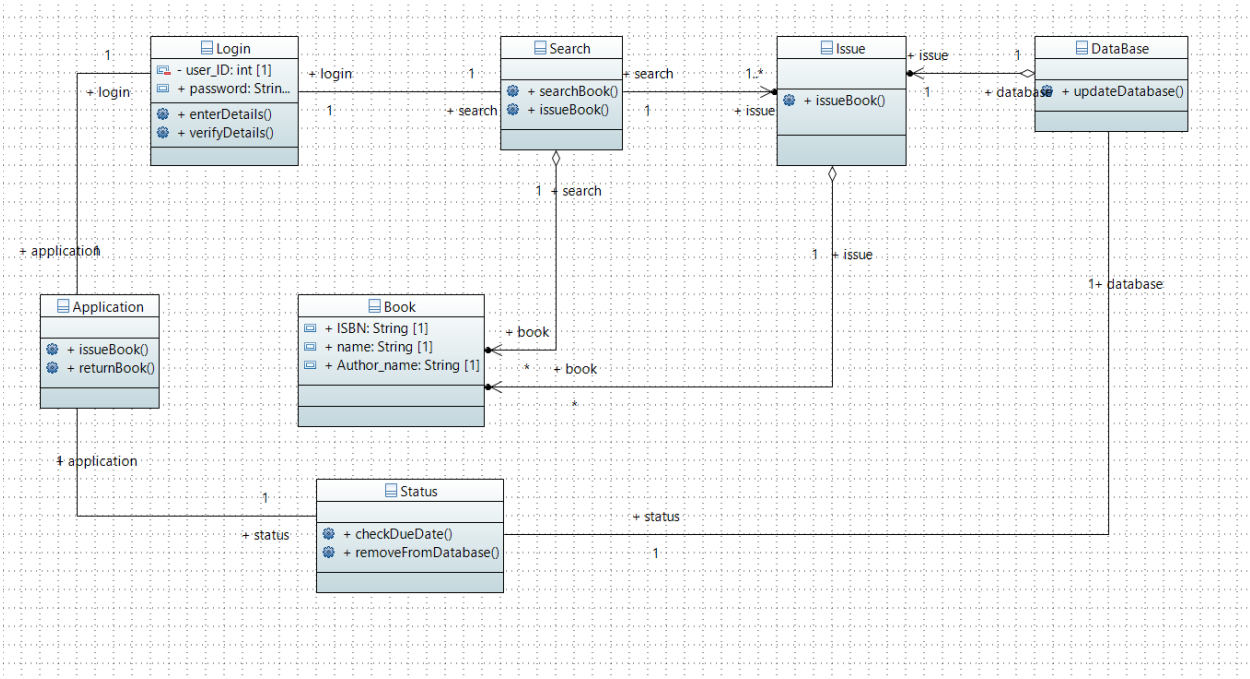
Lab 9 Task 2.di | seq01.di | SD Q2.di | collaboration.di | SD Q4.di

```java
public class Search {

    /**
     *
     */
    public List<Book> book;
    /**
     *
     */
    public List<Issue> issue;
    /**
     * Getter of book
     */
    public List<Book> getBook() {
        return book;
    }
    /**
     * Setter of book
     */
    public void setBook(List<Book> book) {
        this.book = book;
    }
    /**
     * Getter of issue
     */
    public List<Issue> getIssue() {
        return issue;
    }
    /**
     * Setter of issue
     */
    public void setIssue(List<Issue> issue) {
        this.issue = issue;
    }
    /**
     *
     */
```

```java
public class Status {

    /**
     *
     */
    public void checkDueDate() {
        // TODO Auto-generated method
    }

    /**
     *
     */
    public void removeFromDatabase() {
        // TODO Auto-generated method
    }

}
```



c)


Login
- user_ID: int [1]
+ password: Strin...
+ enterDetails()
+ verifyDetails()
Search
+ searchBook()
+ issueBook()
Issue
+ issueBook()
DataBase
+ updateDatabase()
Application
+ issueBook()
+ returnBook()
Book
+ ISBN: String [1]
+ name: String [1]
+ Author_name: String [1]
Status
+ checkDueDate()
+ removeFromDatabase()
+ login
+ search
+ issue
+ database
+ application
+ book
+ status
1
*