

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT on

OBJECT ORIENTED MODELING AND DESIGN

Submitted by

ALOK KUMAR RASTOGI(1BM19CS192)

in partial fulfillment for the award of the degree of
BACHELOR OF ENGINEERING
in
COMPUTER SCIENCE AND ENGINEERING



B.M.S. COLLEGE OF ENGINEERING

(Autonomous Institution under VTU)

BENGALURU-560019

April-2022 to July-2022

**B. M. S. College of Engineering,
Bull Temple Road, Bangalore 560019**
(Affiliated To Visvesvaraya Technological University, Belgaum)
Department of Computer Science and Engineering



CERTIFICATE

This is to certify that the Lab work entitled "**OBJECT ORIENTED MODELING AND DESIGN**" carried out by **ALOK KUMAR RASTOGI (1BM19CS192)**, who is bonafide student of **B. M. S. College of Engineering**. It is in partial fulfillment for the award of **Bachelor of Engineering in Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the academic year 2021-2022. The Lab report has been approved as it satisfies the academic requirements in respect of an **OBJECT-ORIENTED MODELING AND DESIGN - (20CS6PCOMD)** work prescribed for the said degree.

SHYAMLA G
Assistant Professor
Department of CSE
BMSCE, Bengaluru

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Index Sheet

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Course Outcome

CO4	Ability to conduct practical experiments to solve a given problem using Unified Modeling language.
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Exercise 1: College Information System

1. Write SRS

1. College Information System

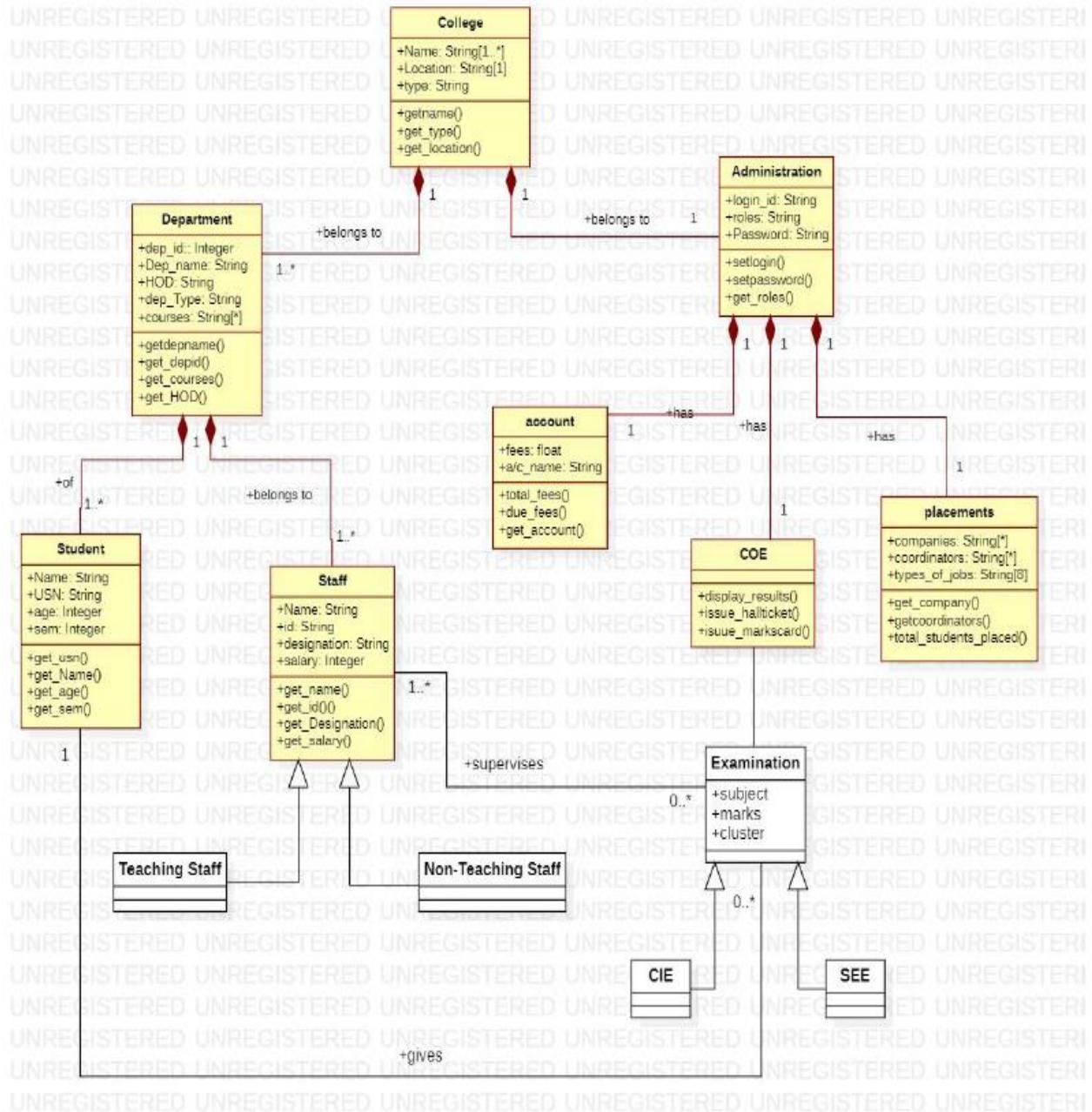
> Problem Statement:-

This System maintains Students, staff and department information. It maintains the course details, teachers and Students enrolled in specific courses. It also maintains the Admission records and Examination detail. Also provide important information related to college management and college notices.

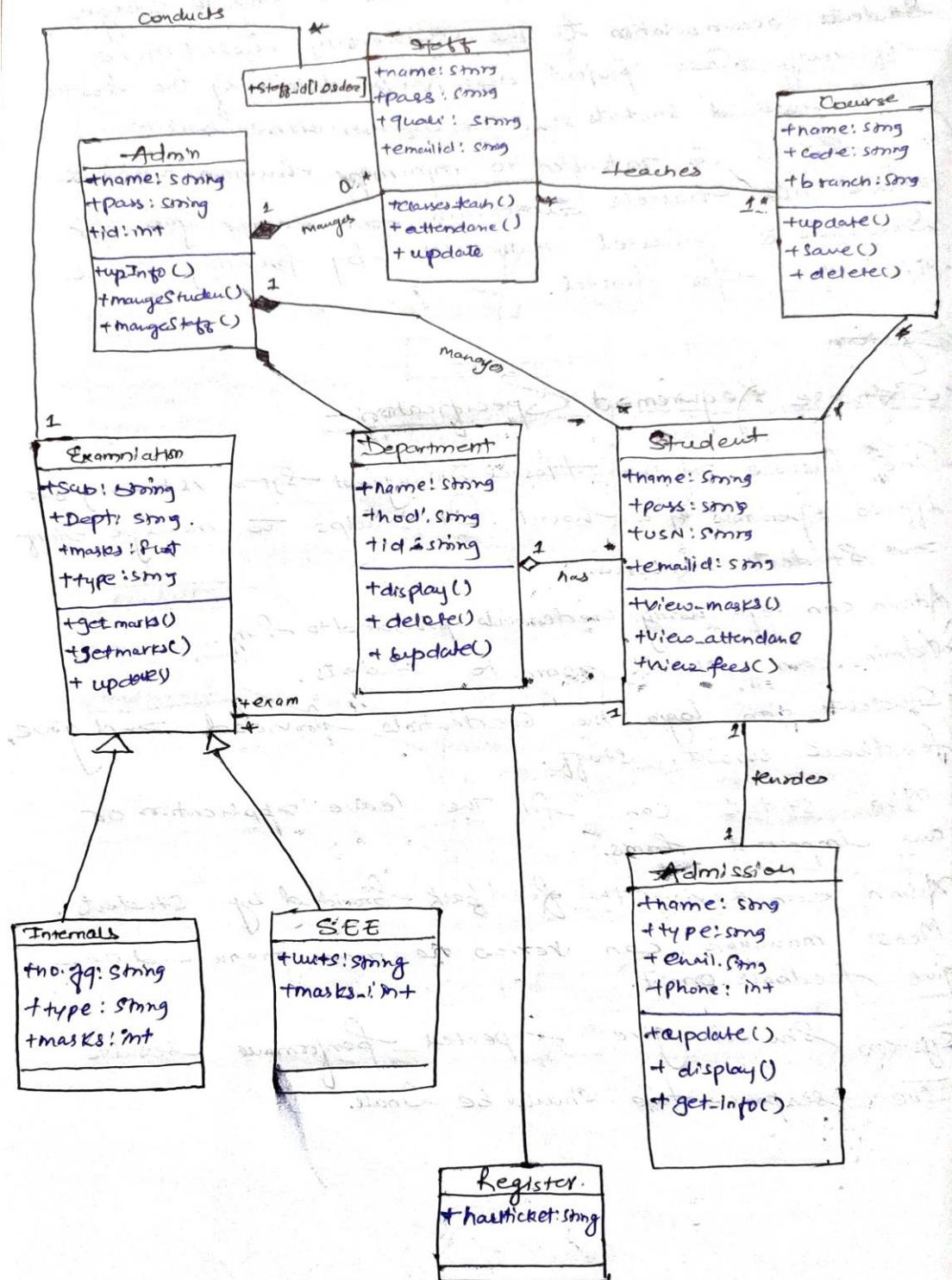
> Software Requirements Specification:-

- College Information System has admin who manages the Staff, Student and department.
- In this System user authentication will be done by login by username & password & classified by user type.
- Staff in college who teach more than One subject to & staff who are responsible for examiners for Students of the college.
- Able to edit, add, view Students personal details.
- Record of every department activities.
- Faculty should be able to view all Students personal detail and should be able to view & edit Internal evaluation marks & attendance of Students.
- Placement Section should be able to view all Student detail and add Companies coming to the campus for placements.
- Student should not be able to edit their personal details and marks.

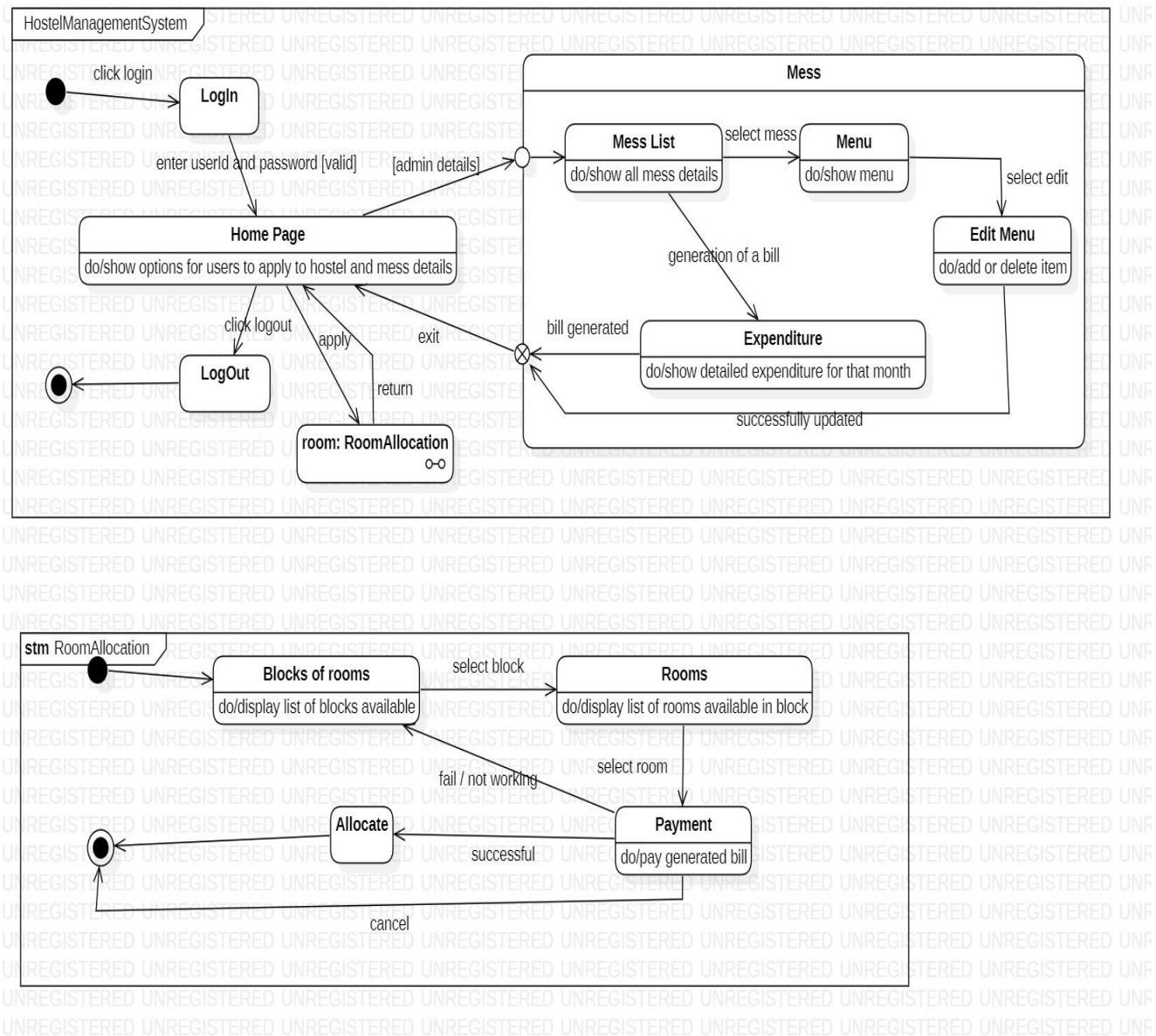
2. Draw the advanced class diagram



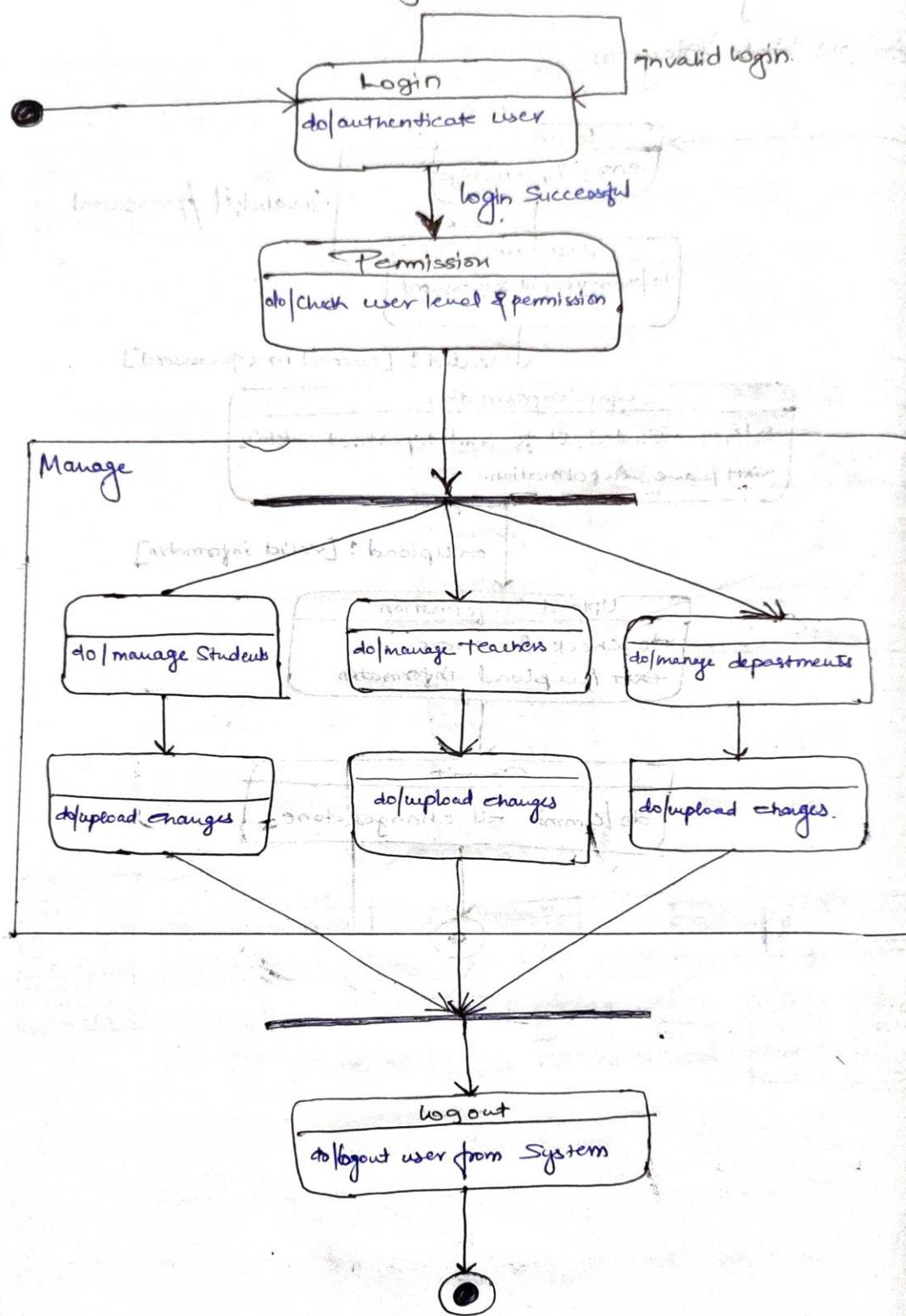
Class Diagram :- of College Information System



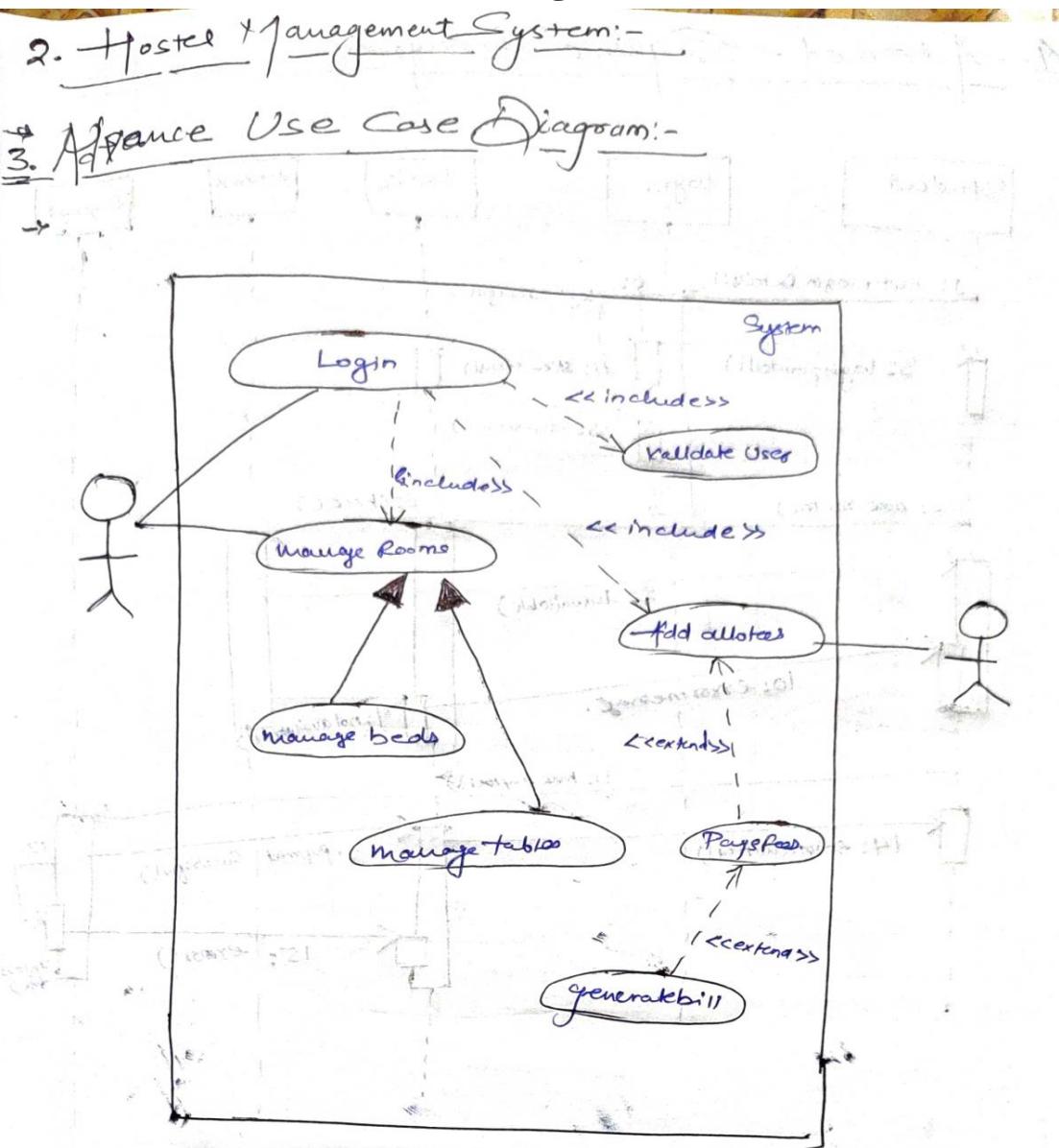
3. Draw the advanced state diagram

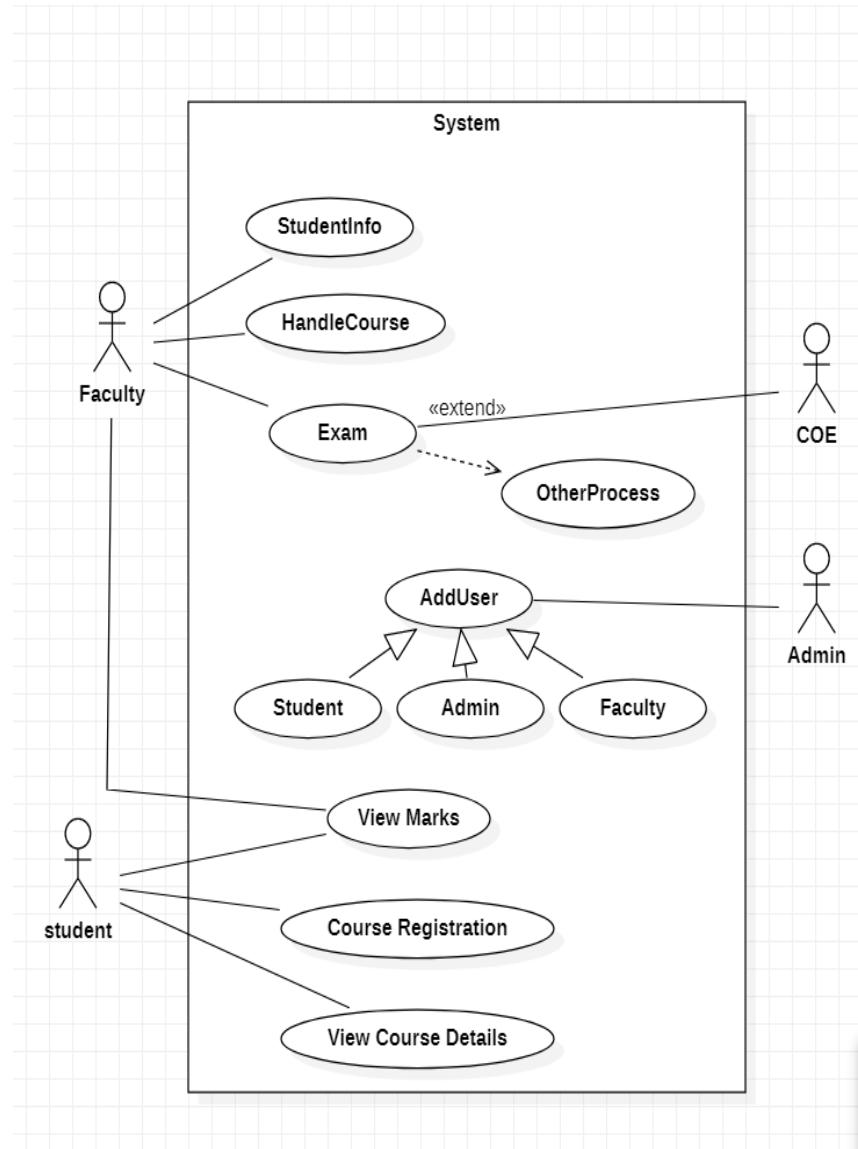


2. Advanced State Diagram:-

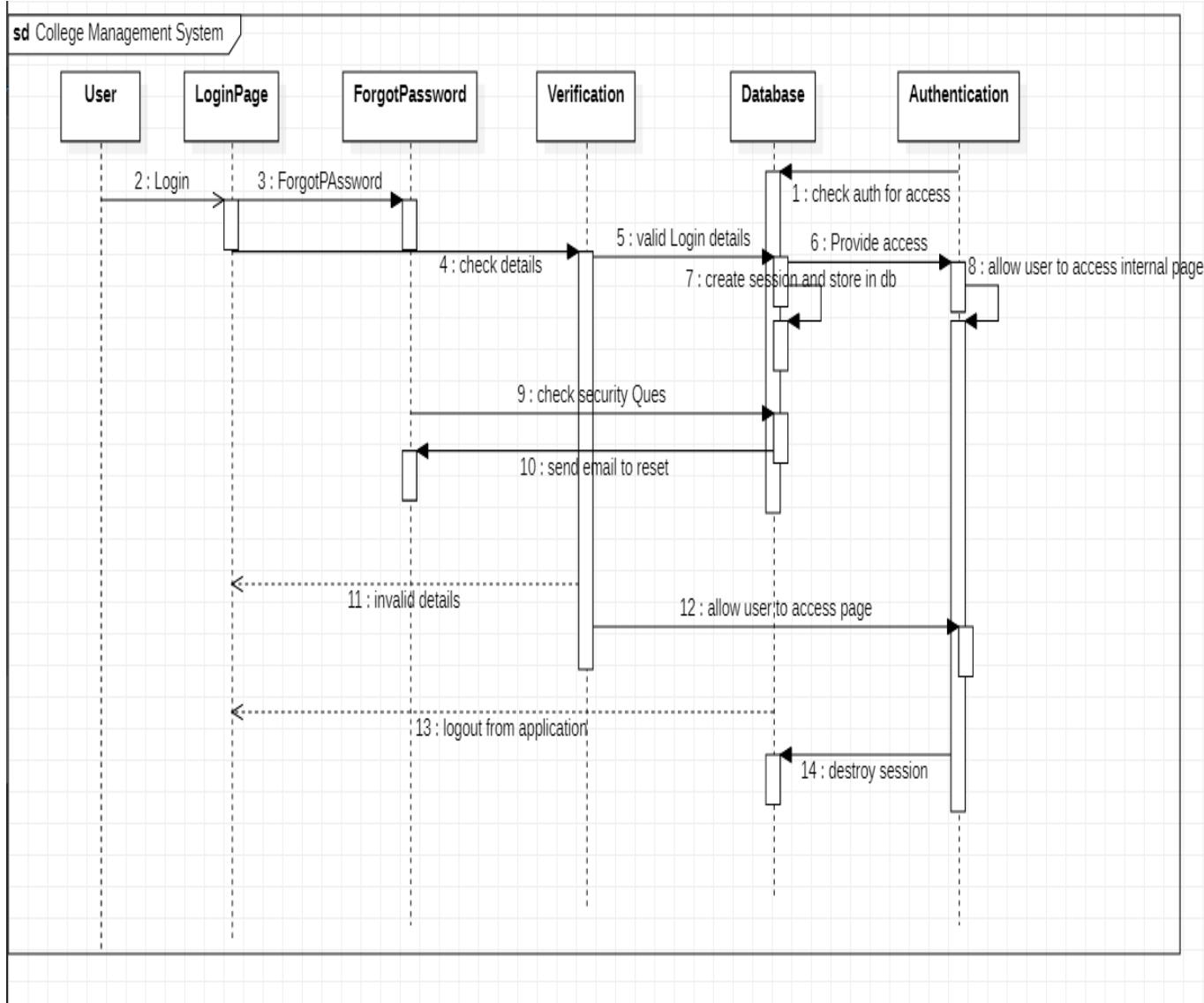


4. Draw the advanced use case diagram

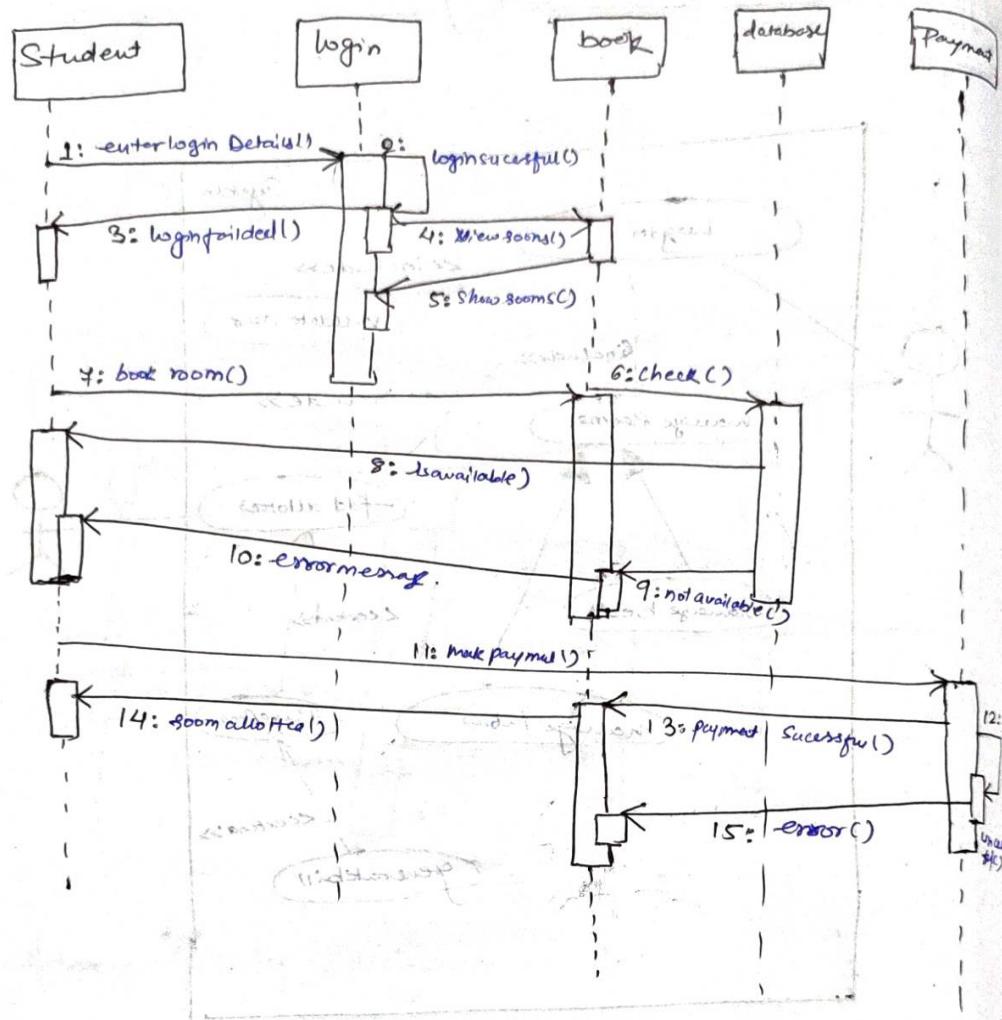




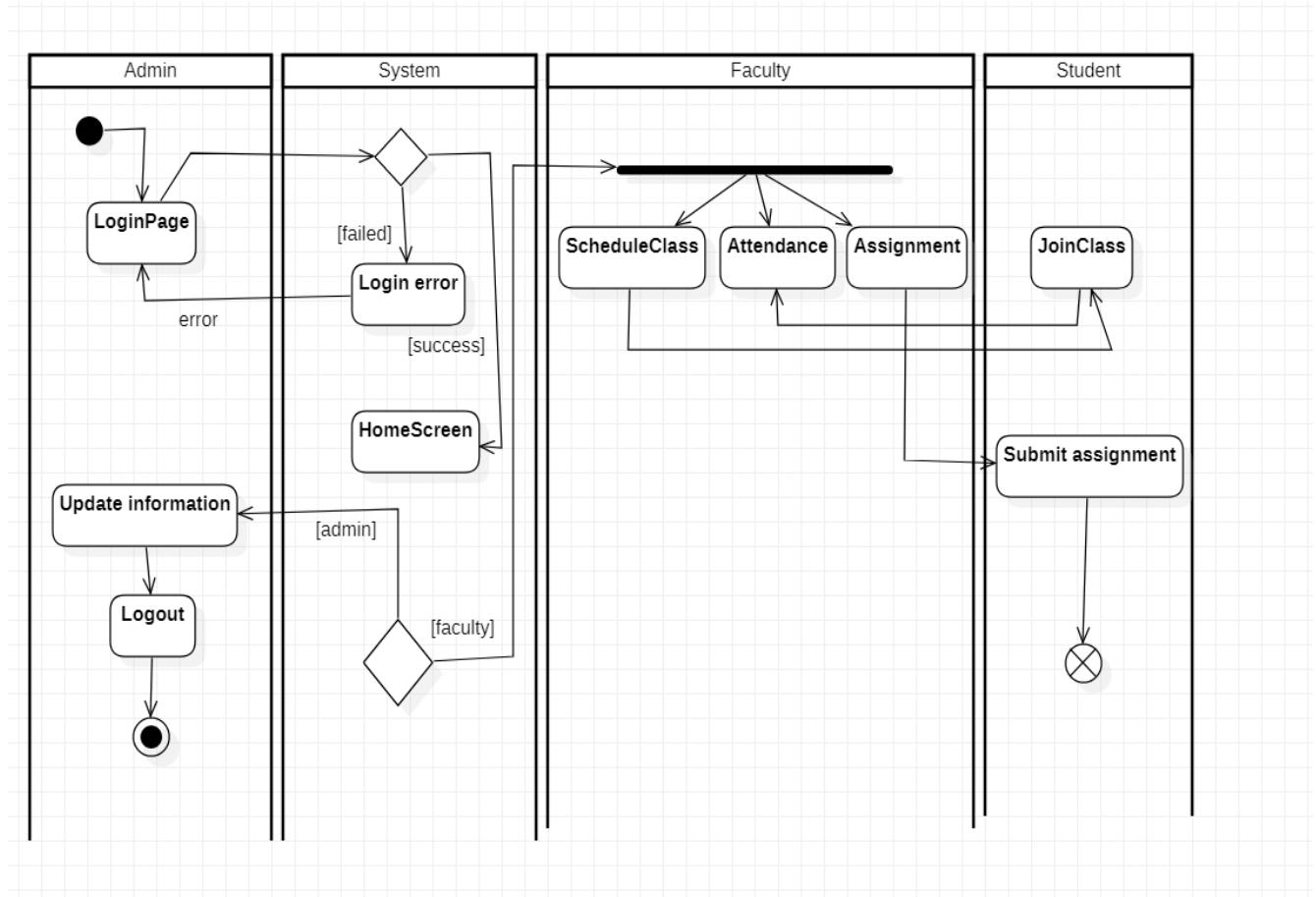
5. Draw the advanced sequence diagram



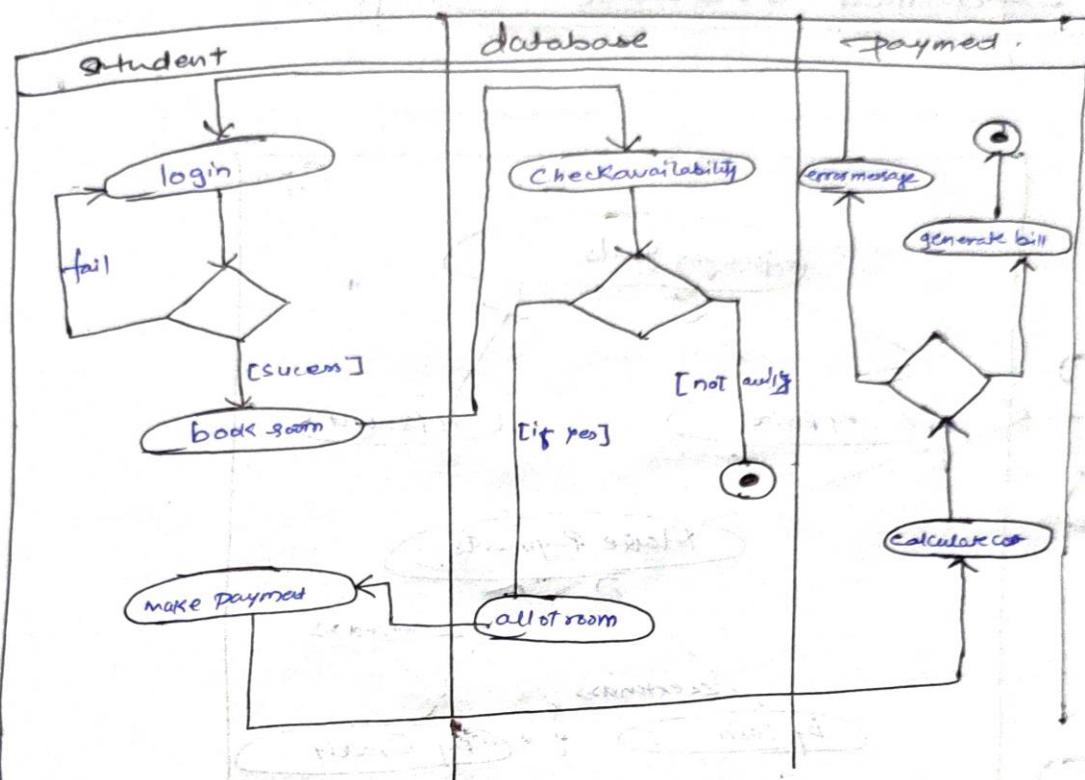
4. Advanced Sequence Diagrams:-



6. Draw the advanced activity diagram



Ex - Advanced Activity Diagram



Exercise 2: Hostel Management System

1. Write SRS

d. Hostel Management System:-

➤ Problem Statement:- This System is to provide college students accommodation to the university hostel more efficiently. This project also keeps details of the hostels and applied students and the admin will be easier.

This System is intended to minimize human works & make the hostels allocation an easier job for students & hostel authorities by providing online application for hostel.

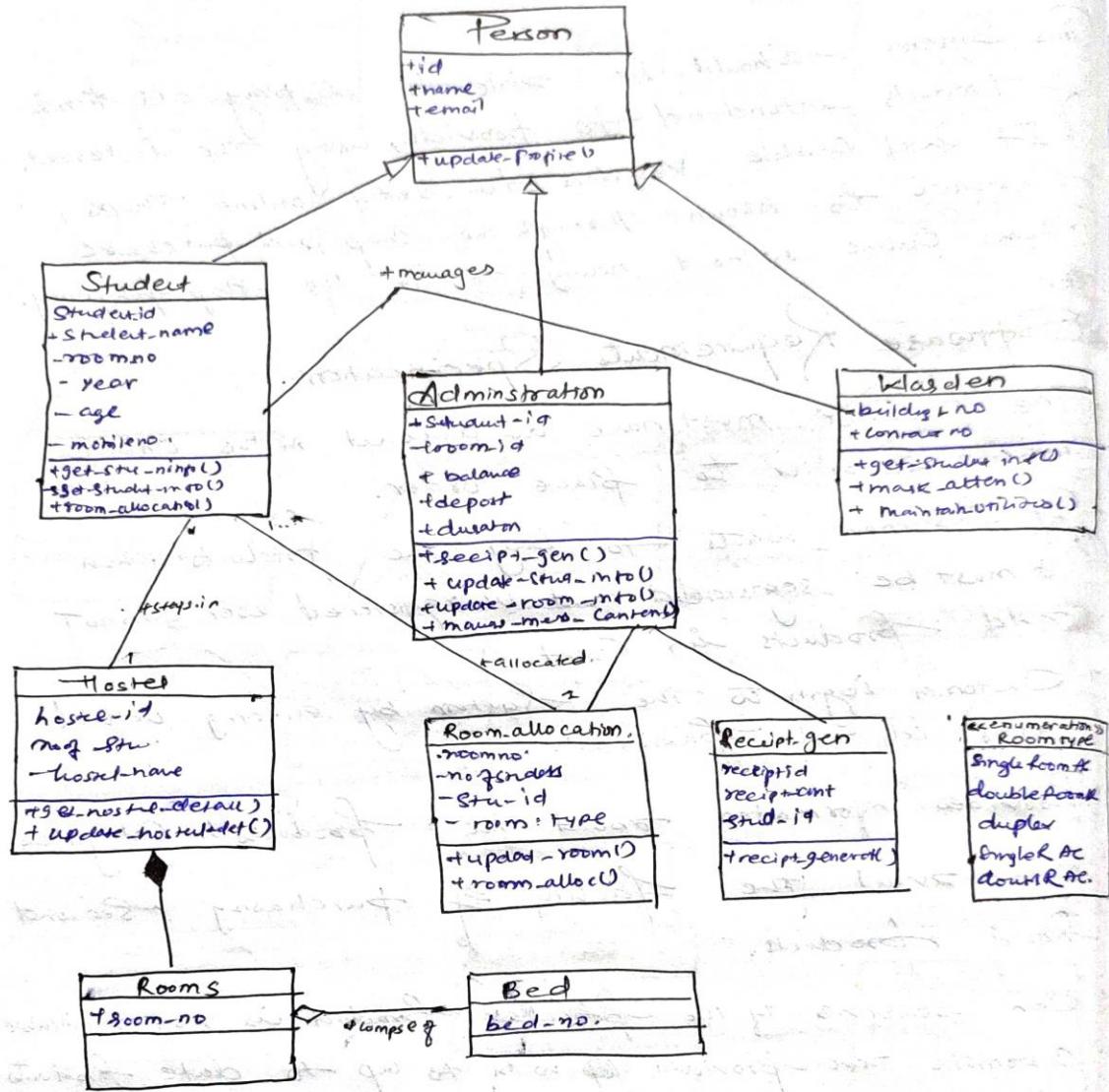
~~System~~

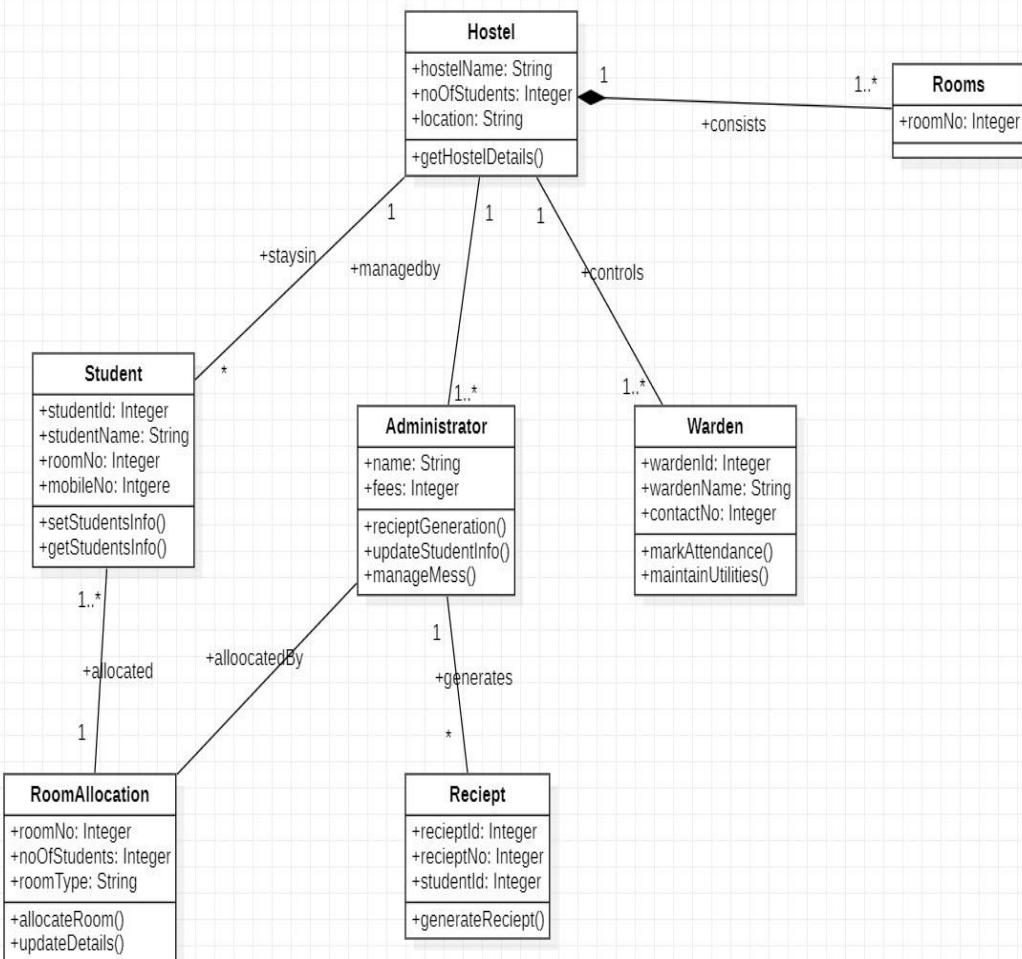
➤ Software Requirement Specification:-

- The purpose of the Hostel management System is to carry out different operations of a hostel. It helps to manage staff and students' records.
- Admin can login using credentials provided to him.
- Admin can allot room to students.
- Students can login the credentials provided and give feedback about staff.
- Also student can fill the leave application or any important forms.
- Admin can review the feedback provided by students.
- Mess managers can review the mess menu and give feedback on it.
- System should give expected performance.
- The response time should be small.

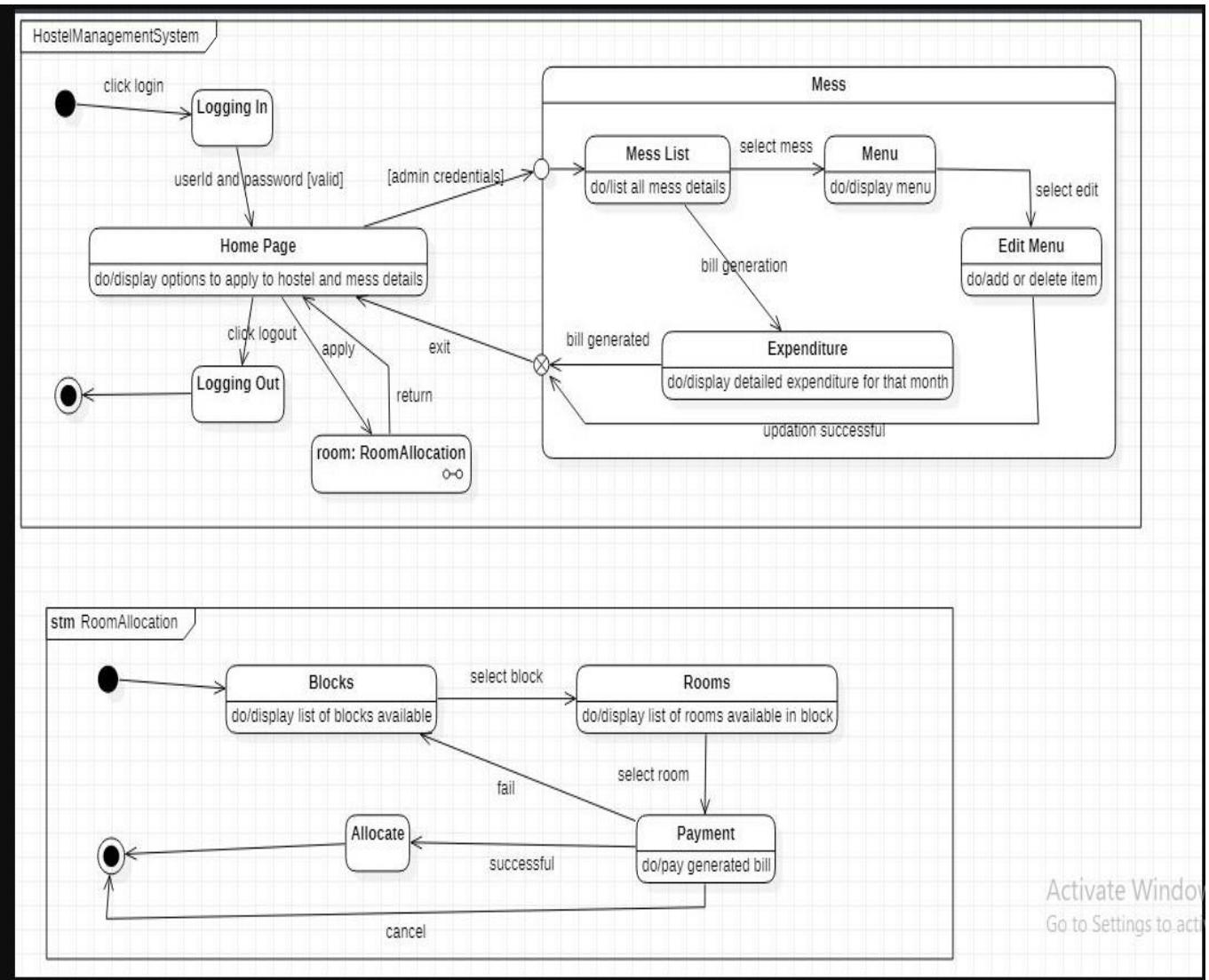
2. Draw the advanced class diagram

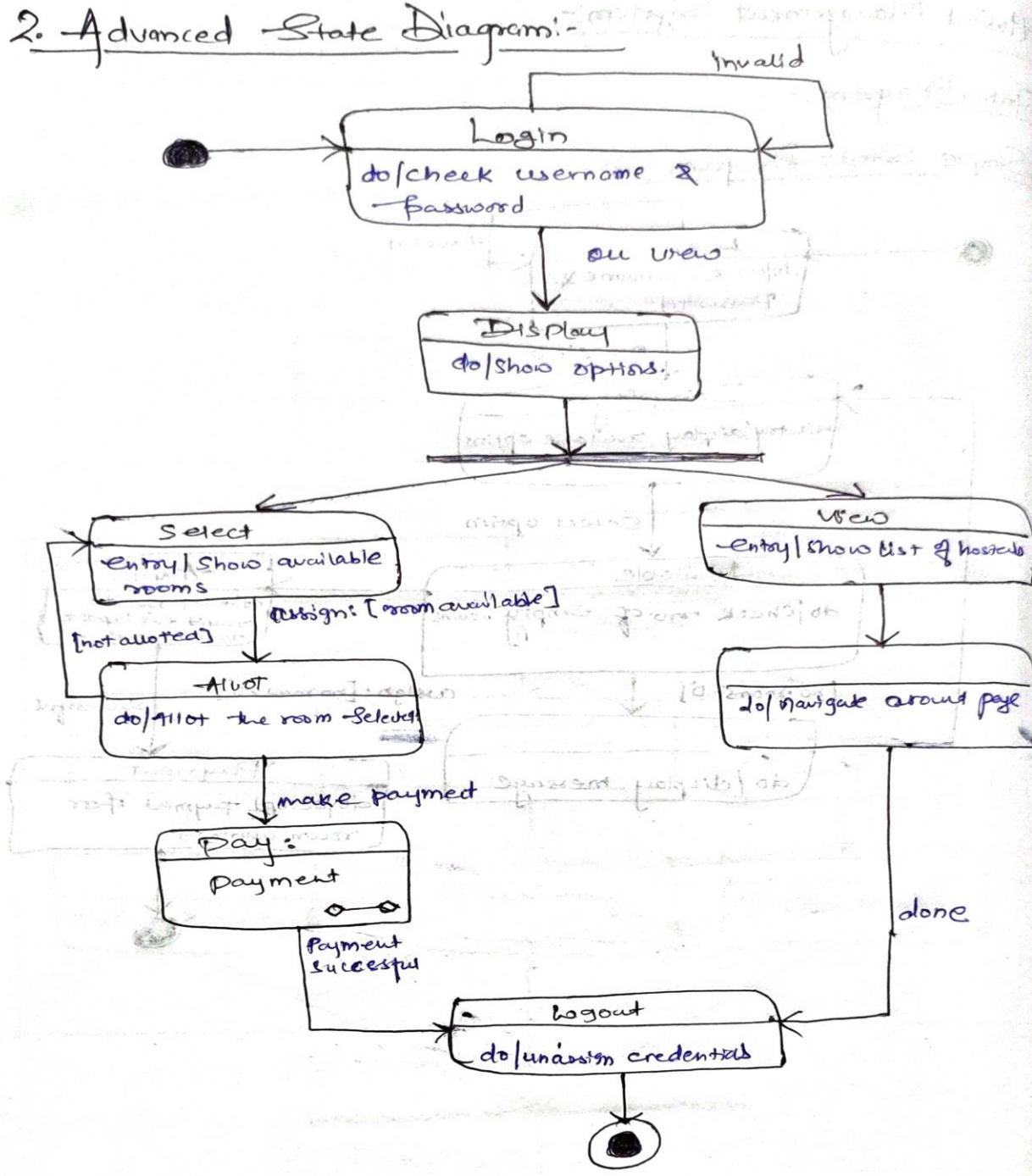
→ Class Diagram of Hostel Management System:-



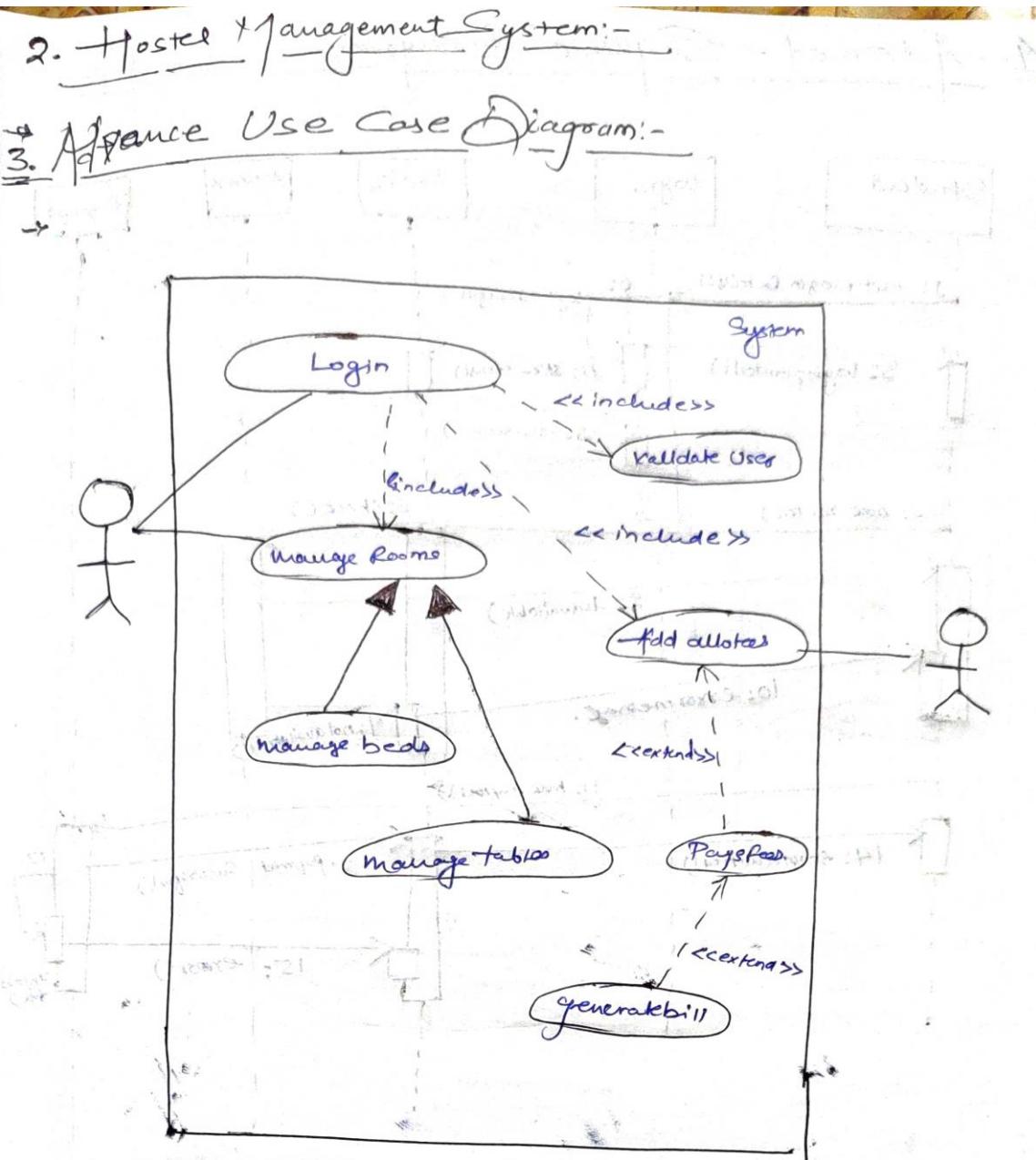


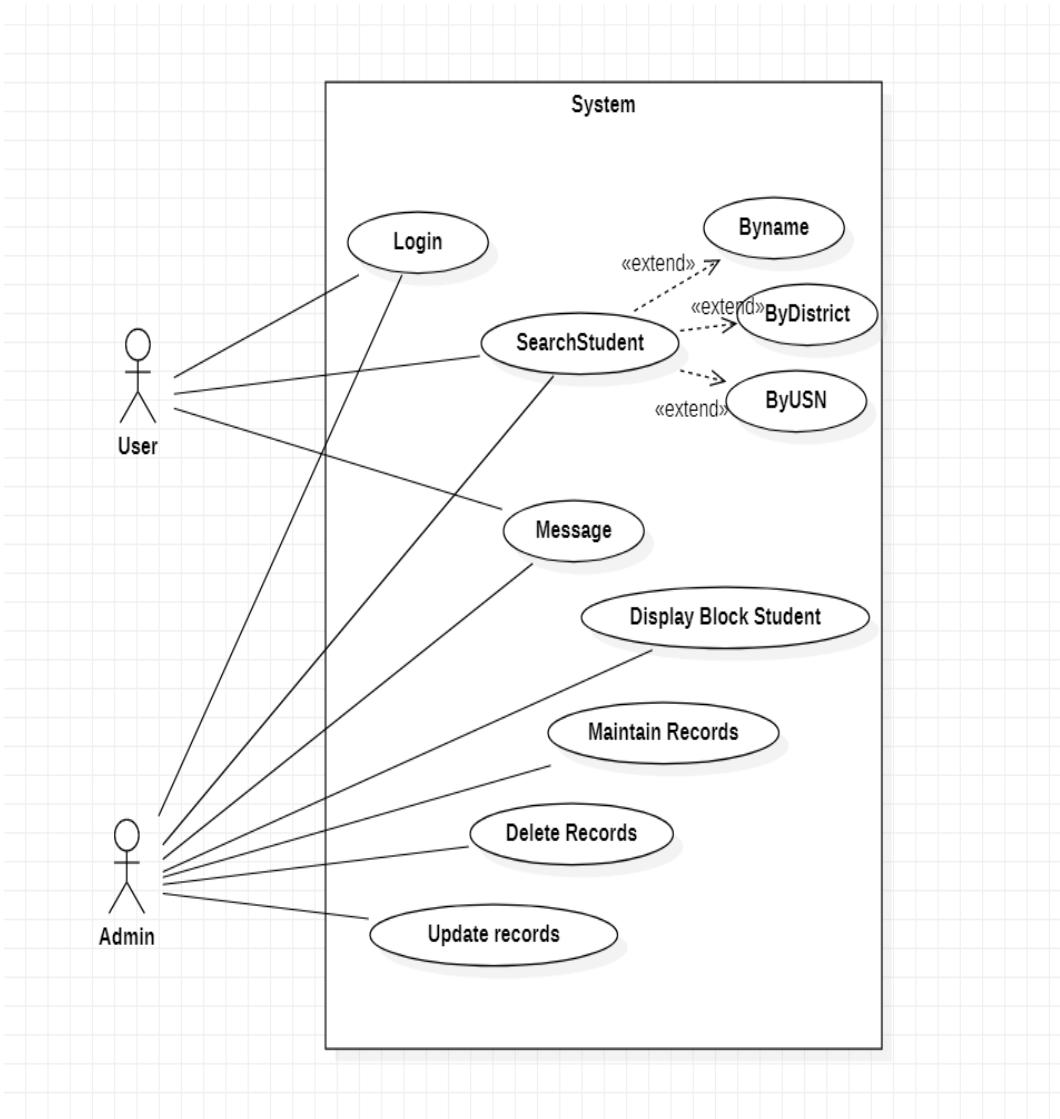
3. Draw the advanced state diagram



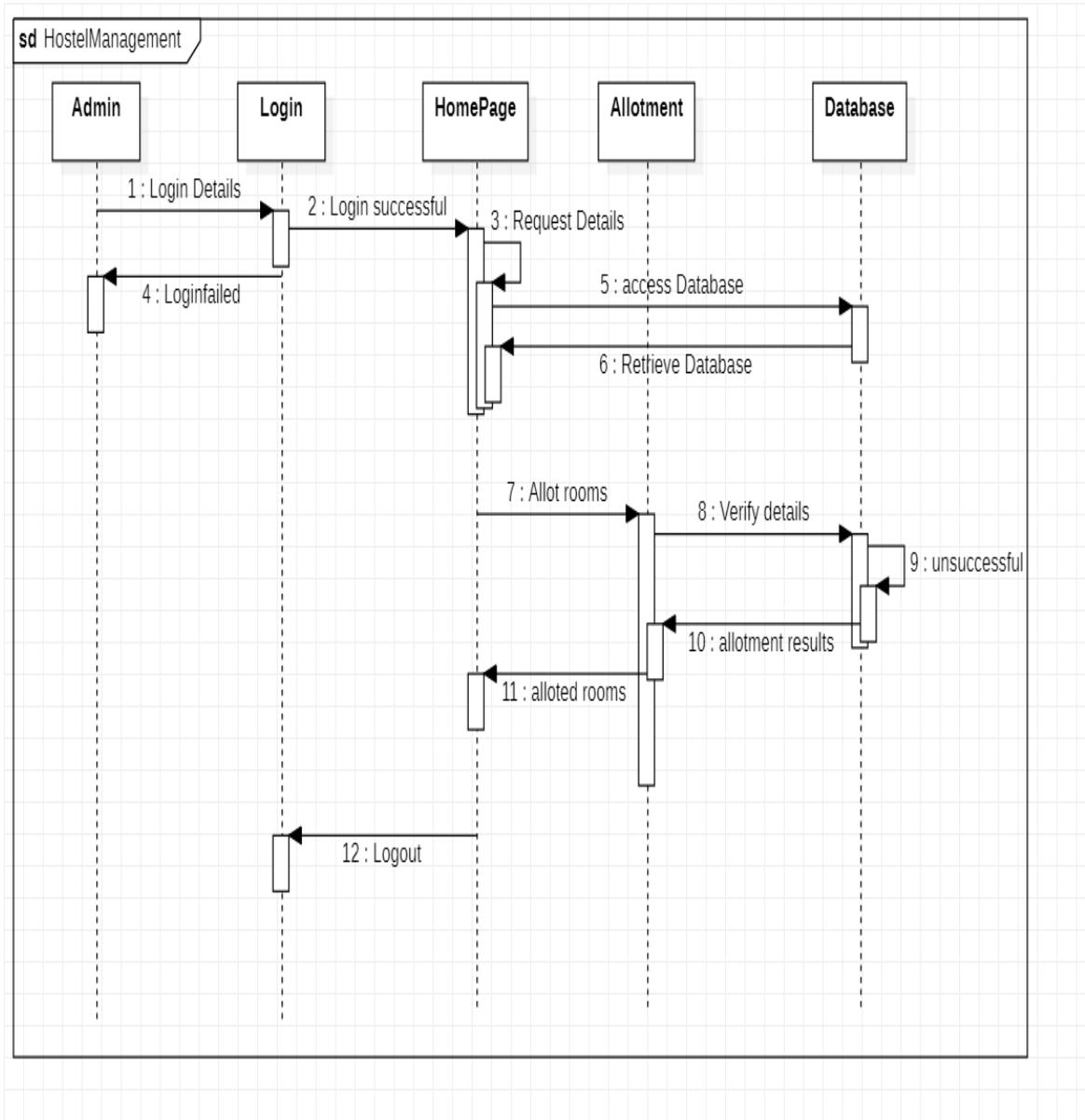


4. Draw the advanced use case diagram

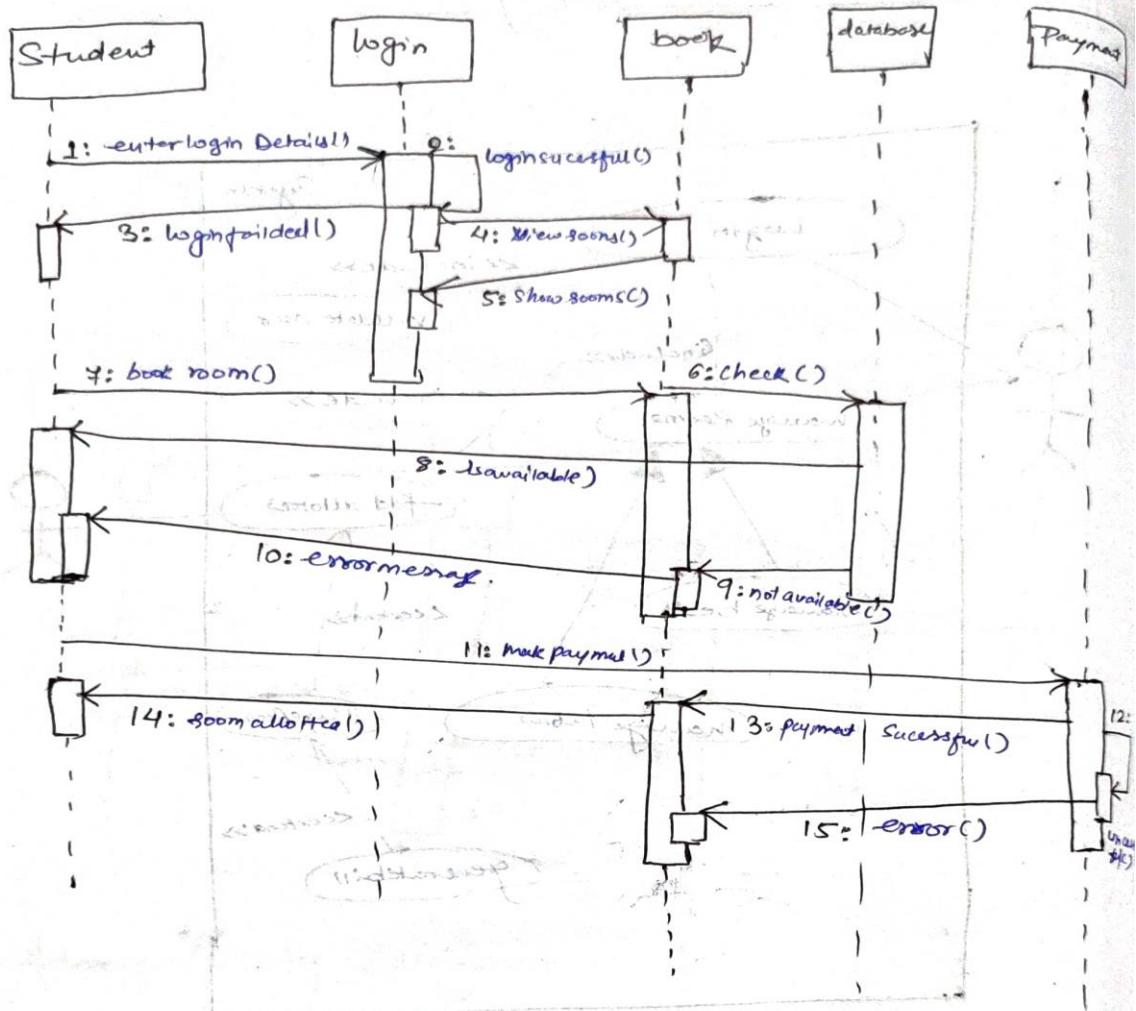




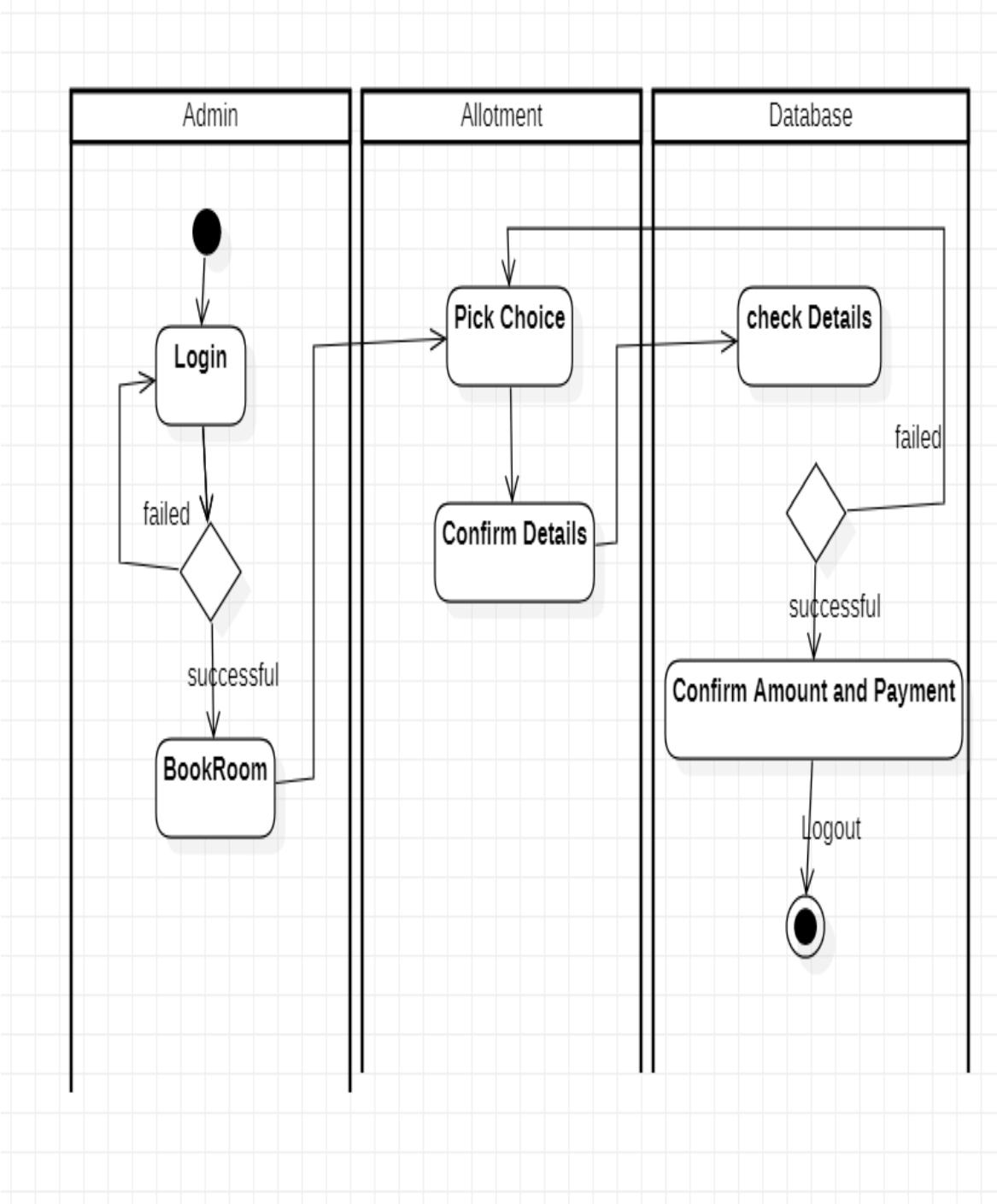
5. Draw the advanced sequence diagram



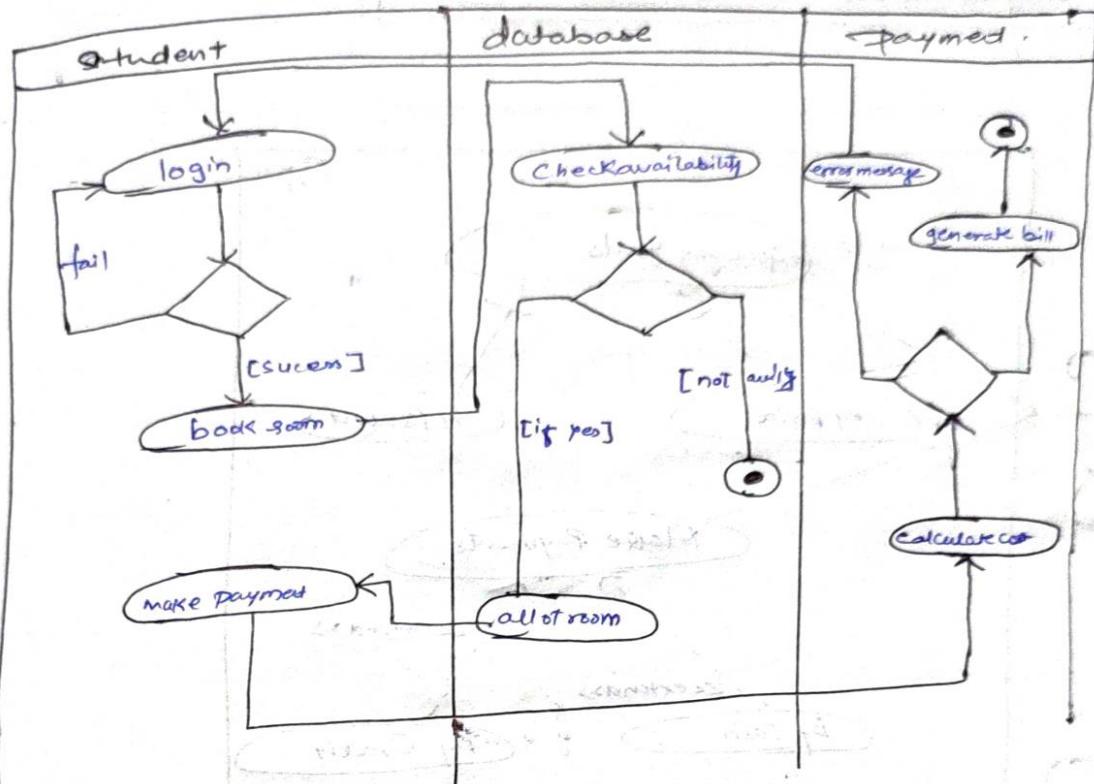
4. Advanced Sequence Diagrams:-



6. Draw the advanced activity diagram



Ex - Advanced Activity Diagram



Exercise 3: Stock Management System

1. Write SRS

Stock Management System:-

Problem Statement:-

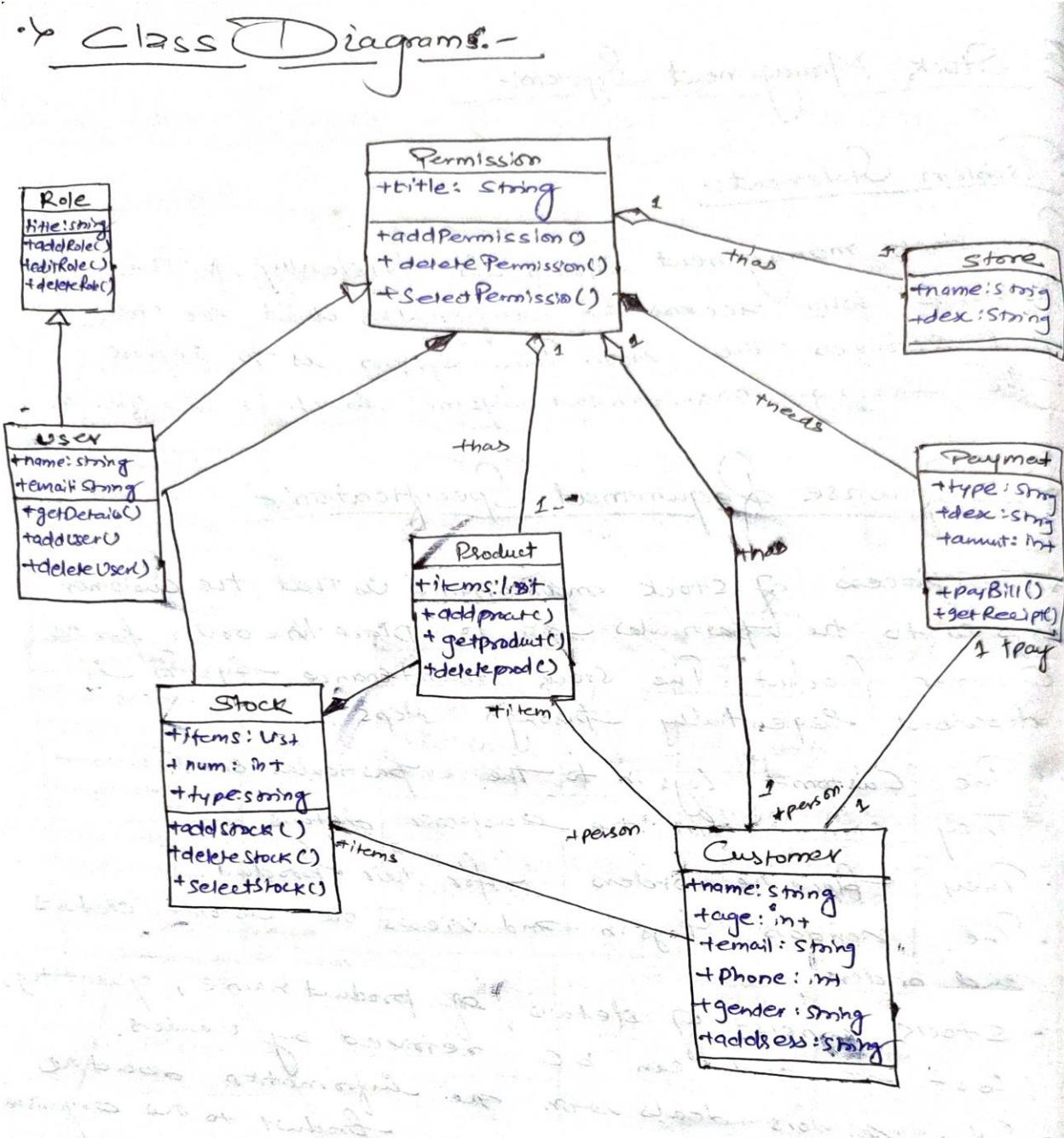
The stock management system is basically for the customers who access the information about the stock and retrieves the info. This system is to replace the existing maintenance system which is inefficient.

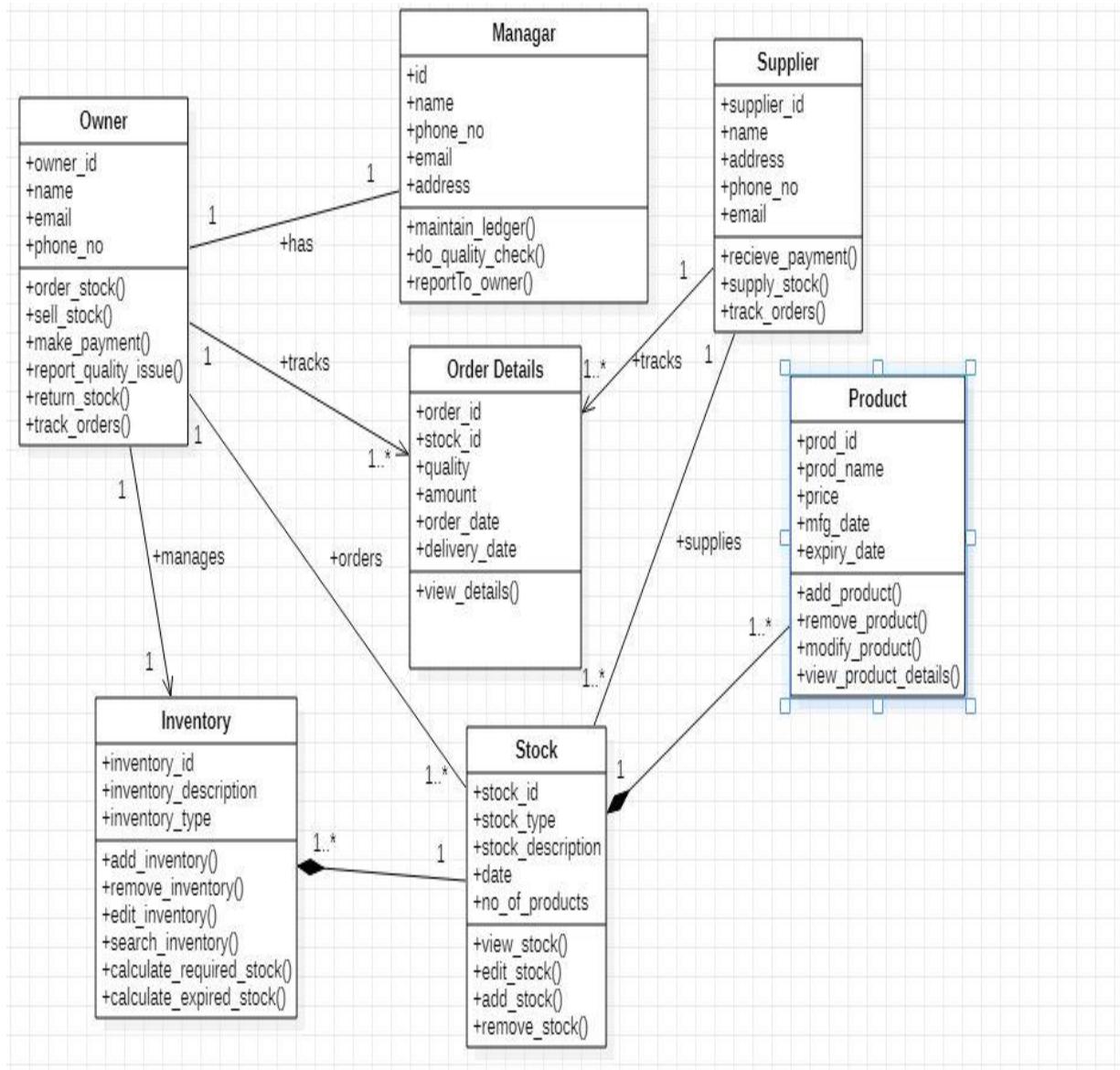
Software Requirements Specification:-

The process of stock maintenance is that the customer logs in to the particular site to place the order for the customer product. The stock maintenance system is described sequentially through steps.

- The customer logs in to the particular site.
- They can fill the customer details.
- They place the orders for their products.
- The vendor logs in and views the customer details and orders.
- Stocks consist of details of product name, quantity, cost etc. and can be retrieved by vendors.
- The vendor deals with the information about the details of the supplier giving product to the organization.
- Vendor consists of details such as, name, address, mail, tax number etc. of vendors which can be retrieved when a purchase is done.

2. Draw the advanced class diagram



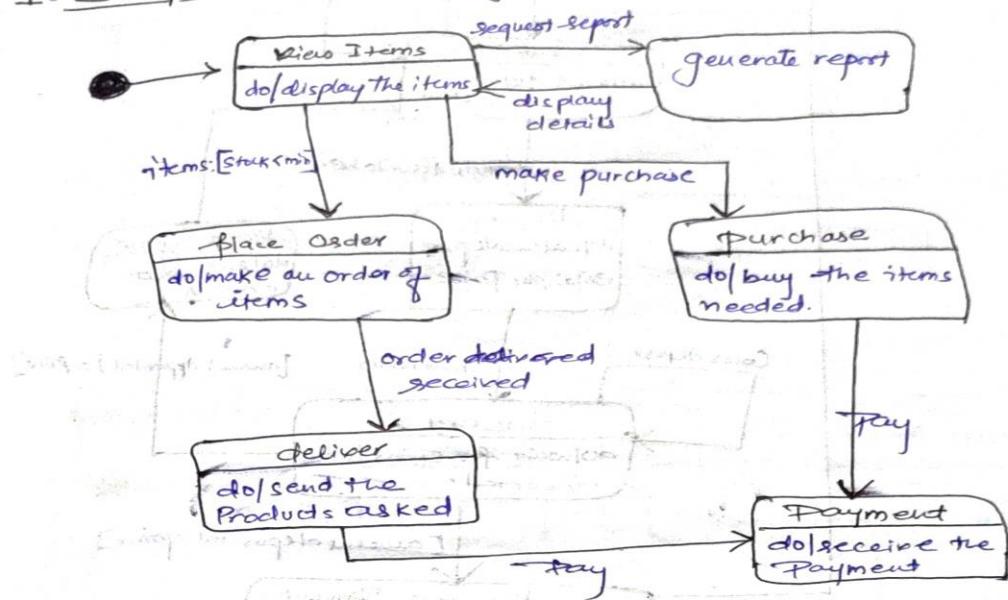


2. Draw the advanced state diagram

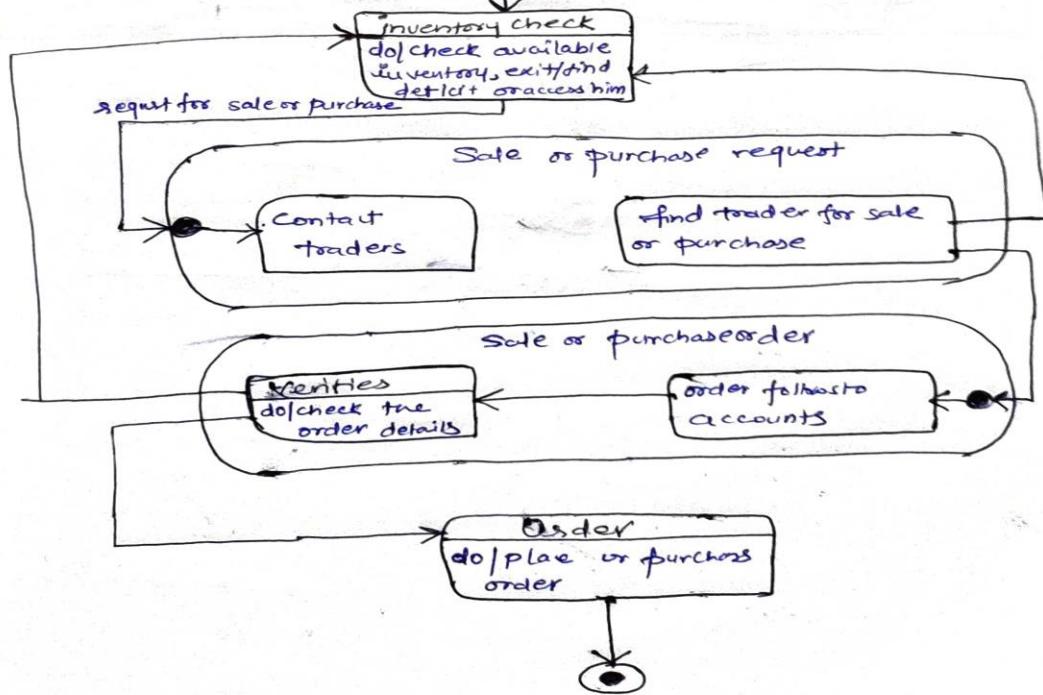
3. Stock Management System:

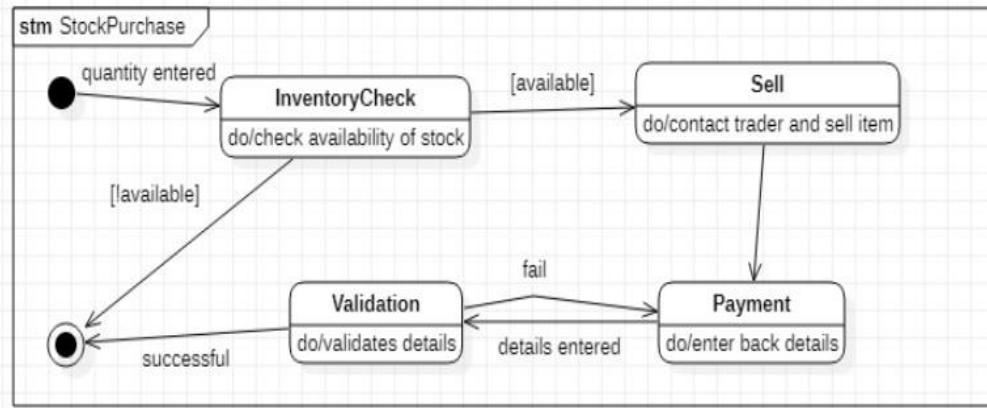
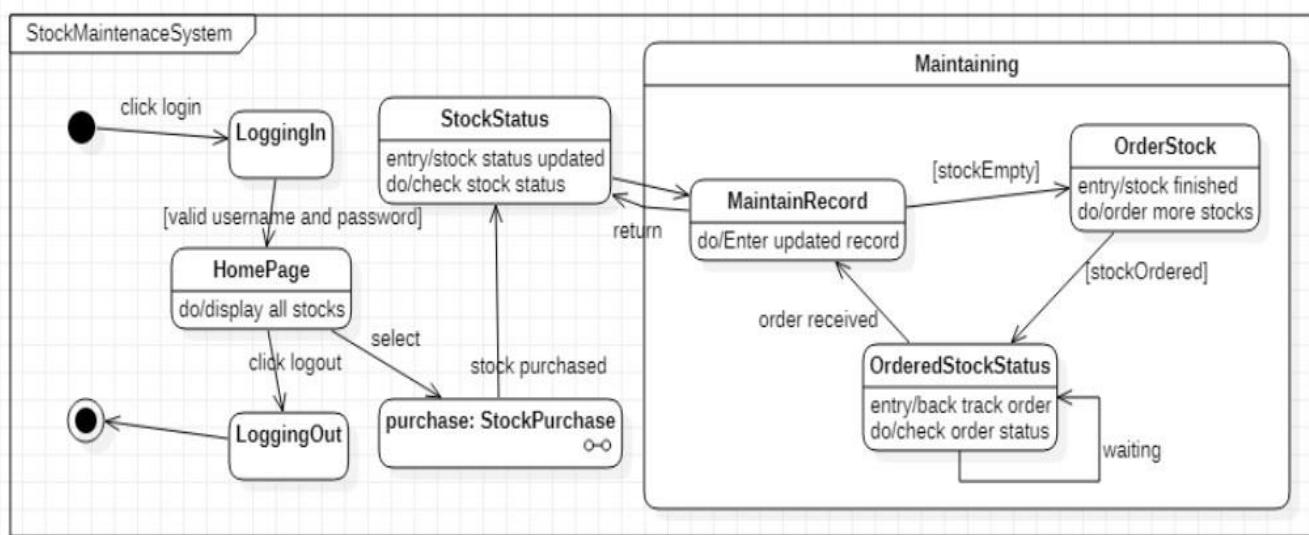
4. State Diagram:-

1. Simple State Diagram:-

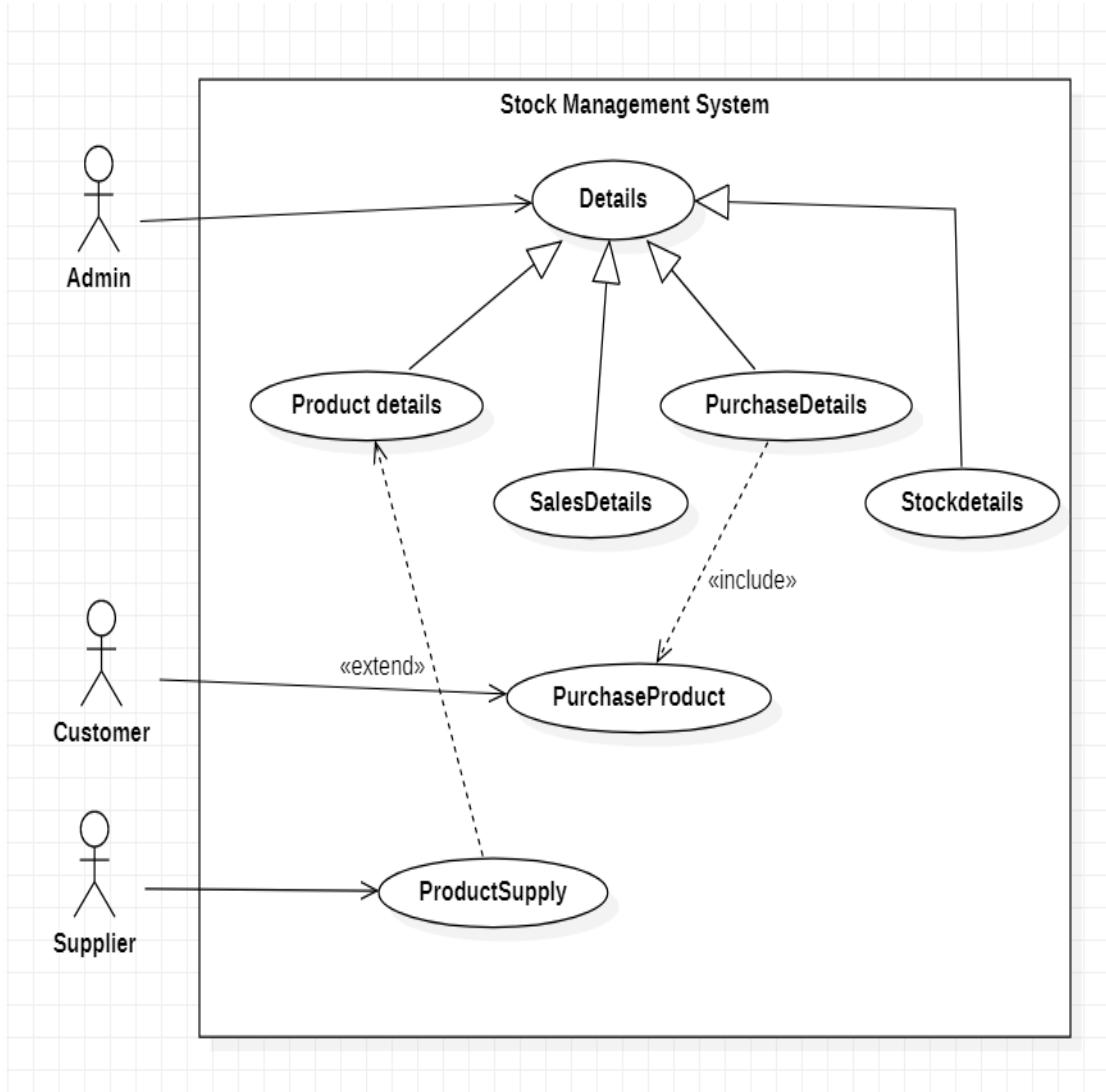


2. Advanced State Diagram:-



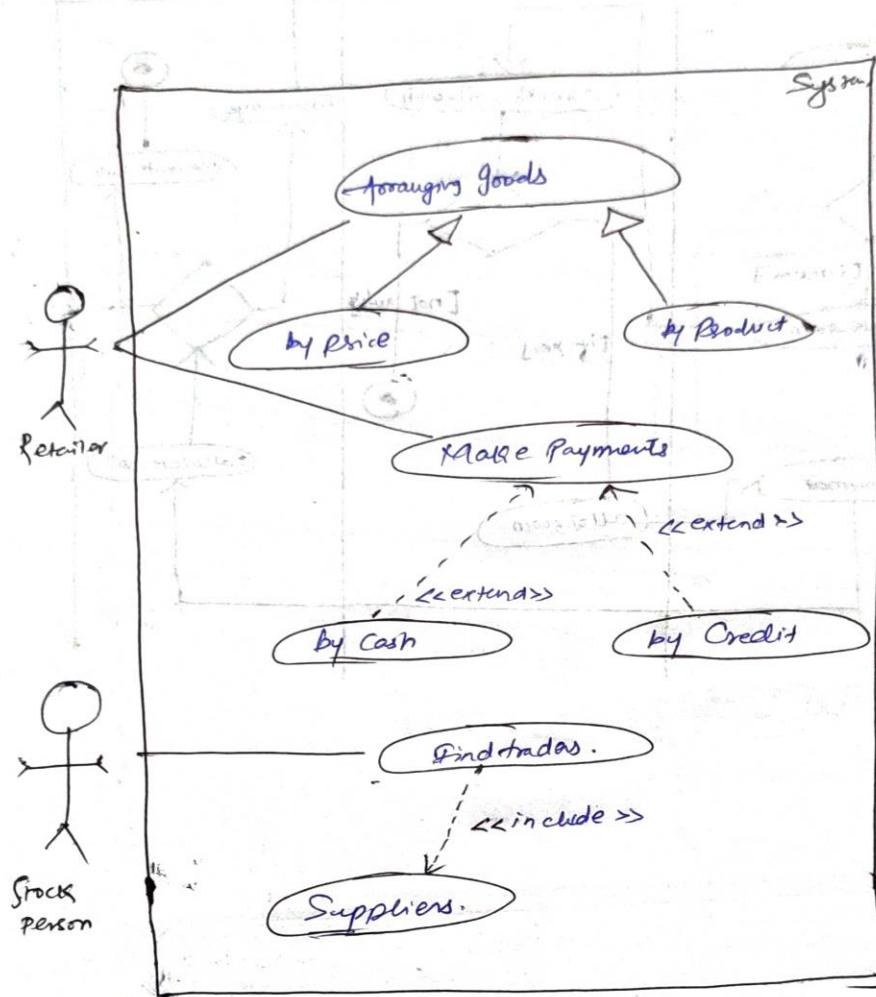


3. Draw the advanced use case diagram

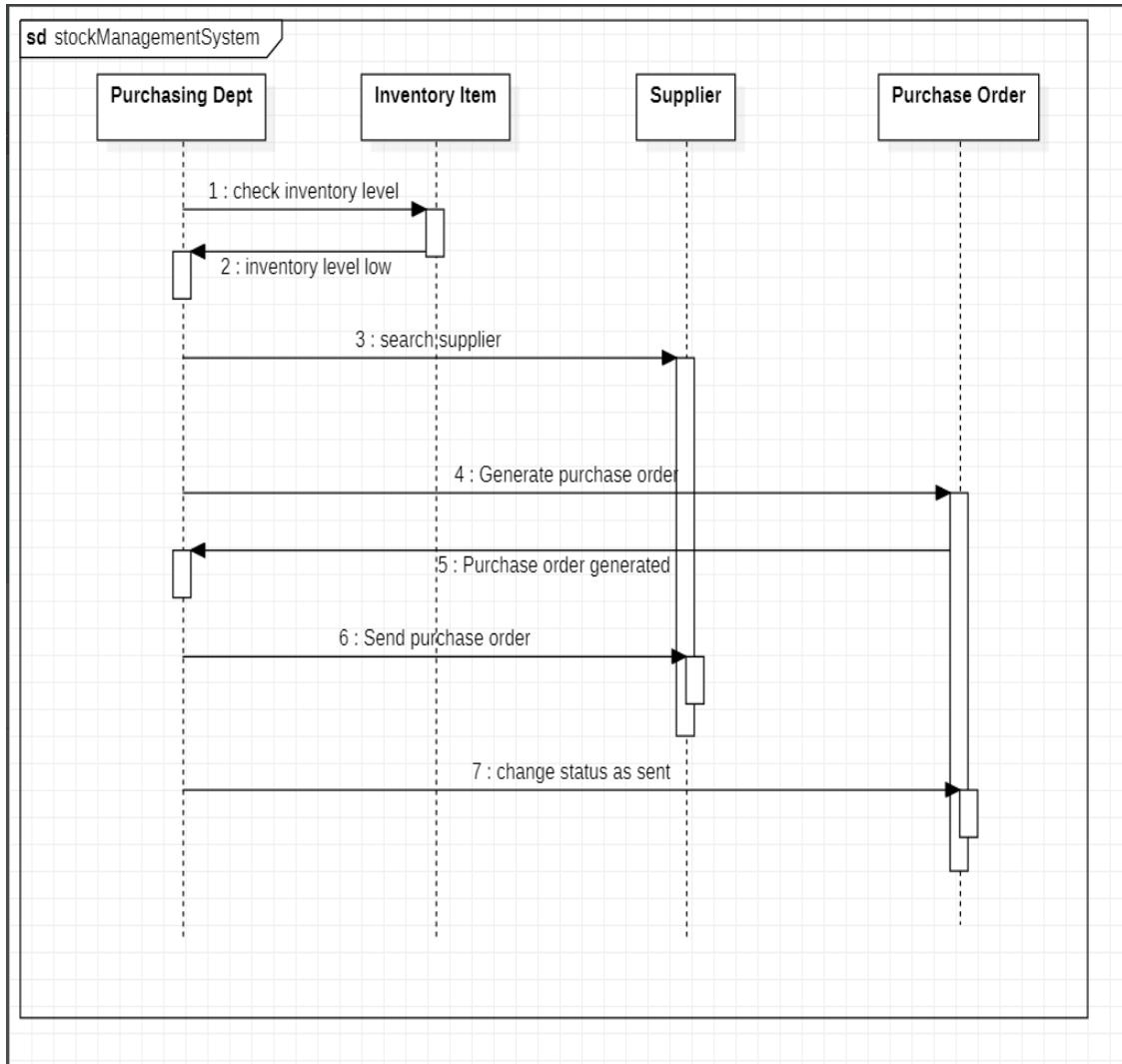


Stock Management System:-

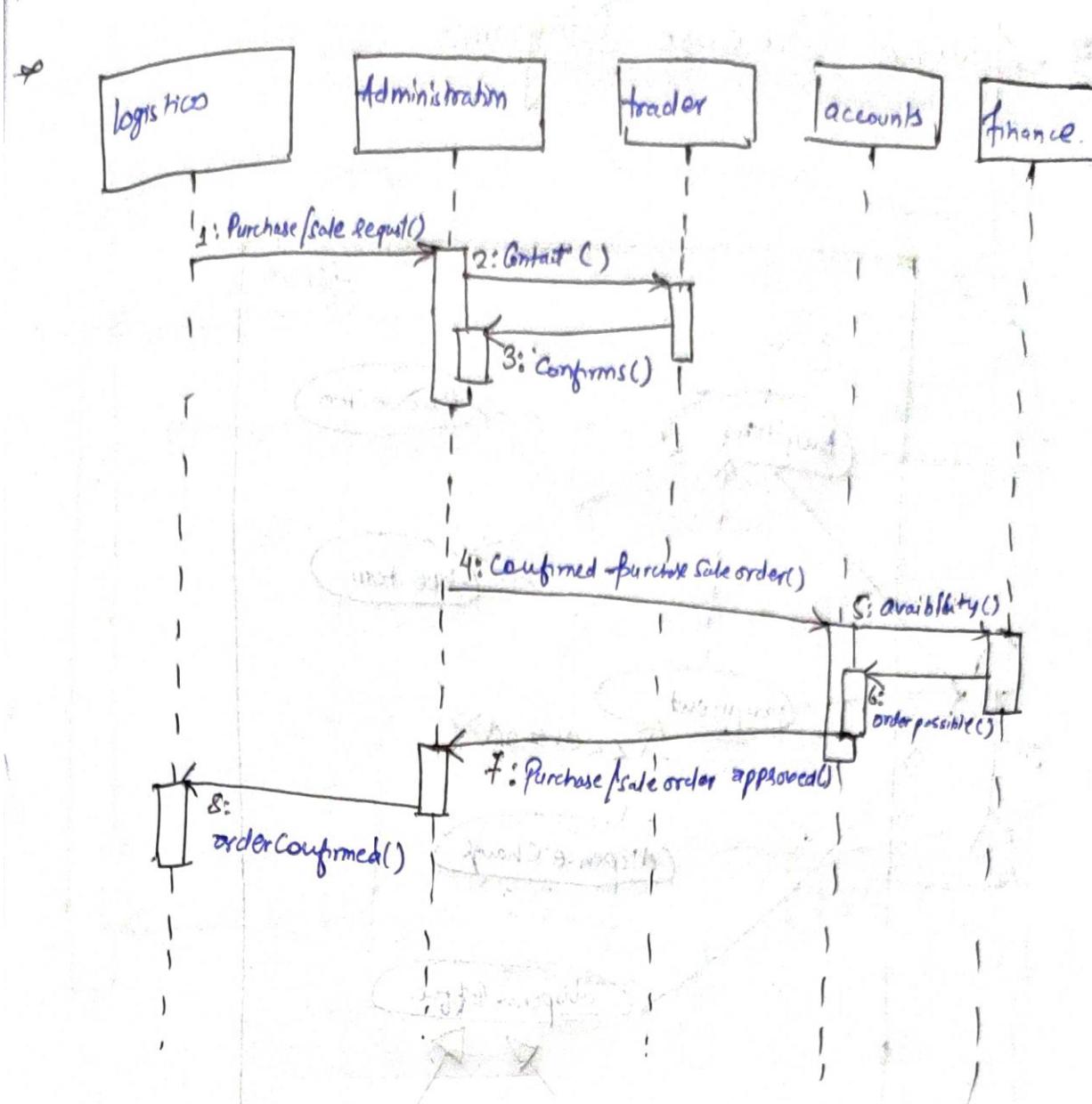
Advanced Use Case Diagram:-



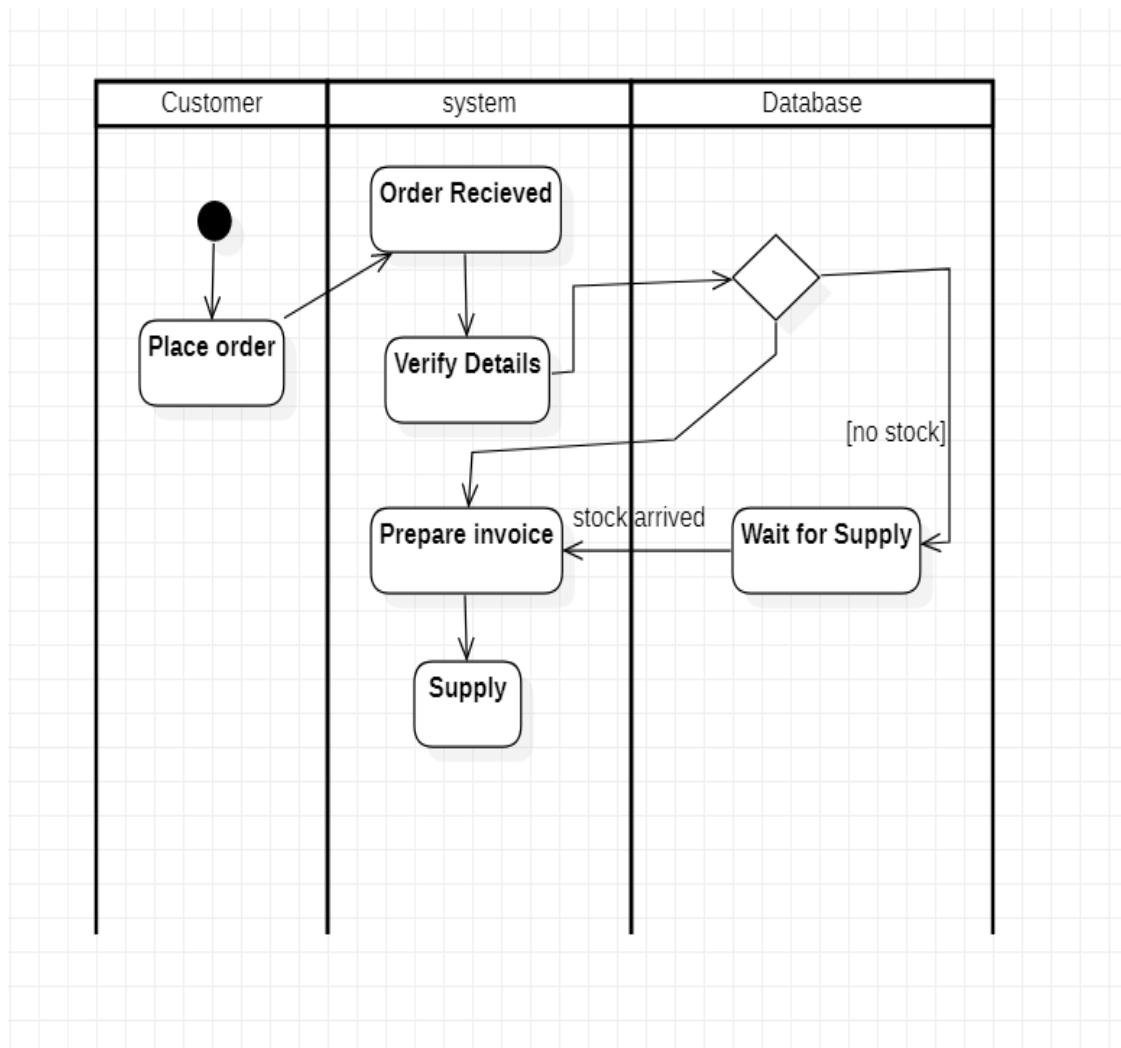
4. Draw the advanced sequence diagram



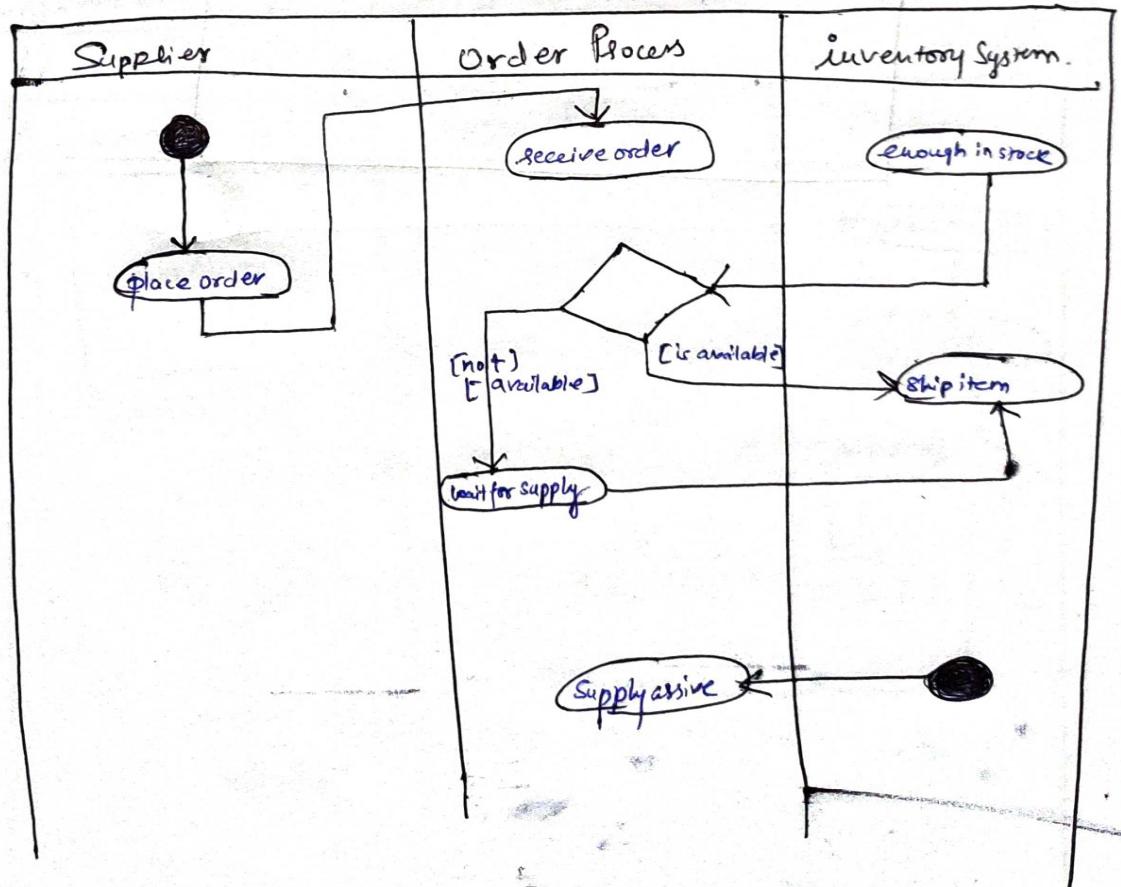
Advance Sequence Diagram:-



5. Draw the advanced activity diagram



5. Advance Activity Diagram:-



Exercise 4: Coffee Vending Machine

1. Write SRS

1. Coffee Vending Machine:-

→ Problem Statement:-

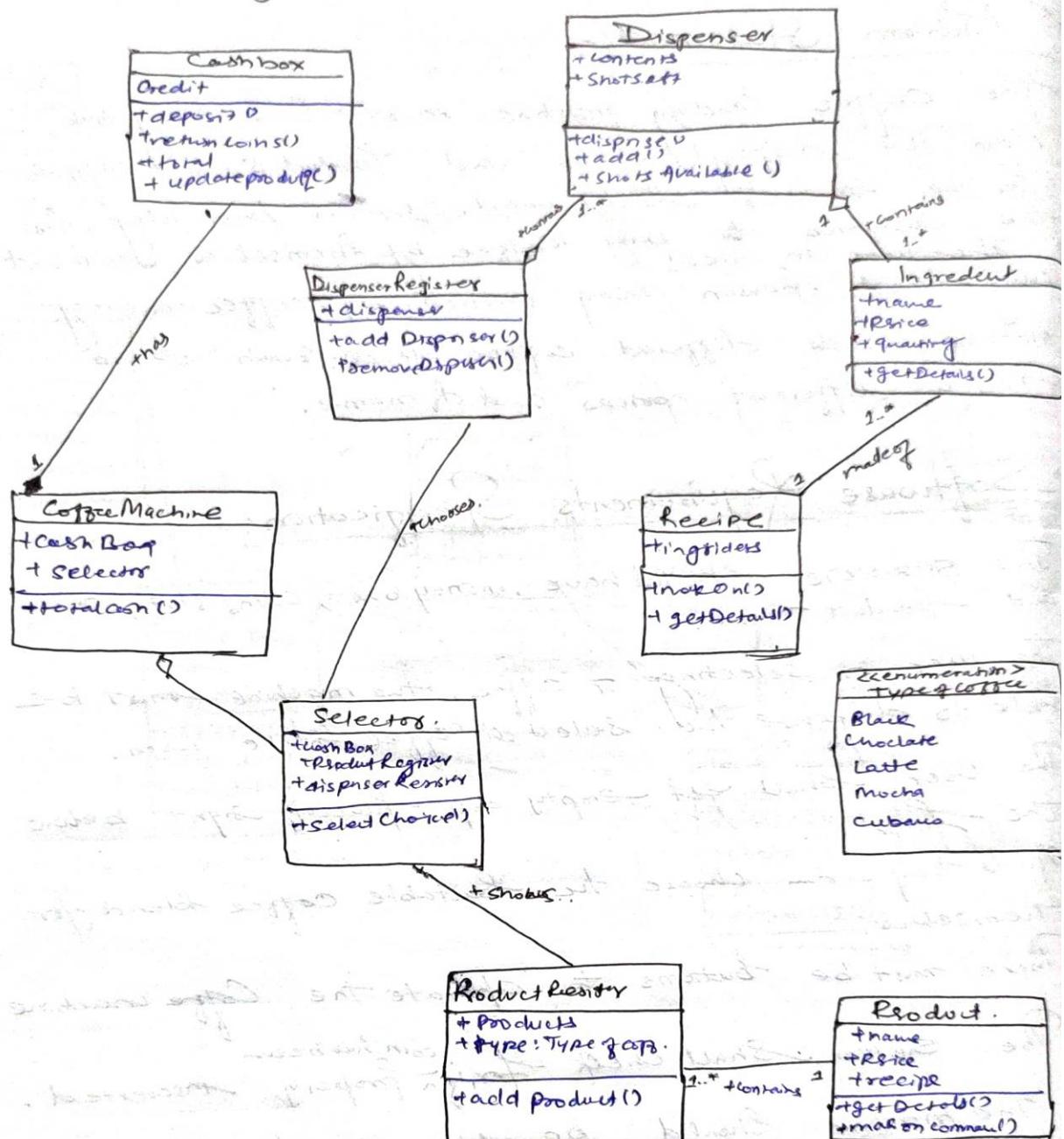
- The Coffee vending machine must have money box, coin slot, display screen and product wise coffee for no machine to be used. It is basically for the customers to buy coffee by themselves without any third person being involved. A coffee vending machine sells different coffee blends. Each blend has a different price and name.

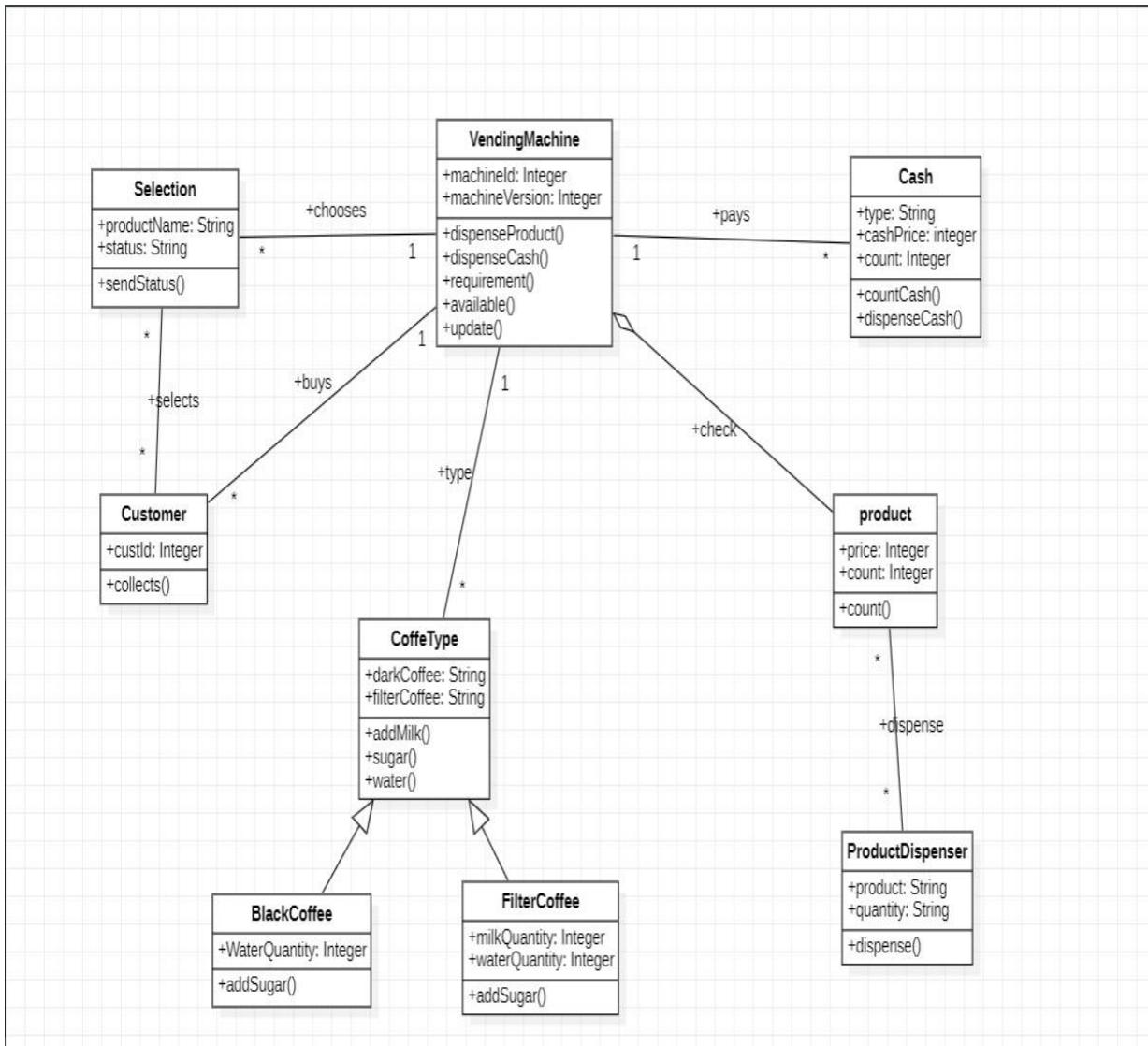
→ Software Requirements Specification:-

- The machine should have money box, coin slot, screen and product names.
- The user on selecting a coffee, the machine must be able to dispense the selected coffee to the user.
- The user shall get empty cap placed right below the filter.
- And they can choose the suitable coffee blend for themselves.
- There must be buttons to operate the coffee machine.
- The system shall check if coin has been properly inserted.
- The machine should be able to dispense the coffee after receiving the proper amount of money.

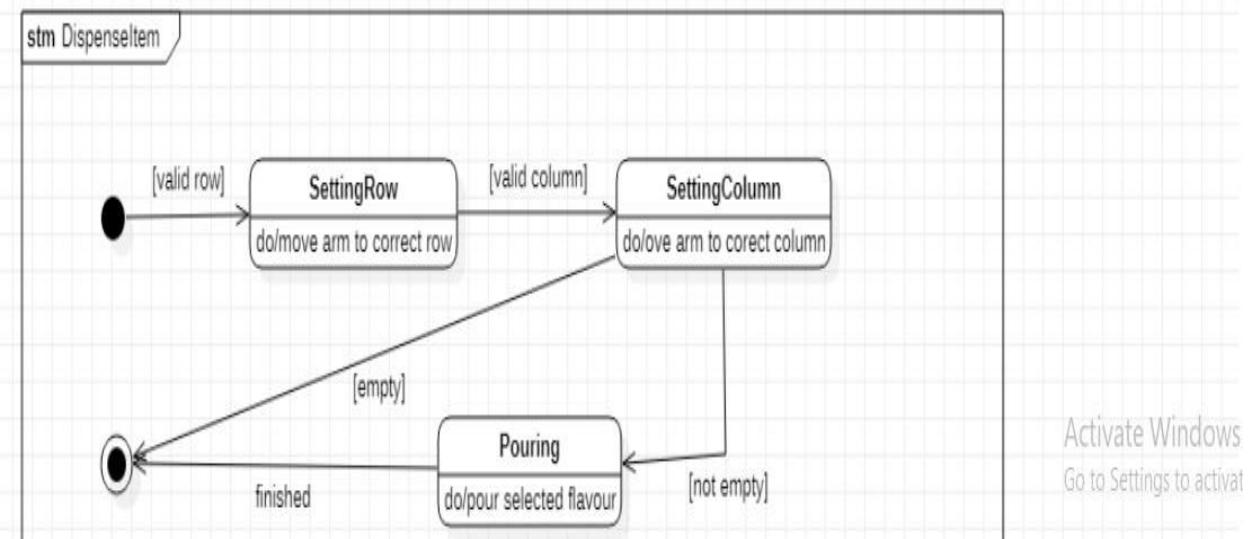
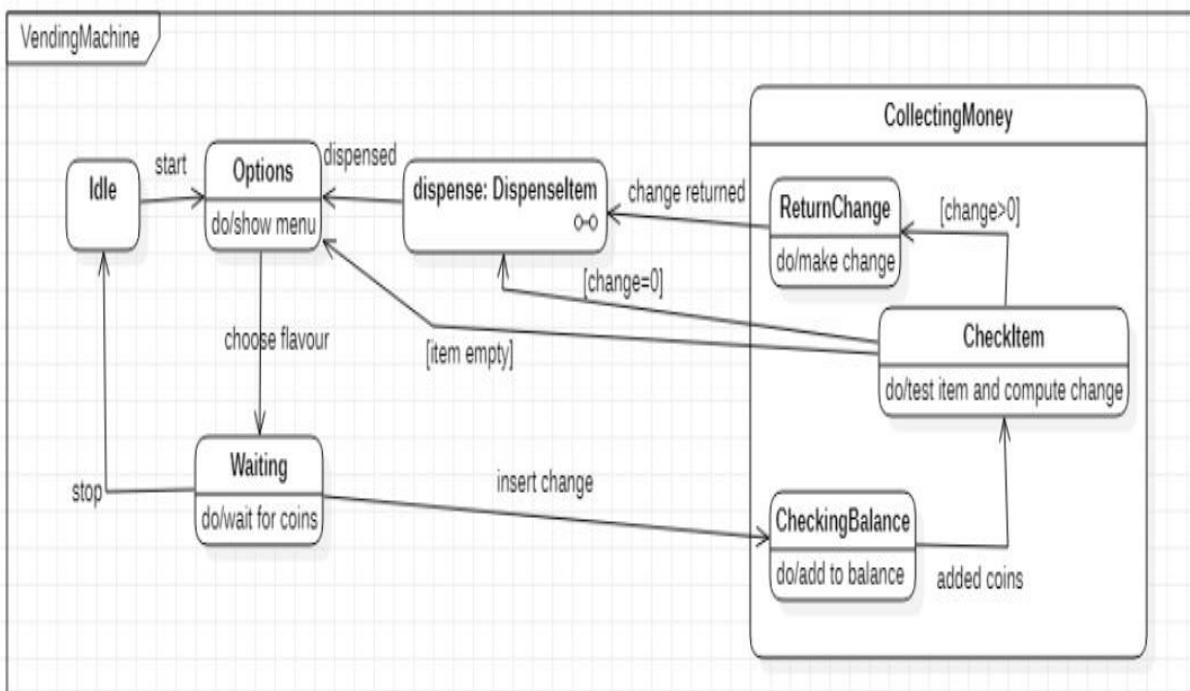
2. Draw the advanced class diagram

→ Class Diagram:-

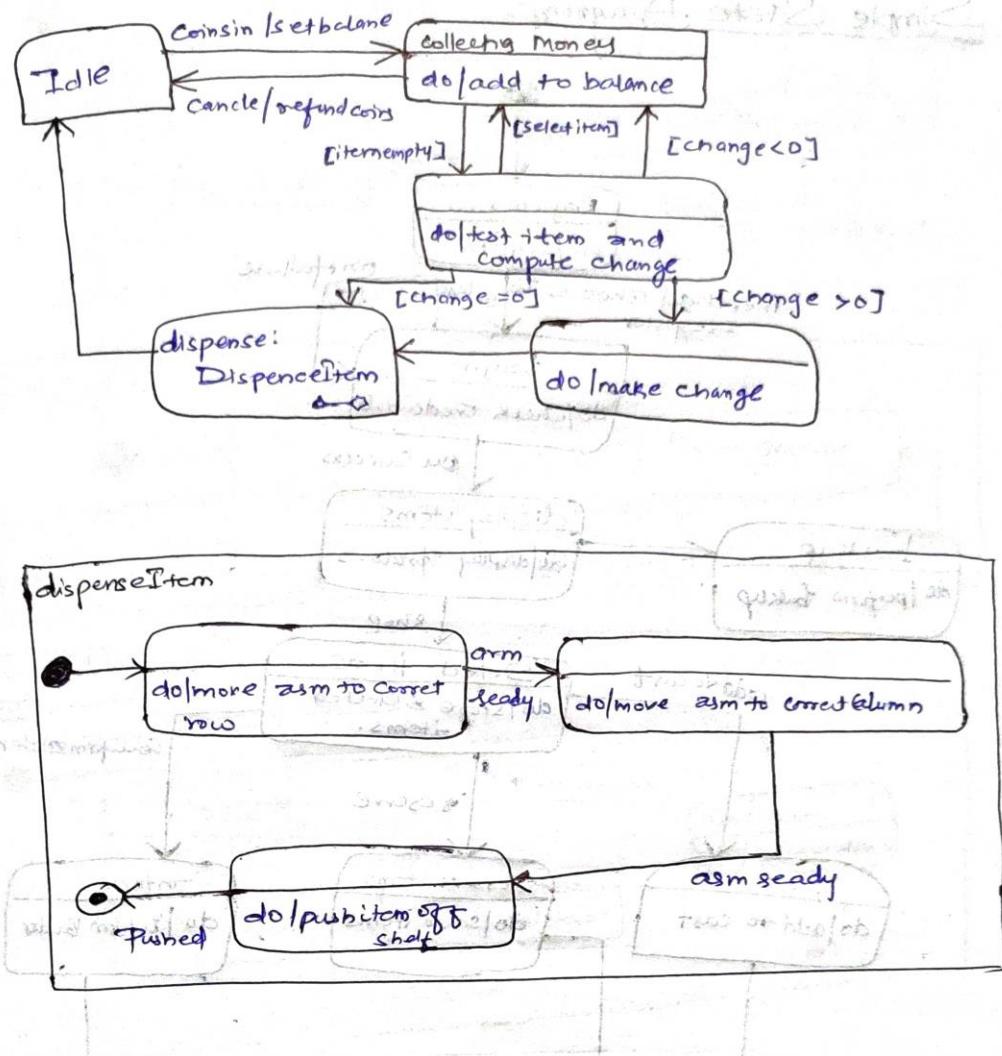




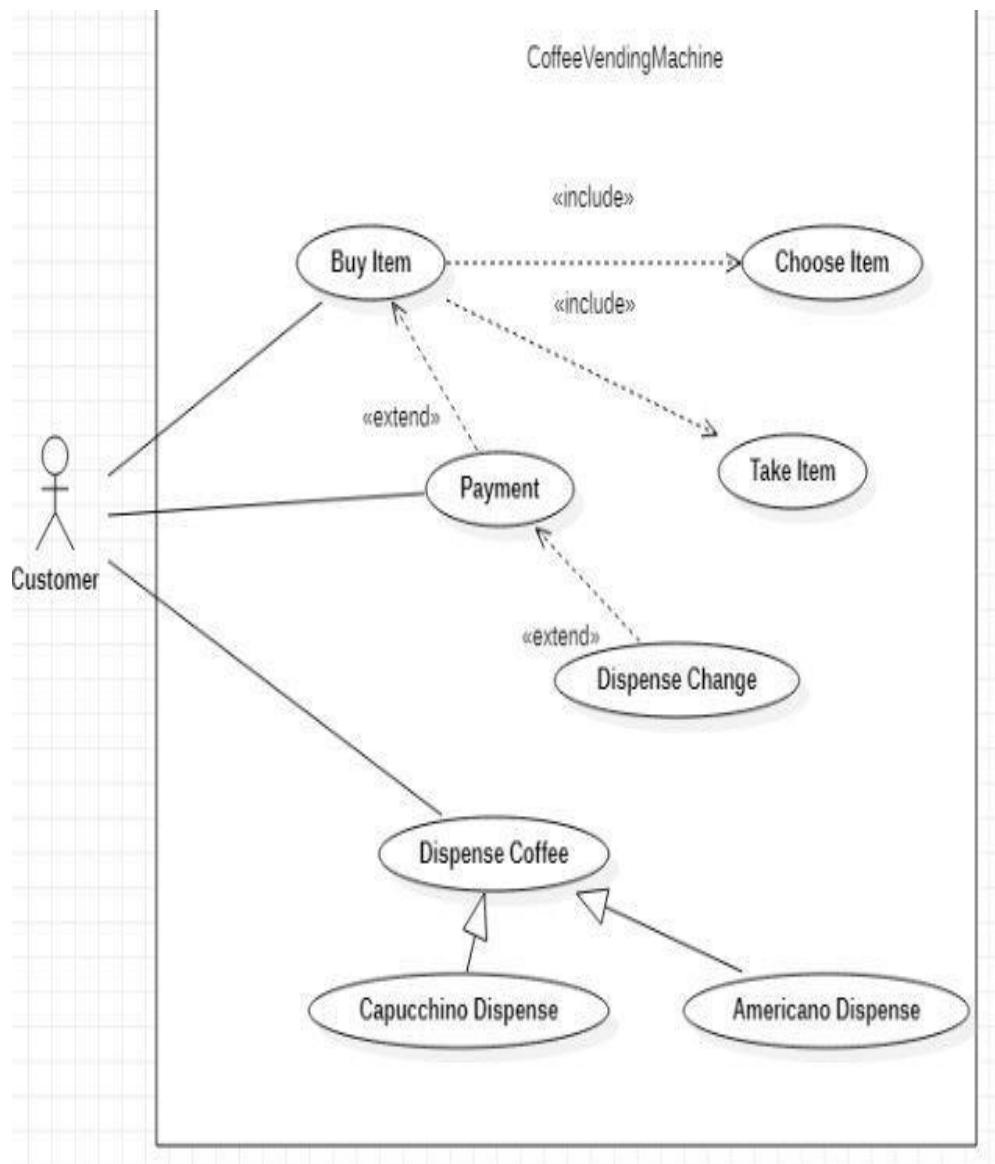
3. Draw the advanced state diagram



2. Advanced State Diagram

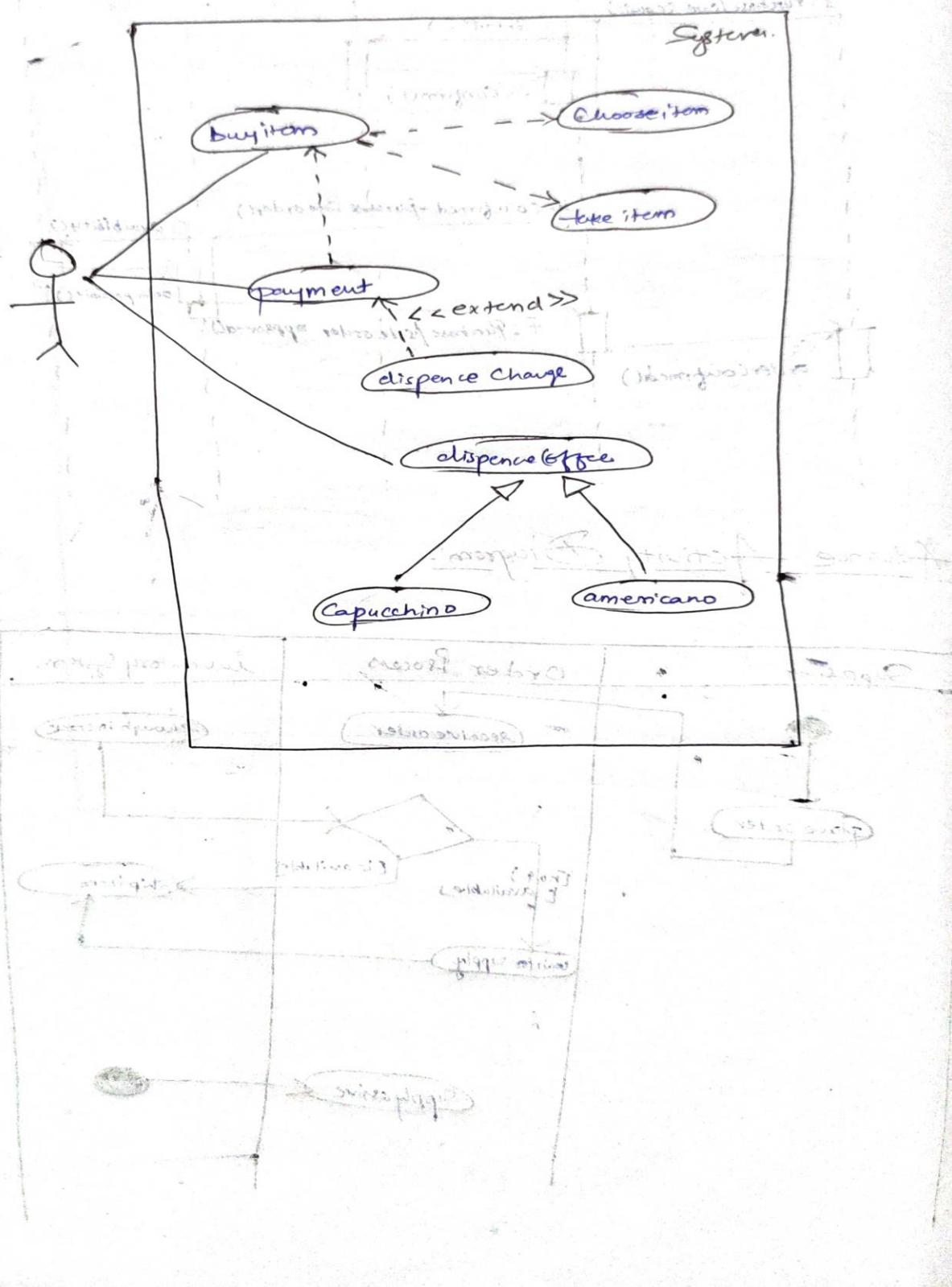


4. Draw the advanced use case diagram

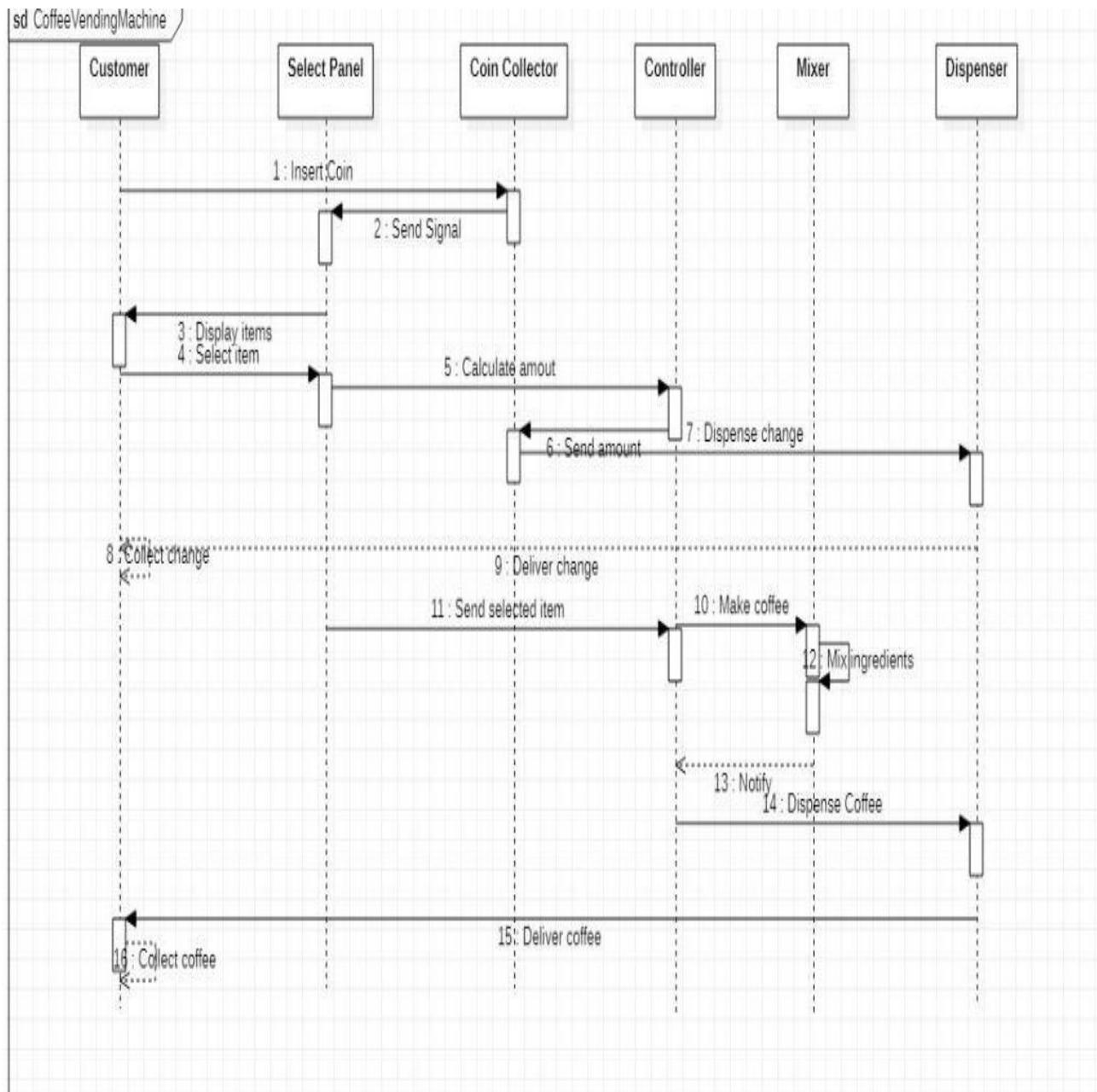


To Coffee Vending Machine:-

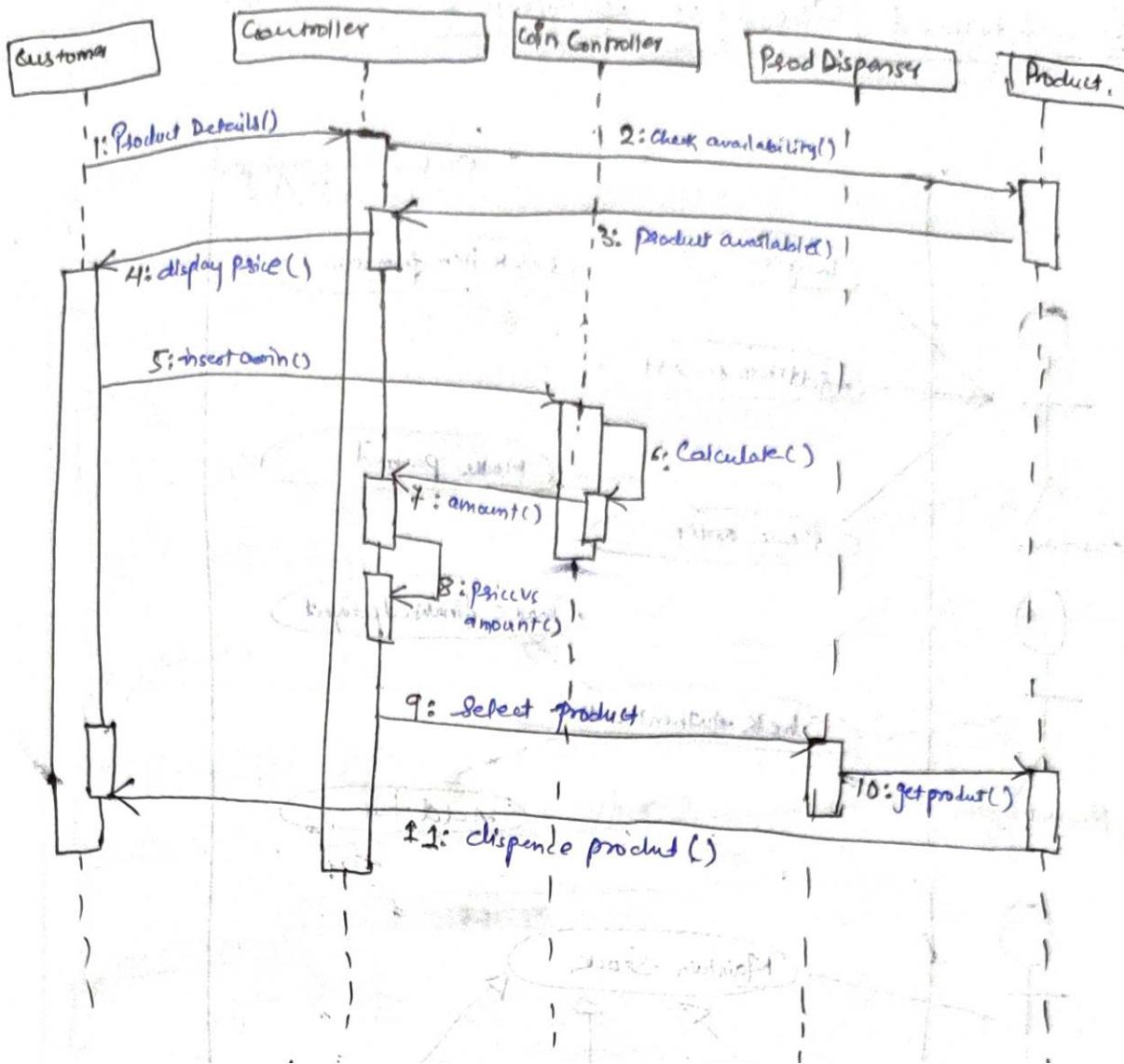
Advance Use case Diagram:-



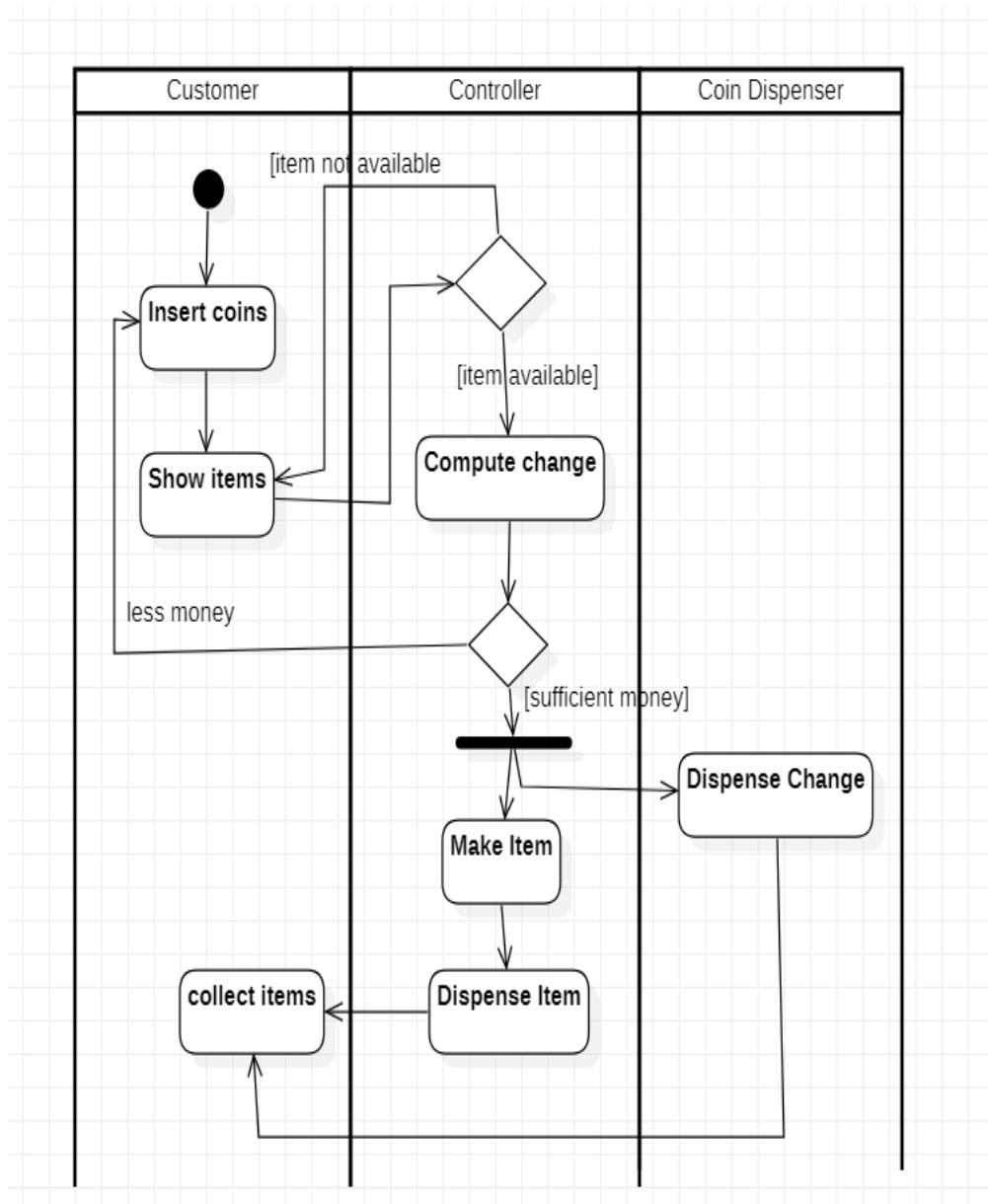
5. Draw the advanced sequence diagram



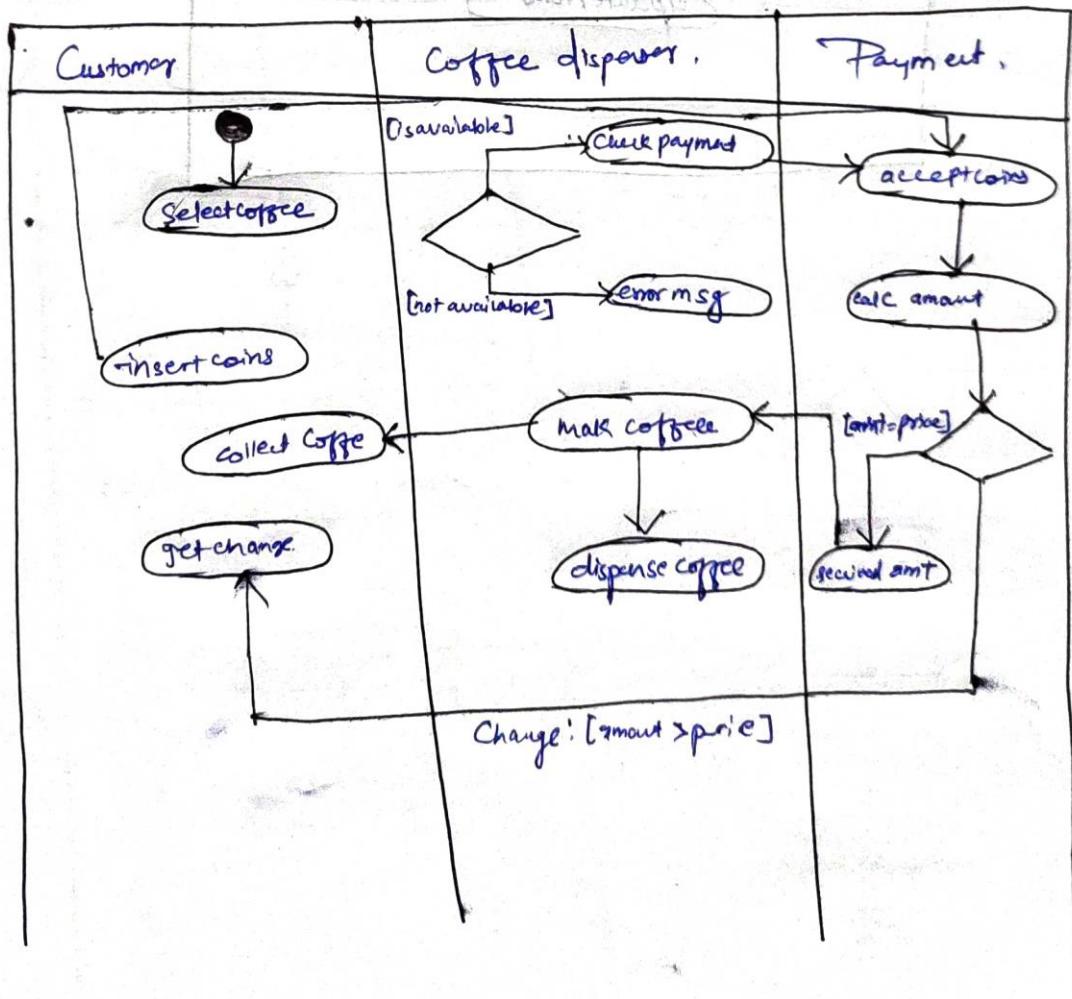
Advance Sequence Diagram



6. Draw the advanced activity diagram



Advanced Activity Diagram



Exercise 5: Online Shopping System

1. Write SRS

S. Online Shopping System:-

→ Problem Statement:-

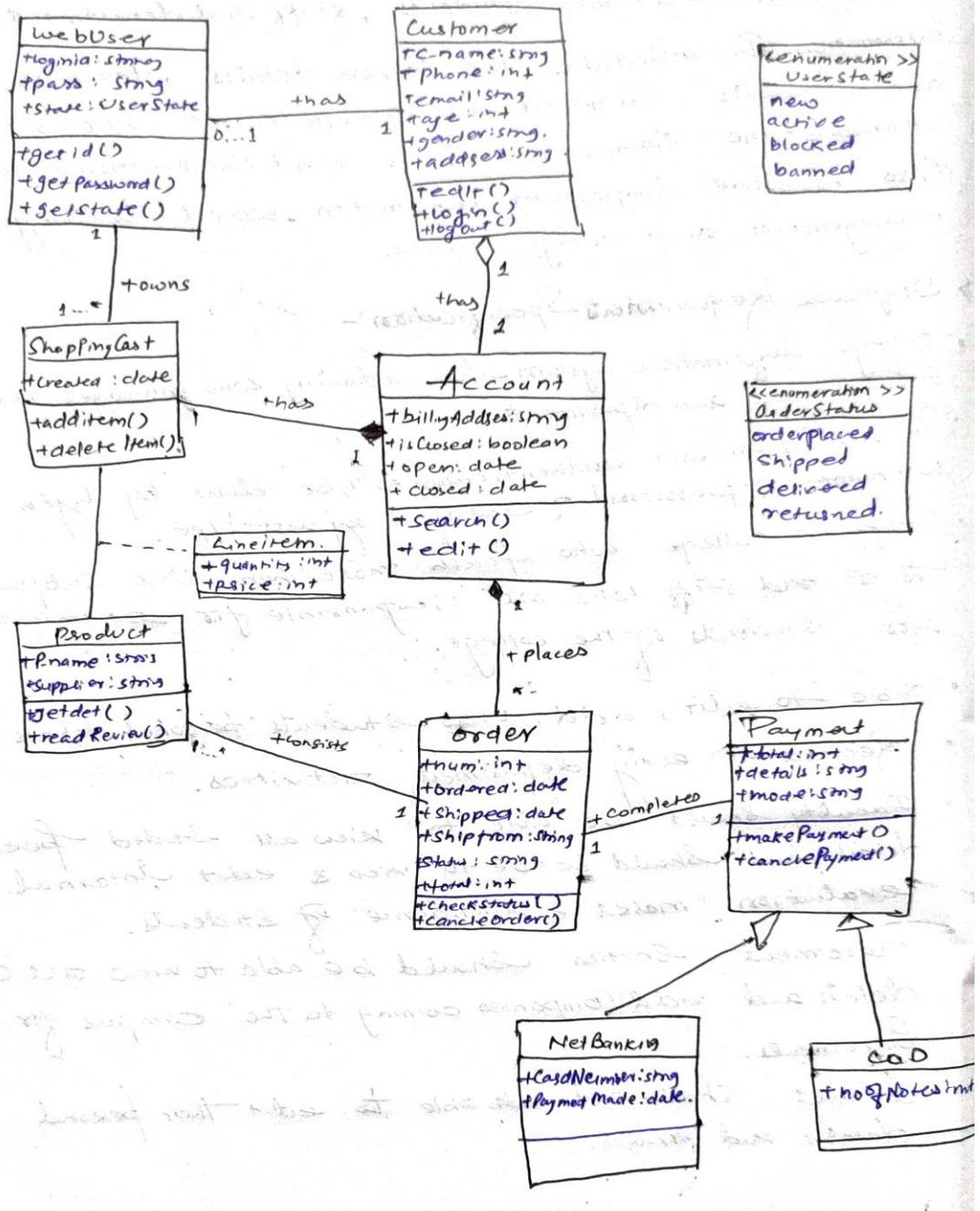
This System Should be able to display all kind of products intended to provide, using the internet. It will enable Vendors to setup online Shops, Customers to browse through the shop and purchase them Online without having to visit the shop physically.

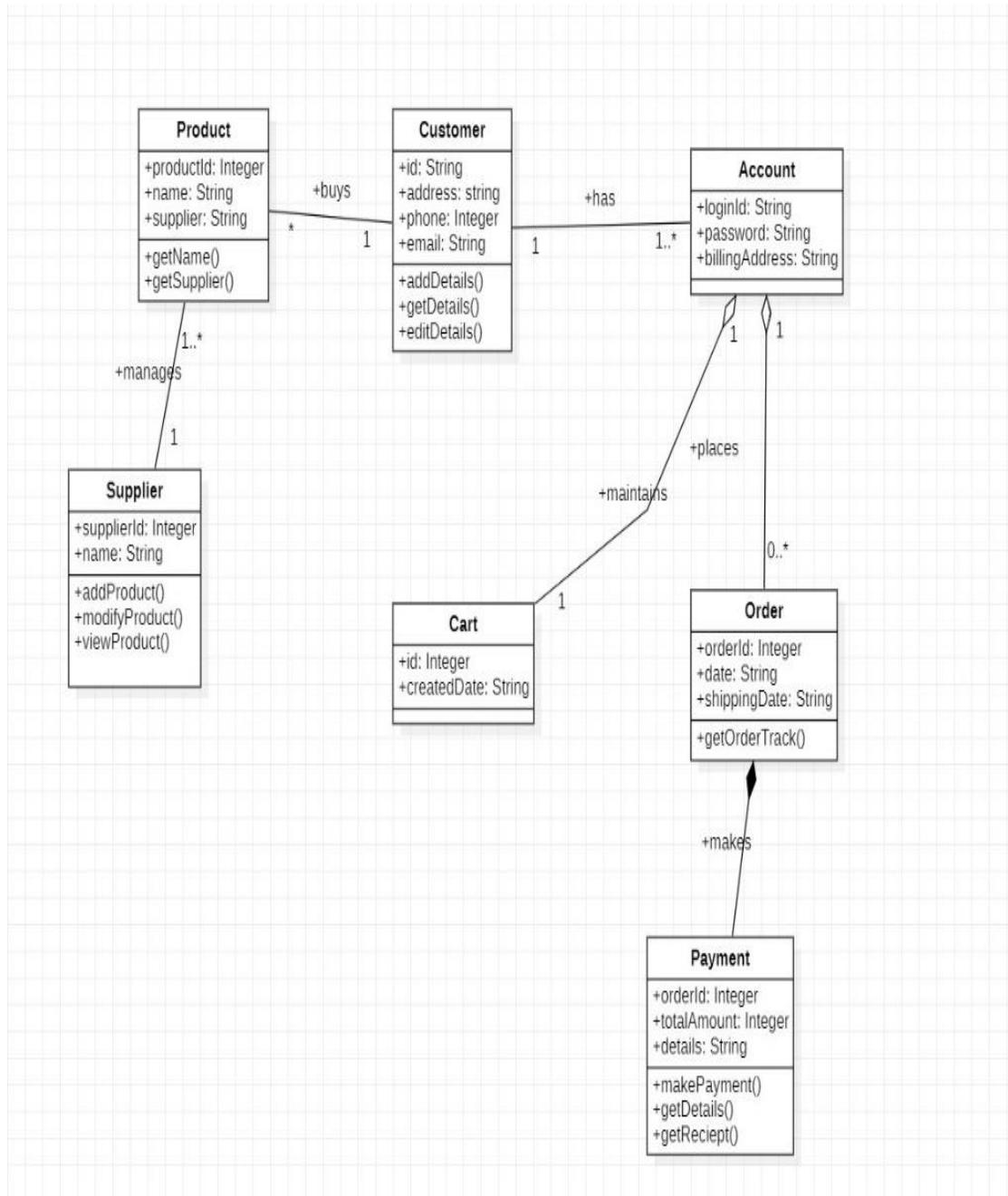
→ Software Requirements Specification:-

- The Customer must have an account in the Online website, in order to place Order.
- If Customer wants to buy the products then he must be registered and unregistered user cannot add products in Cart.
- Customer login to the System by entering valid user id and password.
- Provides information about the products in Categories.
- Can avail the facility of purchasing second hand products.
- Can reserve if no particular product is not available.
- Customers are provided with up to date products available.
- Customers are provided with product detail information.
- Provides backup facility.

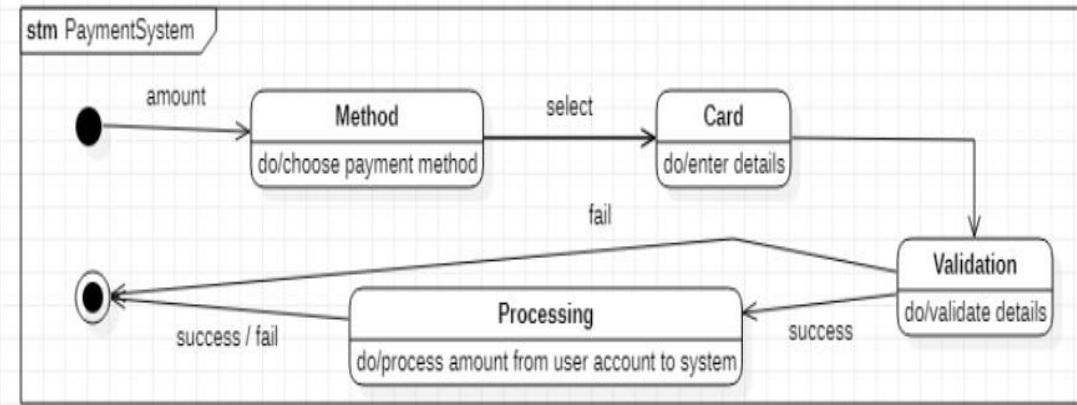
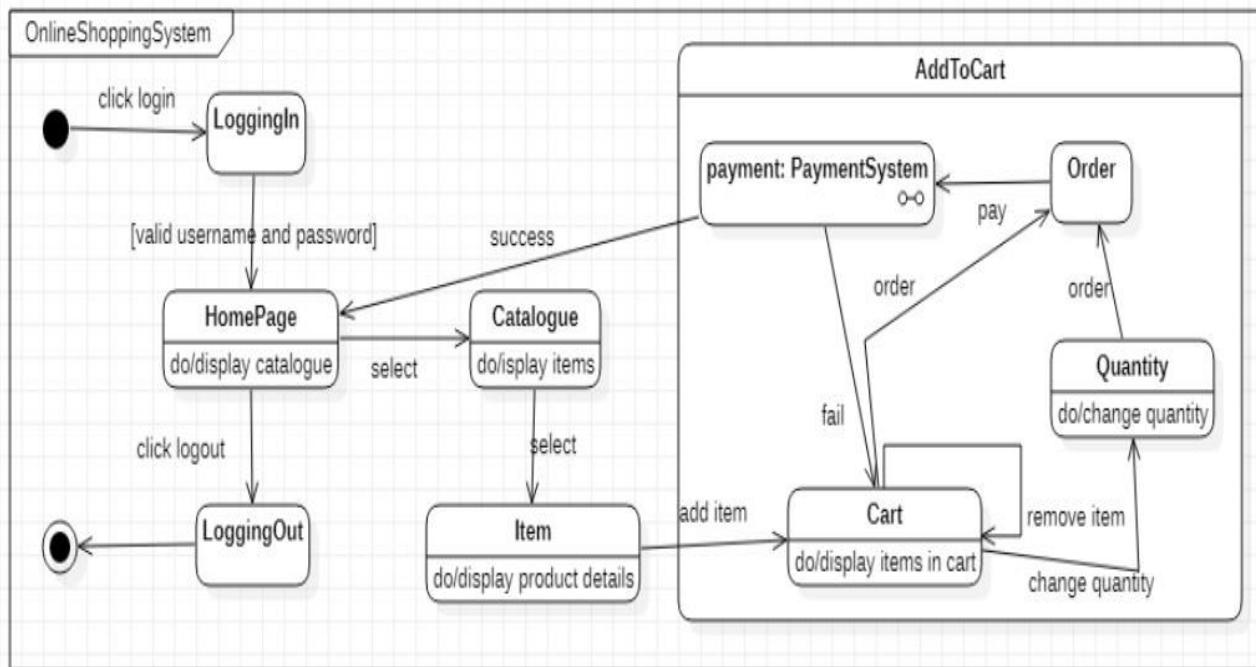
2. Draw the advanced class diagram

Class Diagram - of Online Shopping System.



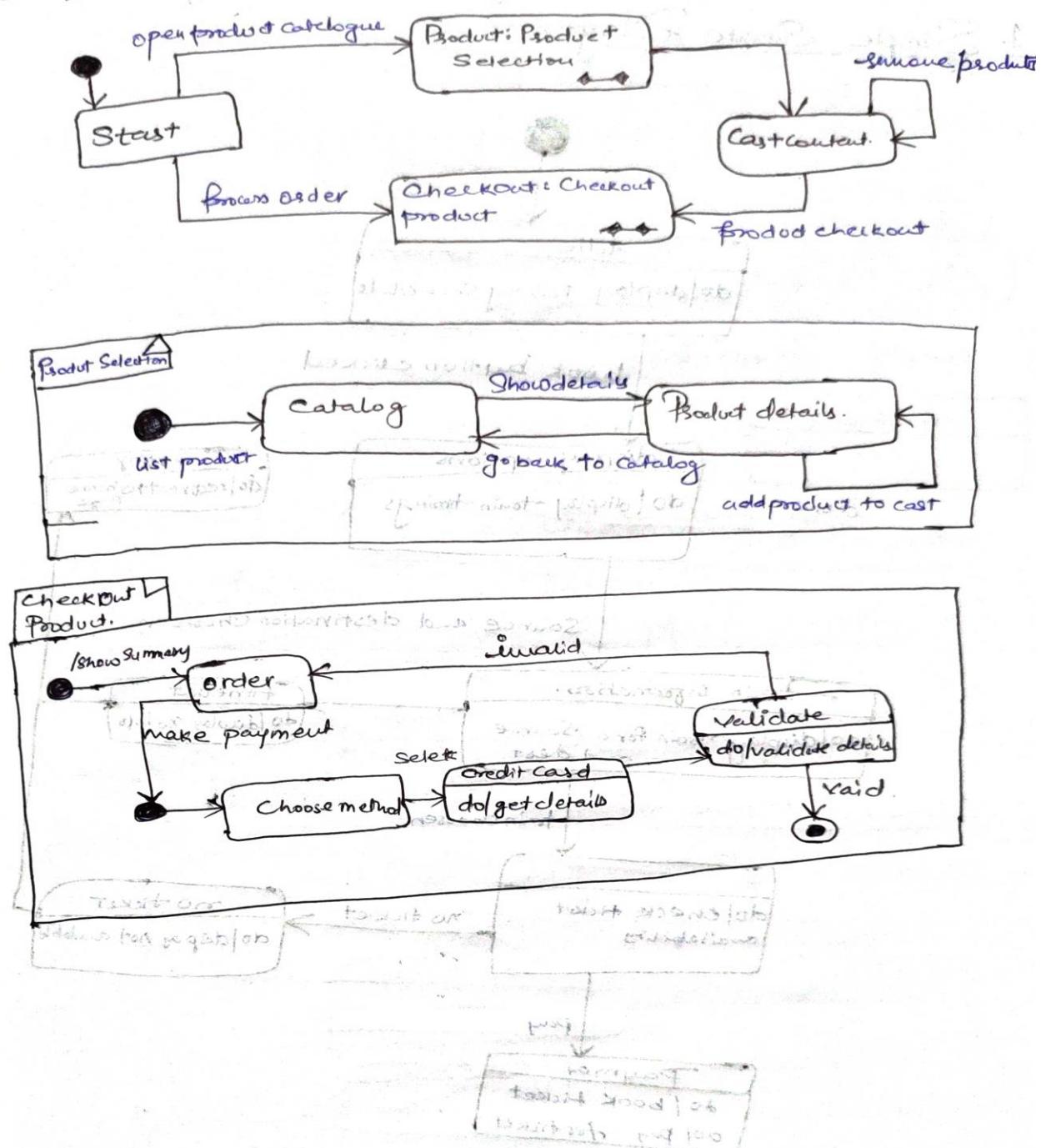


3. Draw the advanced state diagram

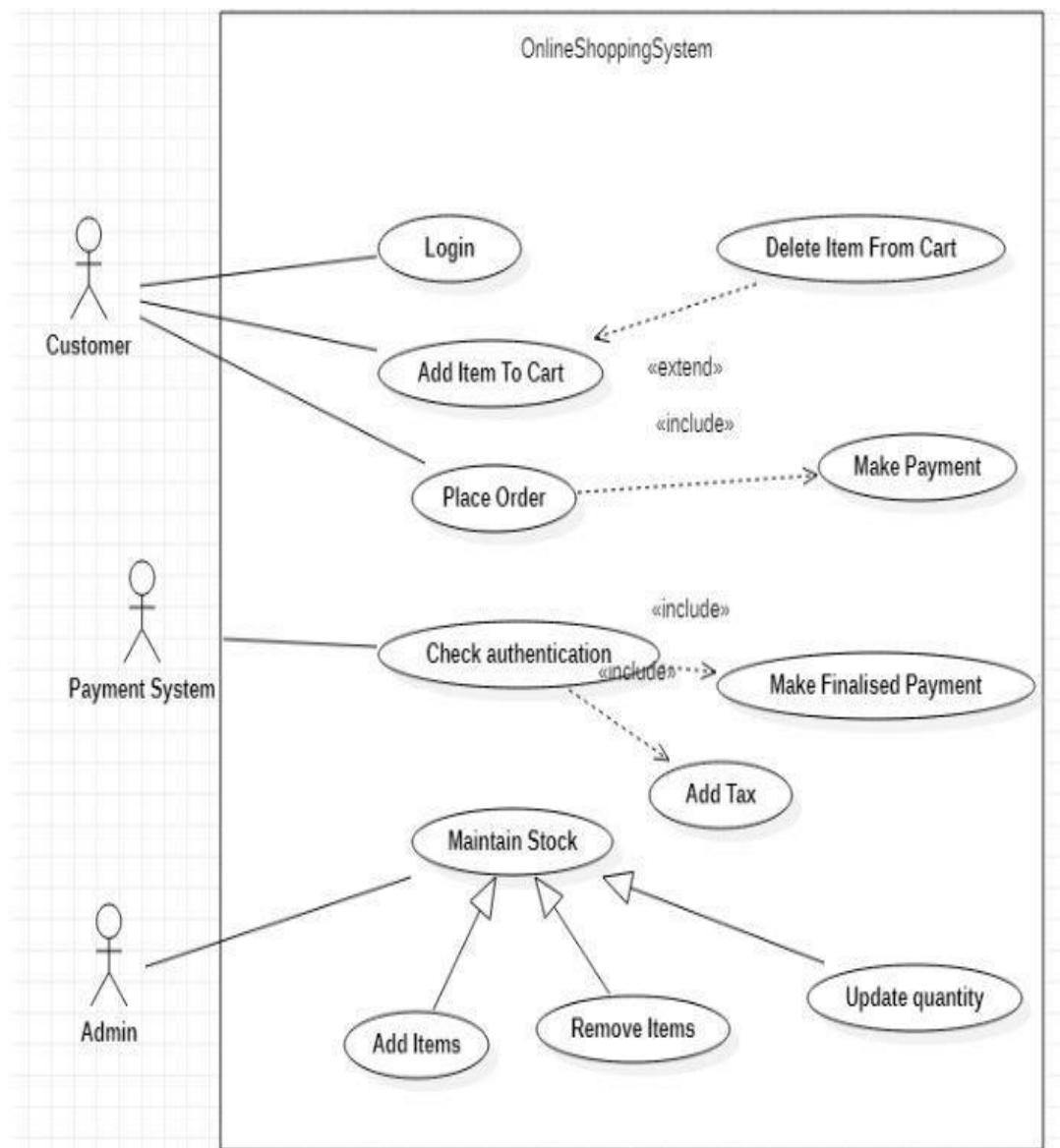


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Q. Advanced State Diagram:-

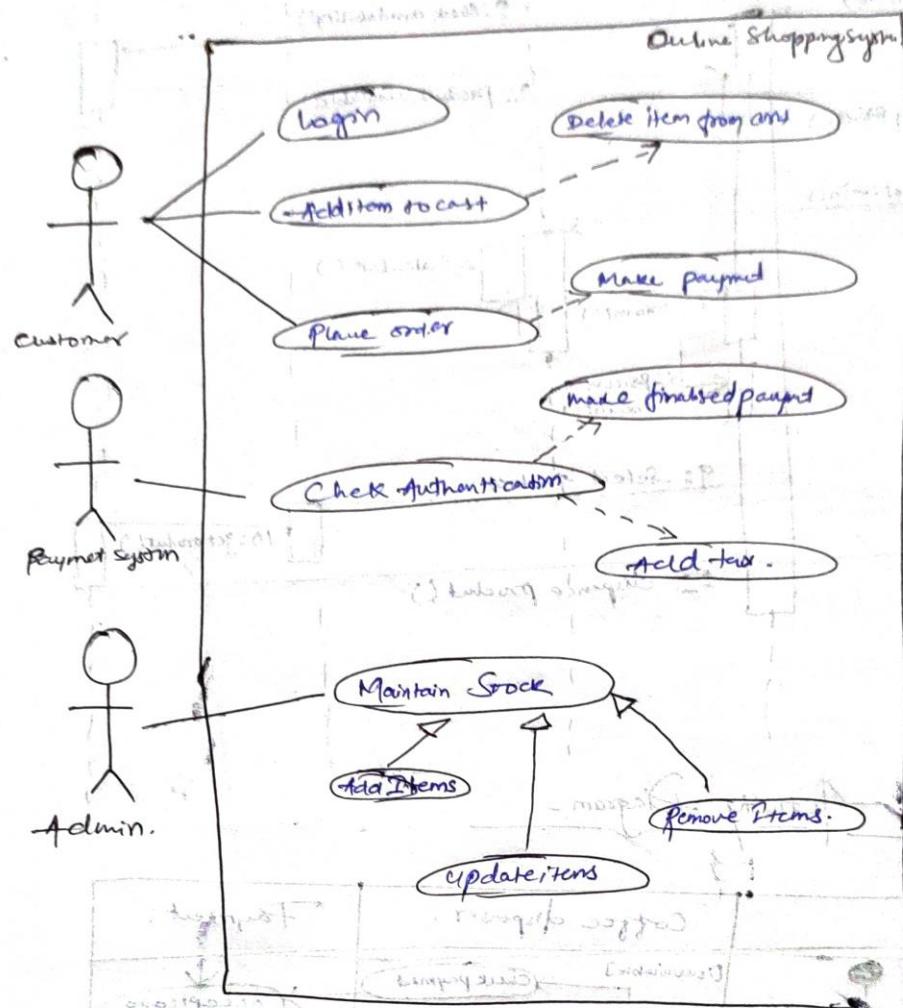


4. Draw the advanced use case diagram

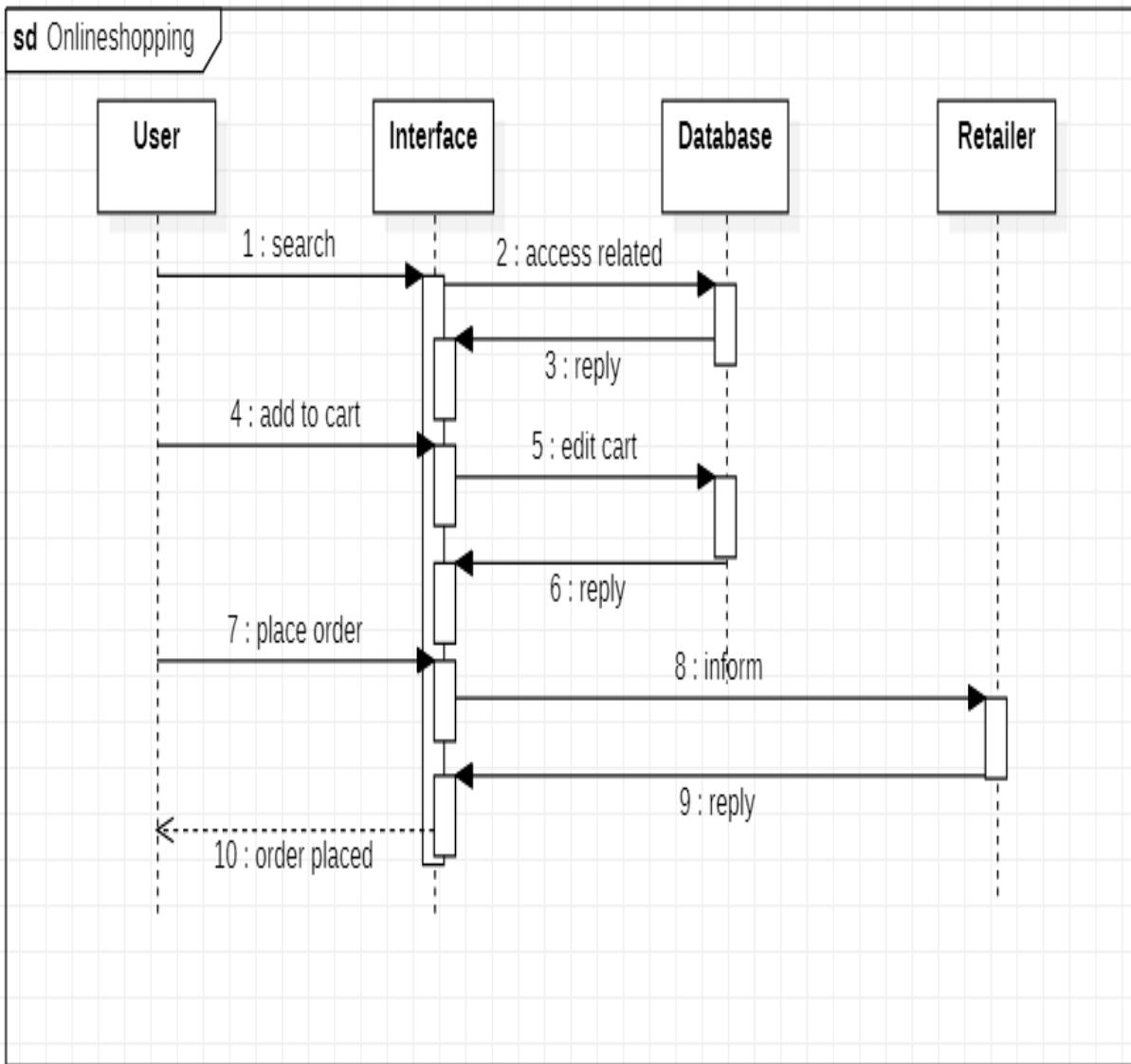


Online Shopping System:-

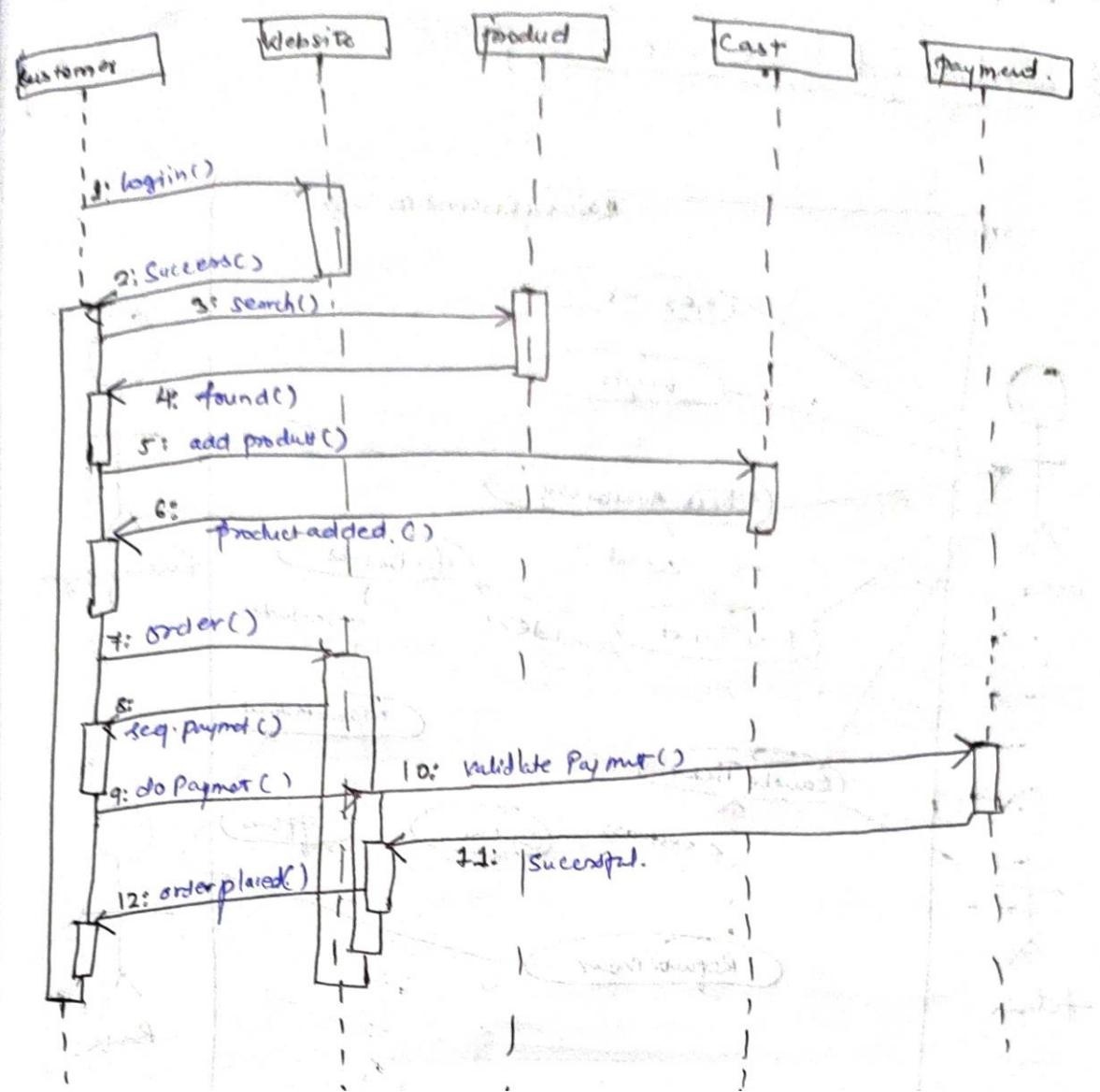
B. Advanced Use Case Diagram:-



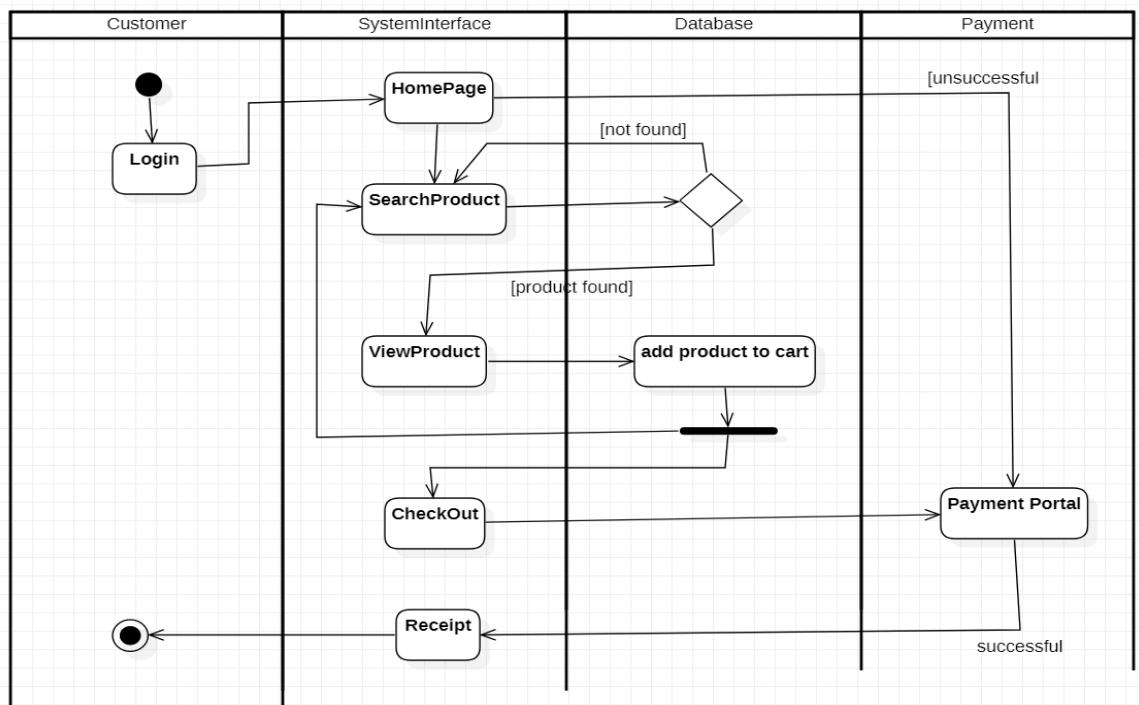
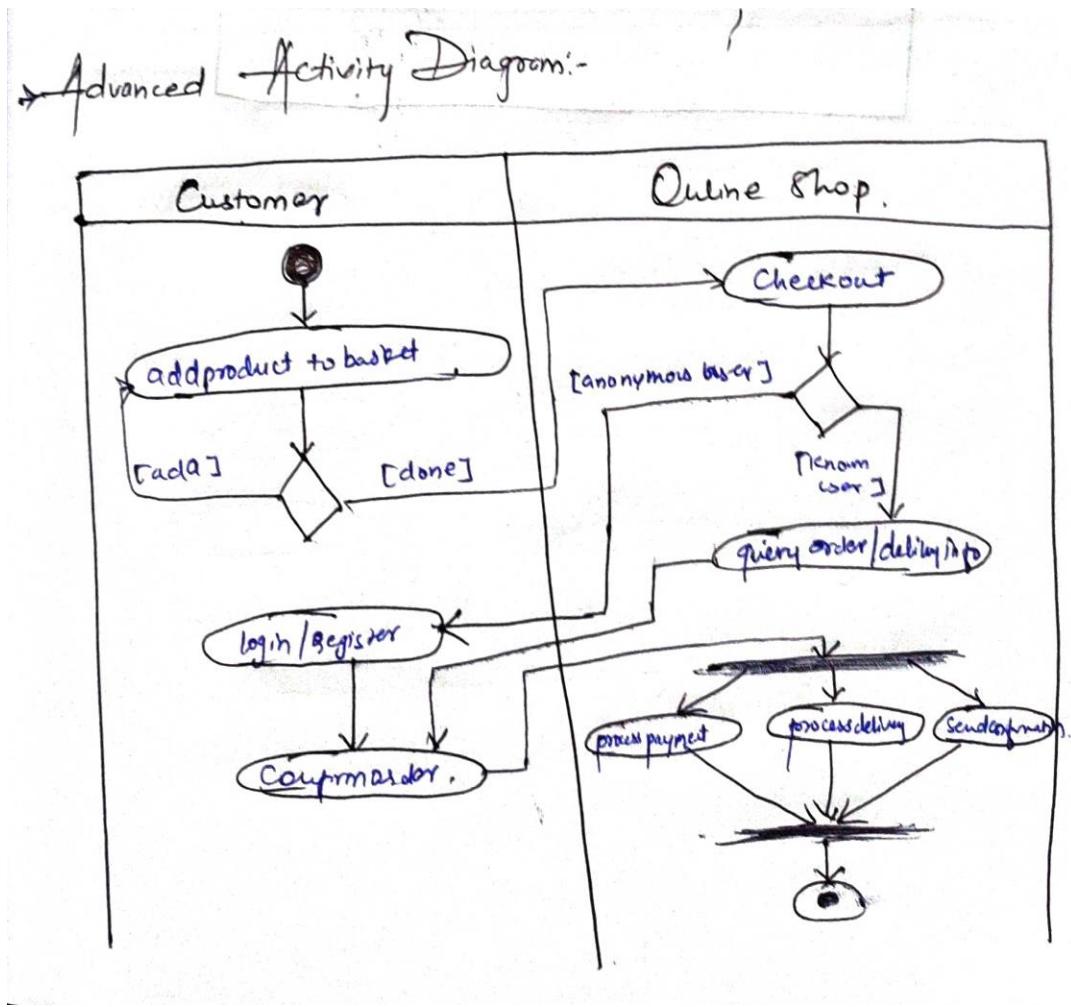
5. Draw the advanced sequence diagram



7. Advanced Sequence Diagram:-



6. Draw the advanced activity diagram



Exercise 6: Railway Reservation System

1. Write SRS

6. Railway Reservation System:-

→ Problem Statement:-

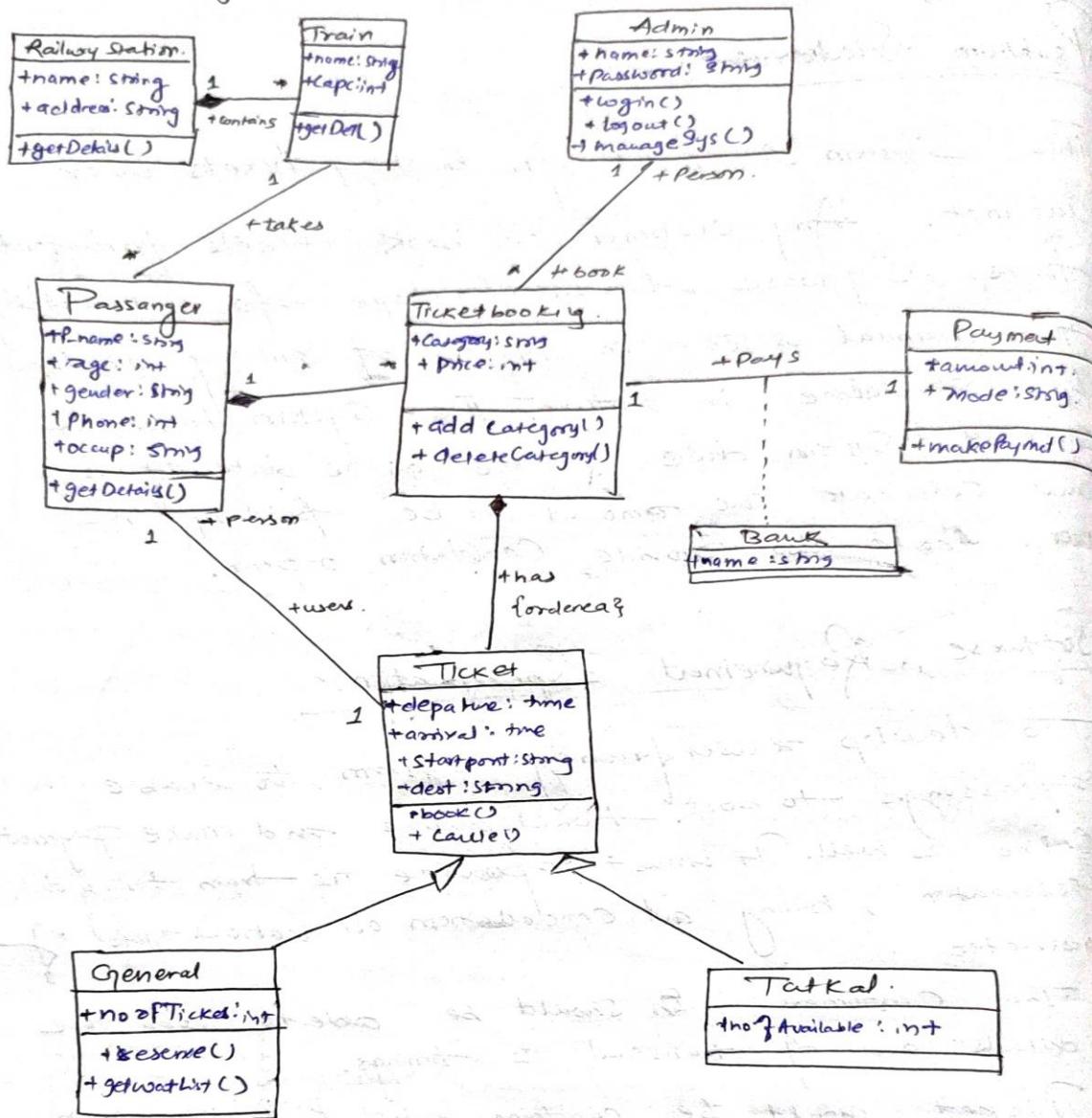
This System is used for booking tickets over internet. Any customer can book tickets for different trains. Software has been developed for automating the manual reservation system of railway. It should be standalone in nature. The system takes the current system date & time as the date of issue and calculate the amount to be paid by the user. Should also provide cancellation option.

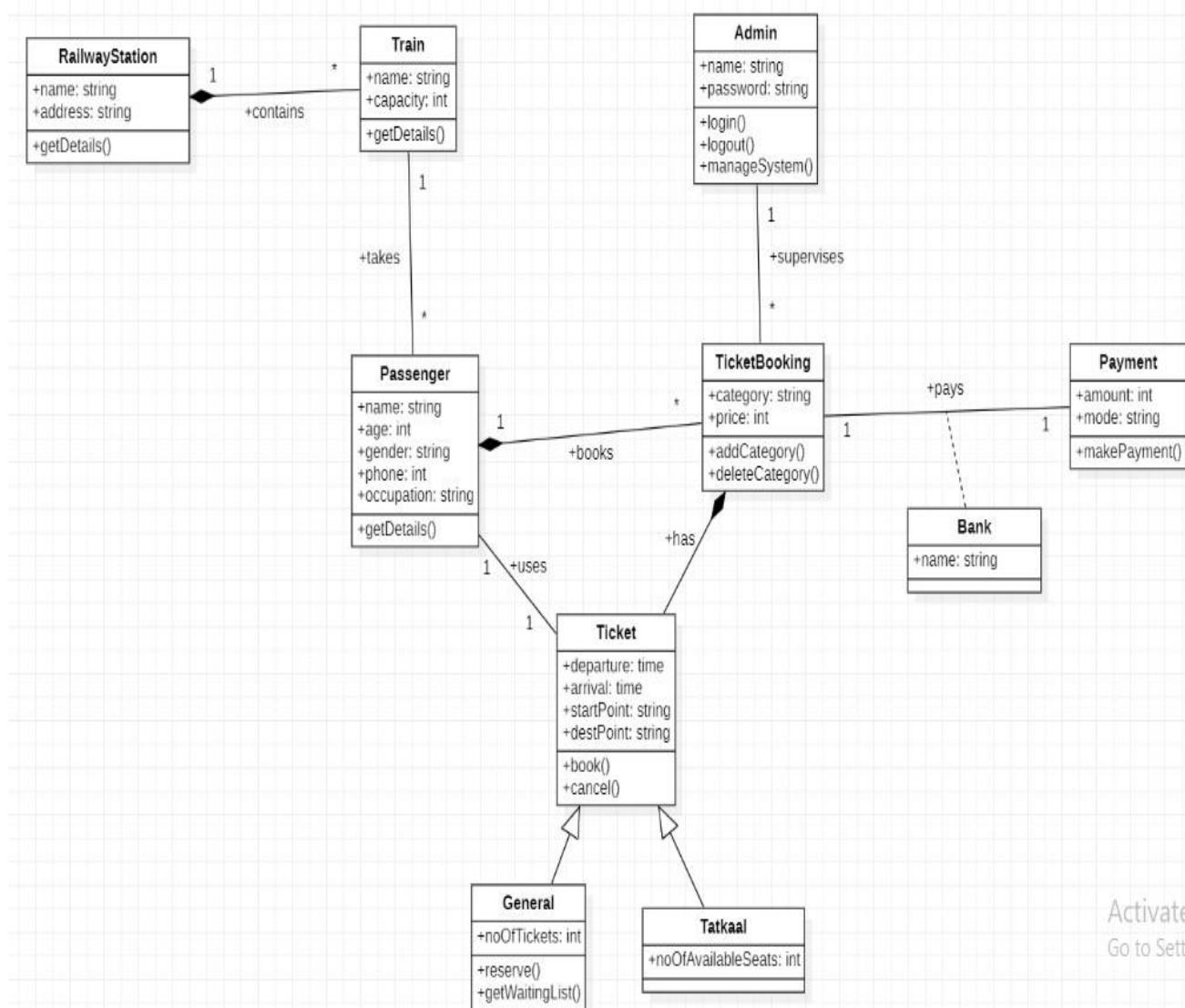
→ Software Requirements Specification:-

- To develop a user friendly system, to enable passengers to book tickets online and make payment online as well. It must provide the train timing details, reservation, billing and cancellation on various types of reservations.
- The customers should be able to see the details of trains and its timings.
- Ticket should be containing valid PNR number & showing the reservation status.
- Cancellation fee and Refund should be done in a secure line.

2. Draw the advanced class diagram

> Class Diagram:-

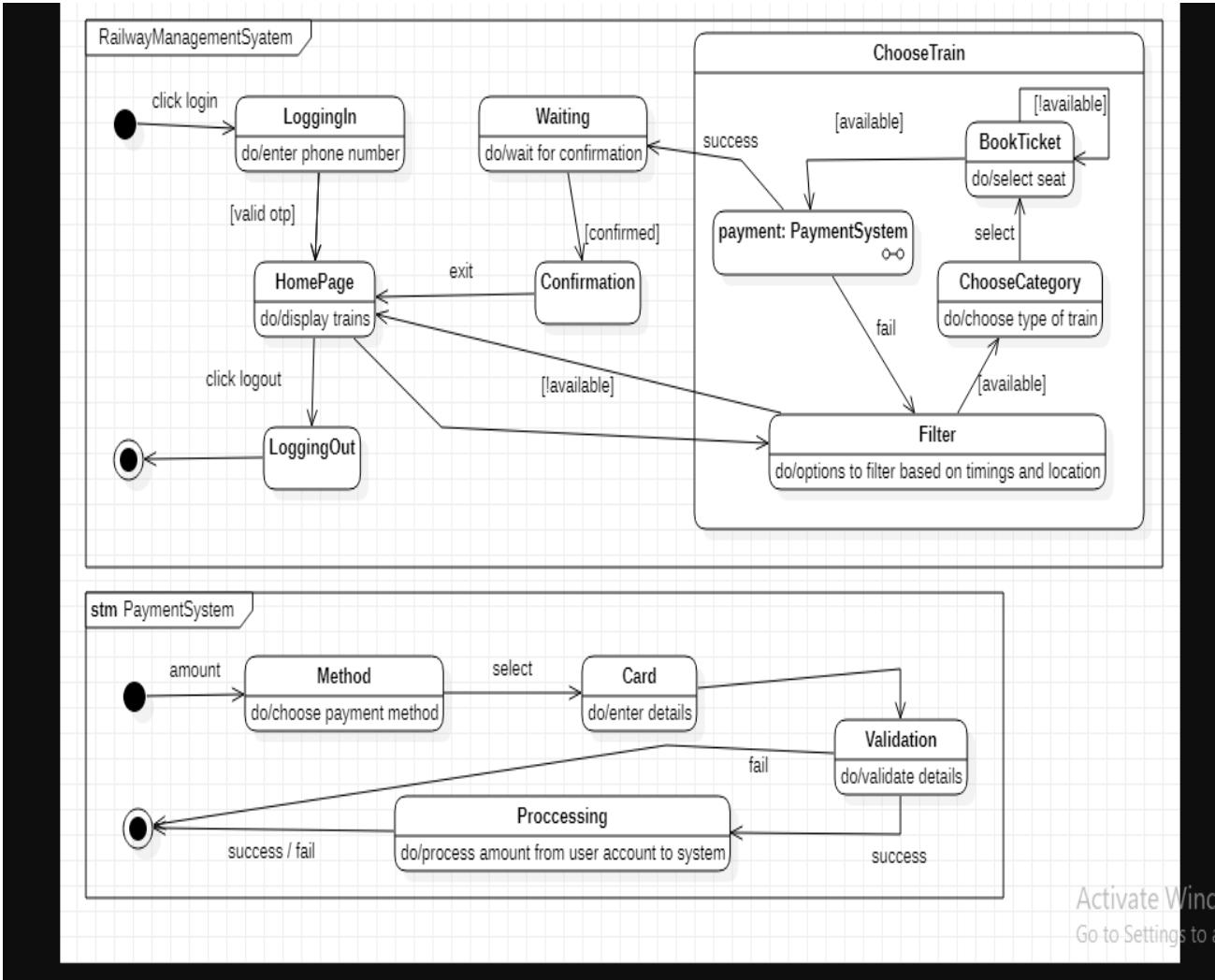




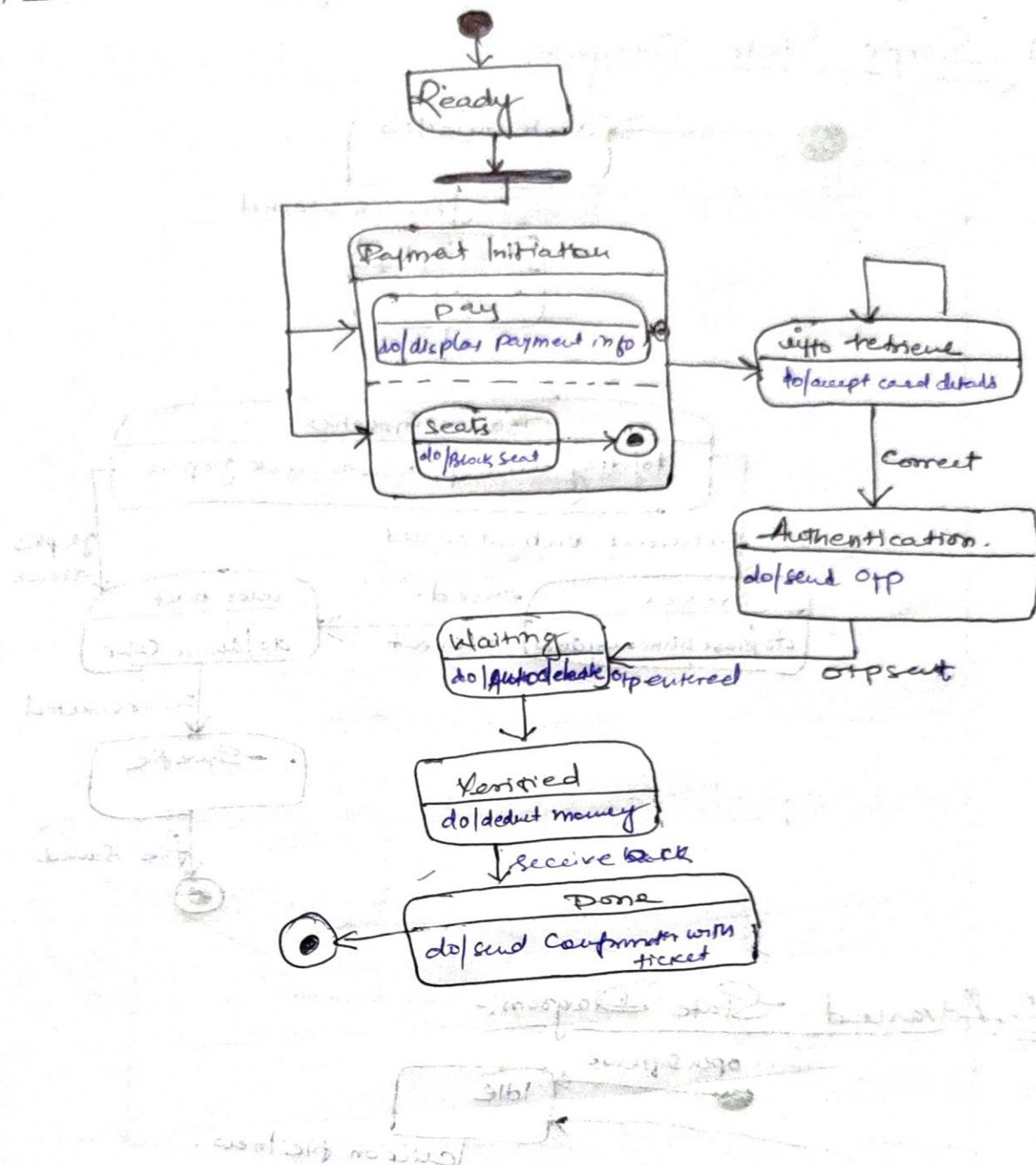
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Go to Settings t

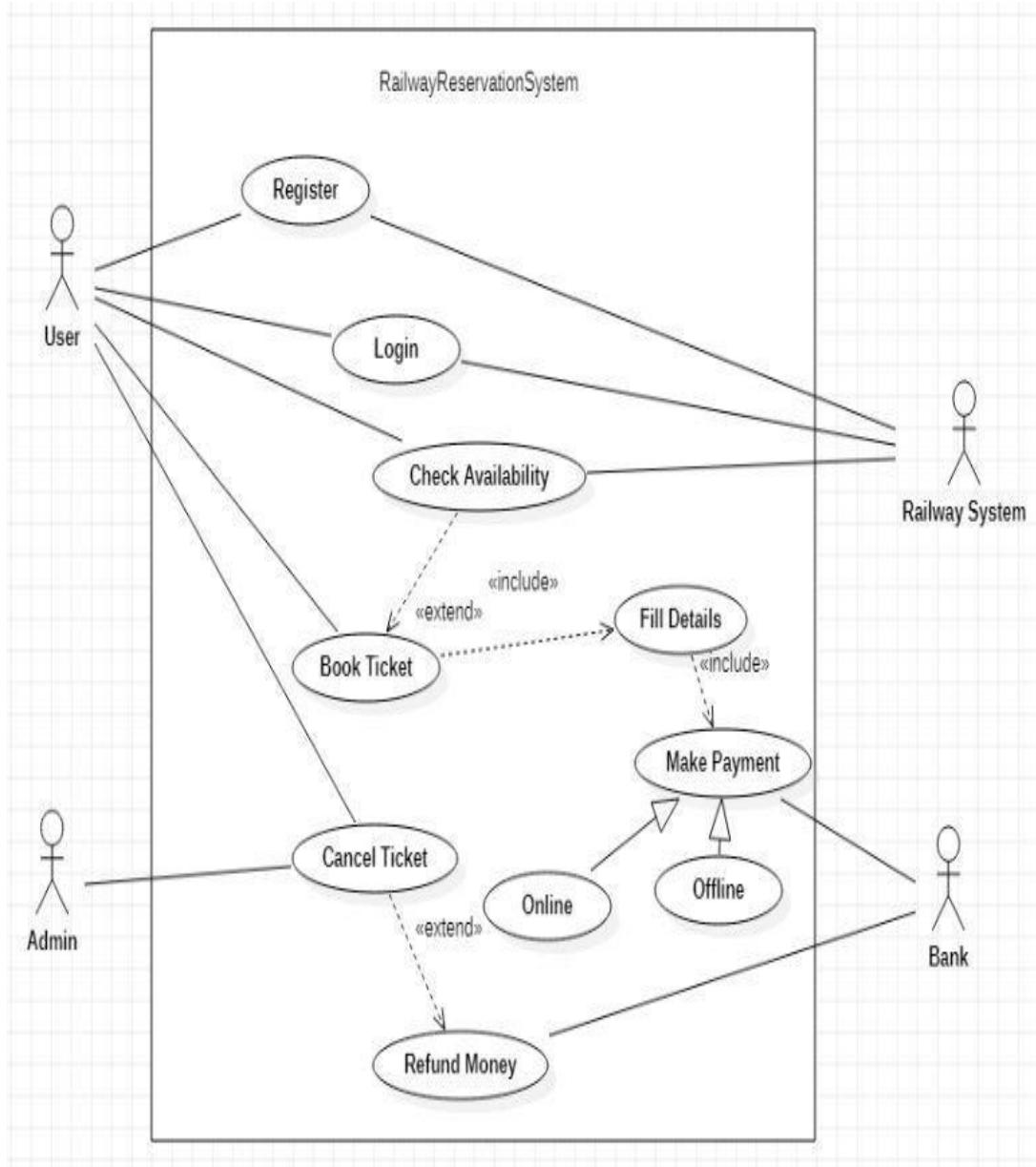
3. Draw the advanced state diagram



Advanced State Diagram:-

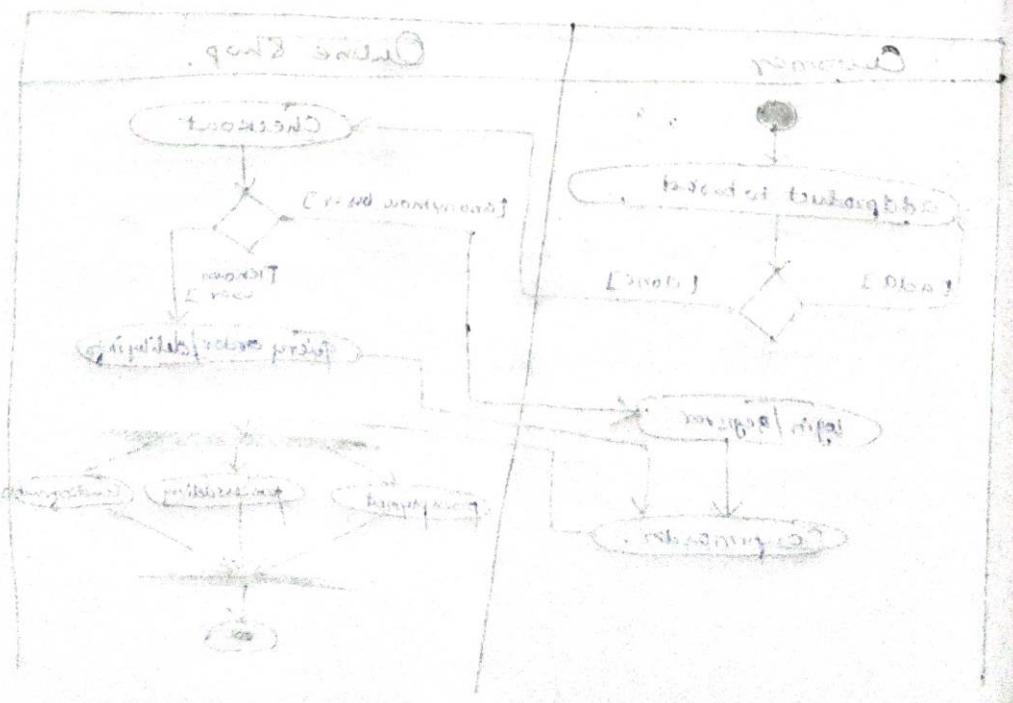
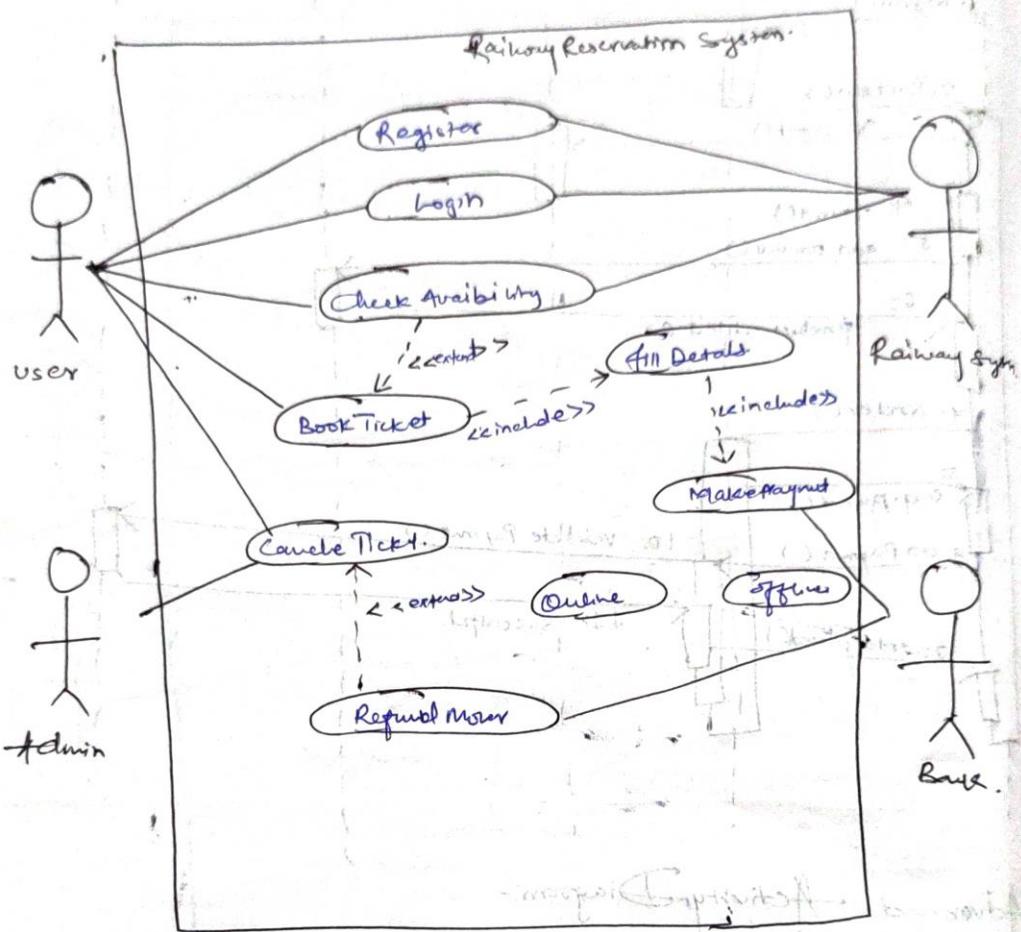


4. Draw the advanced use case diagram

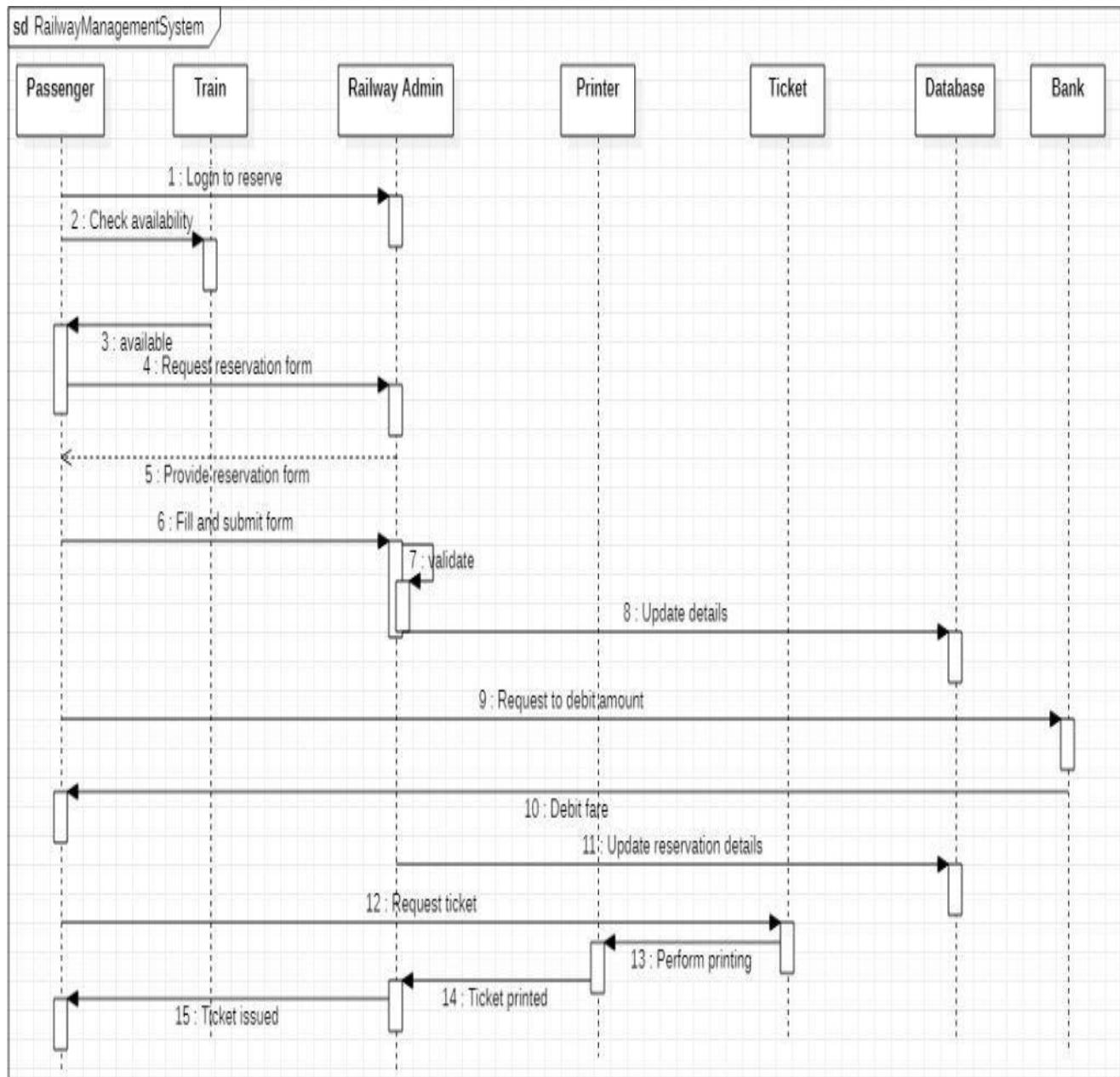


Railway Reservation System:-

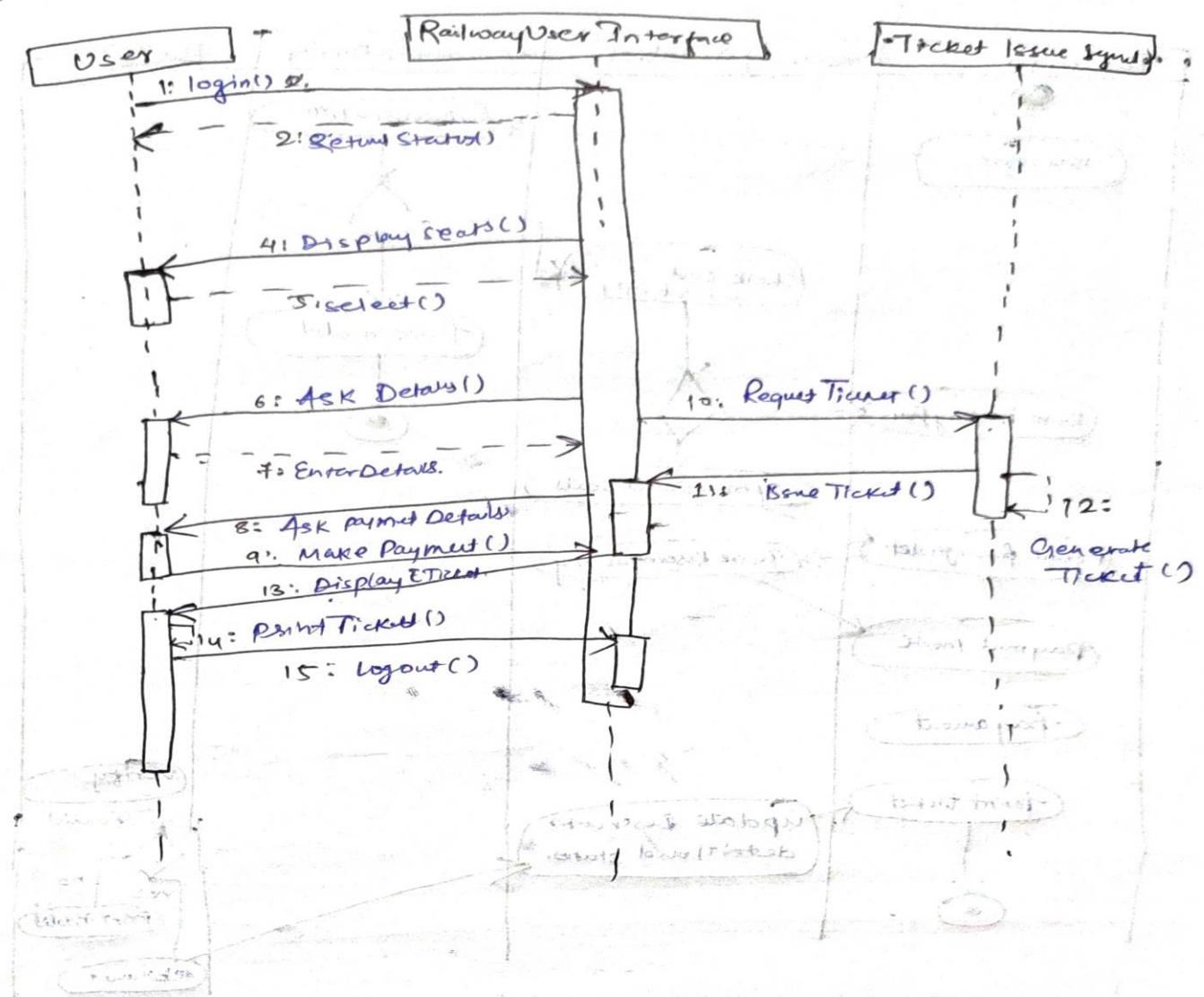
3. Advanced Use Case Diagram:-



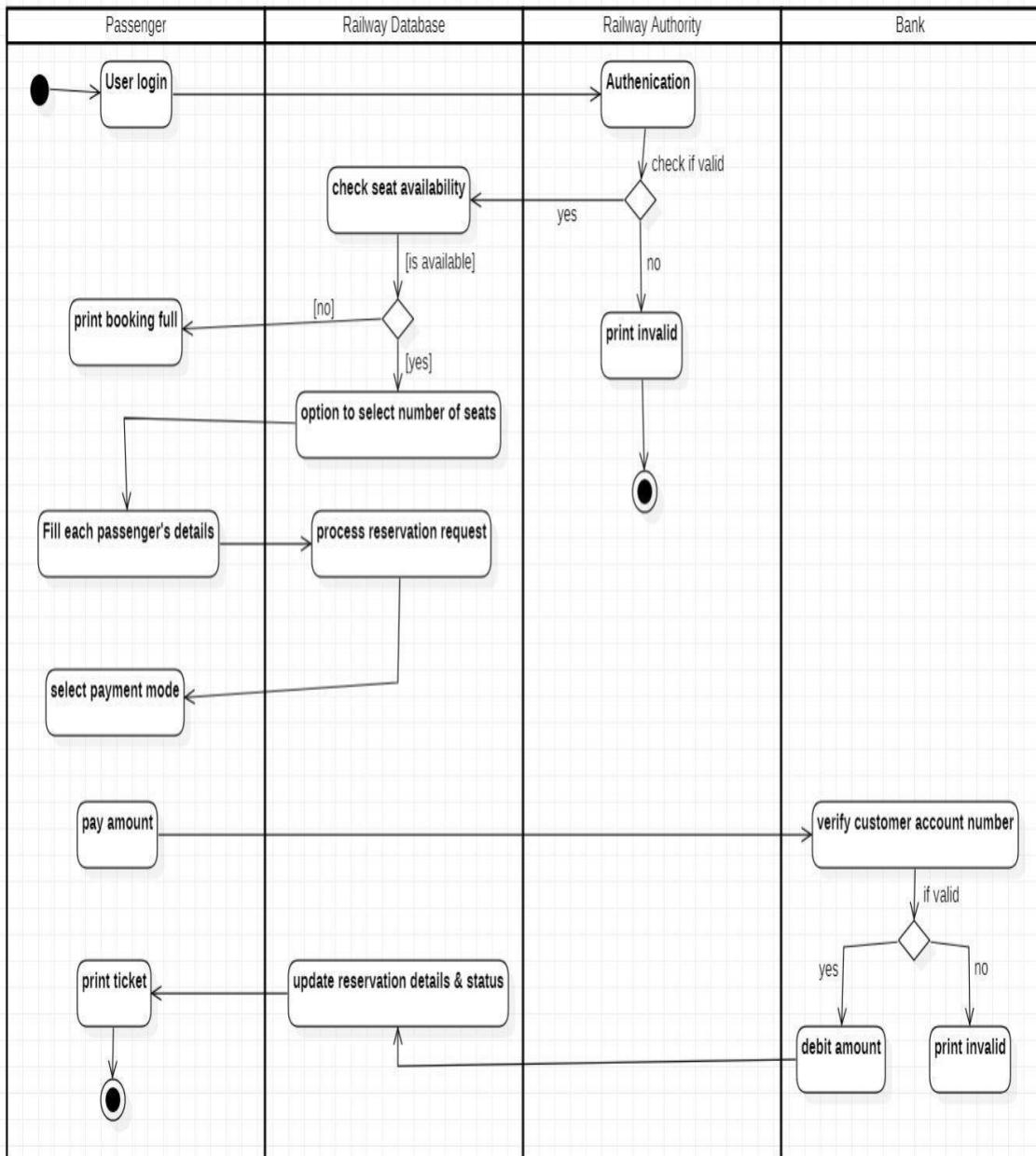
5. Draw the advanced sequence diagram



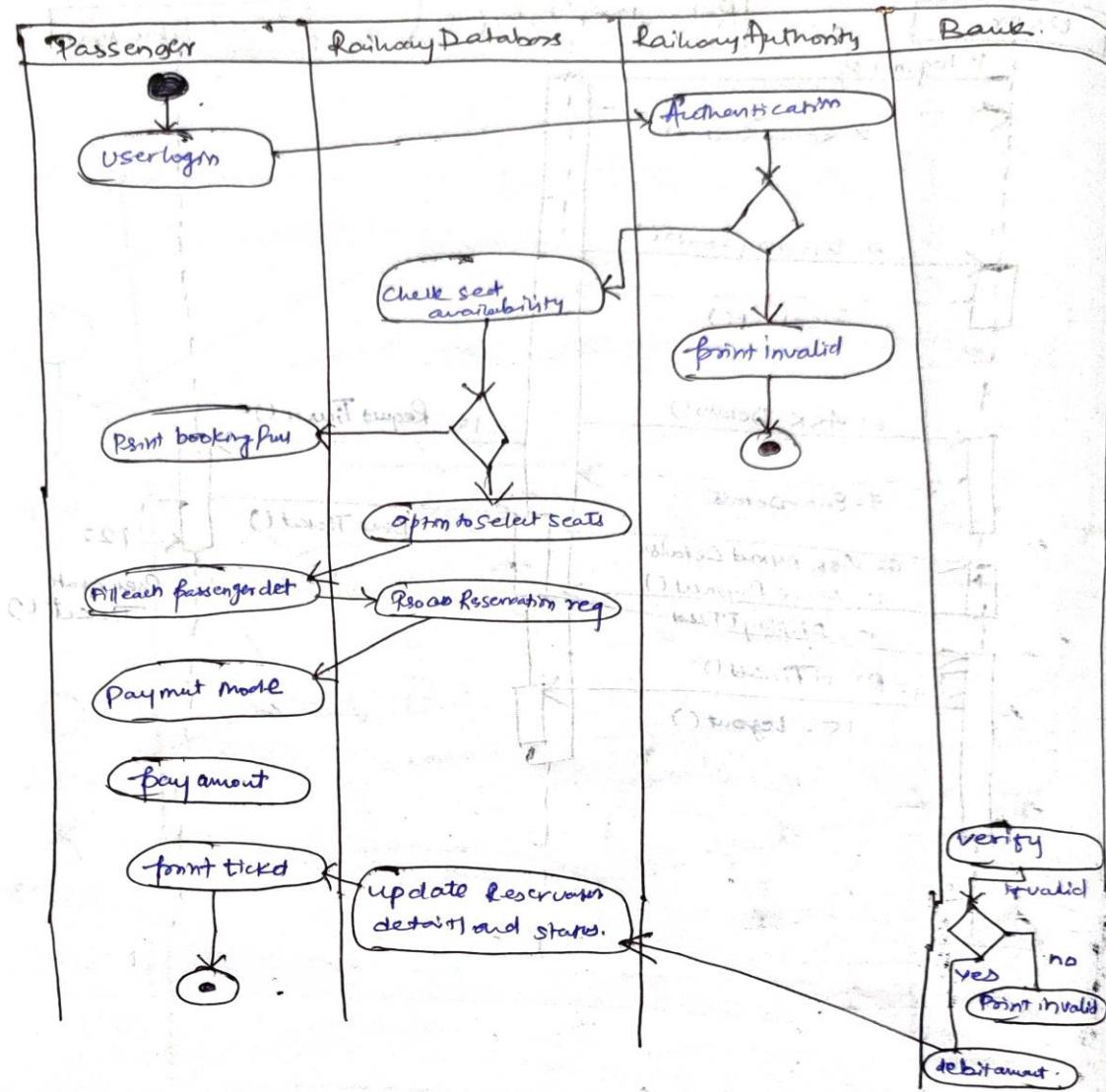
4. Advanced Sequence Diagram:-



6. Draw the advanced activity diagram



5. Advanced Activity Diagrams:-



Exercise 7: Graphics Editor System

1. Write SRS

F. Graphics Editor:-

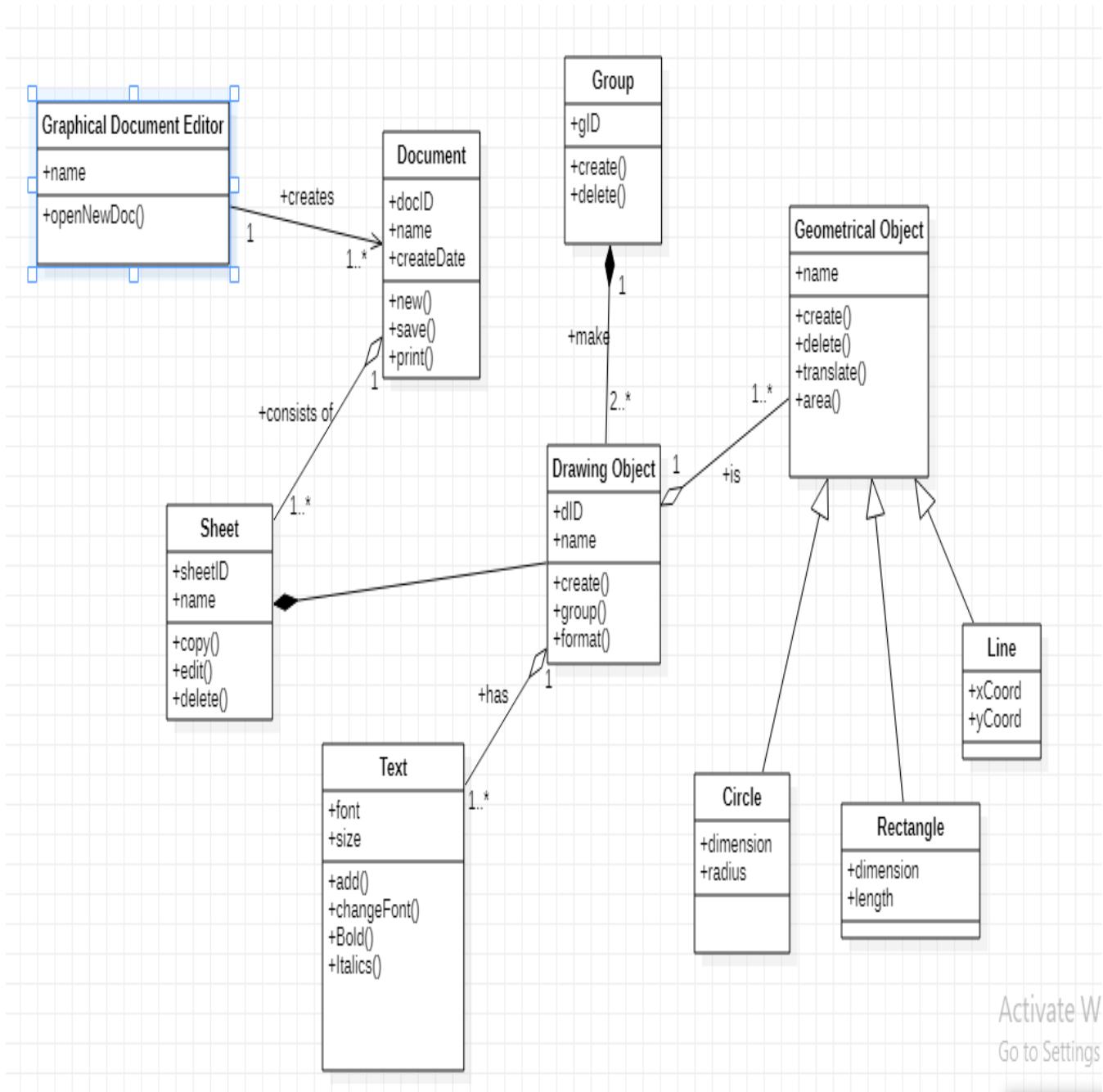
• Problem Statement:-

The graphics editor provides an Application programmer's interface that enables a programmer to develop their own graphical model editor for a specific type of model. This API in turn, relies on Extending the Eclipse Graphical Editing framework to provide an environment in which new editor functions and the programmer can create a palette of graphical shapes and

• Software Requirements Specification:-

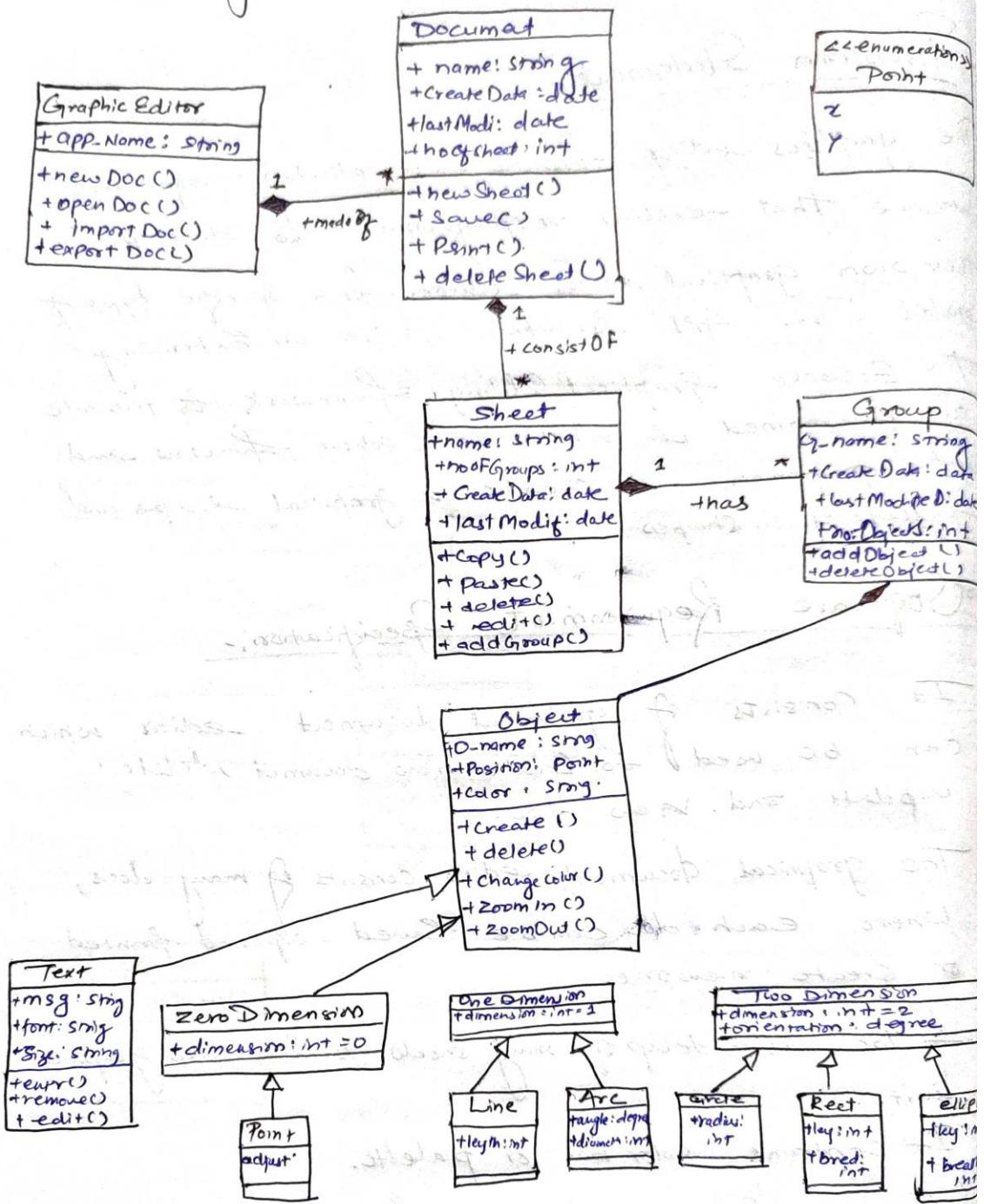
- It consists of graphical document editors which can be used to create new documents, delete, update and view docs.
- The graphical document editor consists of many docs, where each doc can be saved, opened, printed or create new one.
- A doc is made up of many sheets to include graphics init.
- It contains color box or palette.
- Easy handling of tools for users.
- It provides provision of zooming in or out.
- Also provides different shadings of line tool.

2. Draw the advanced class diagram

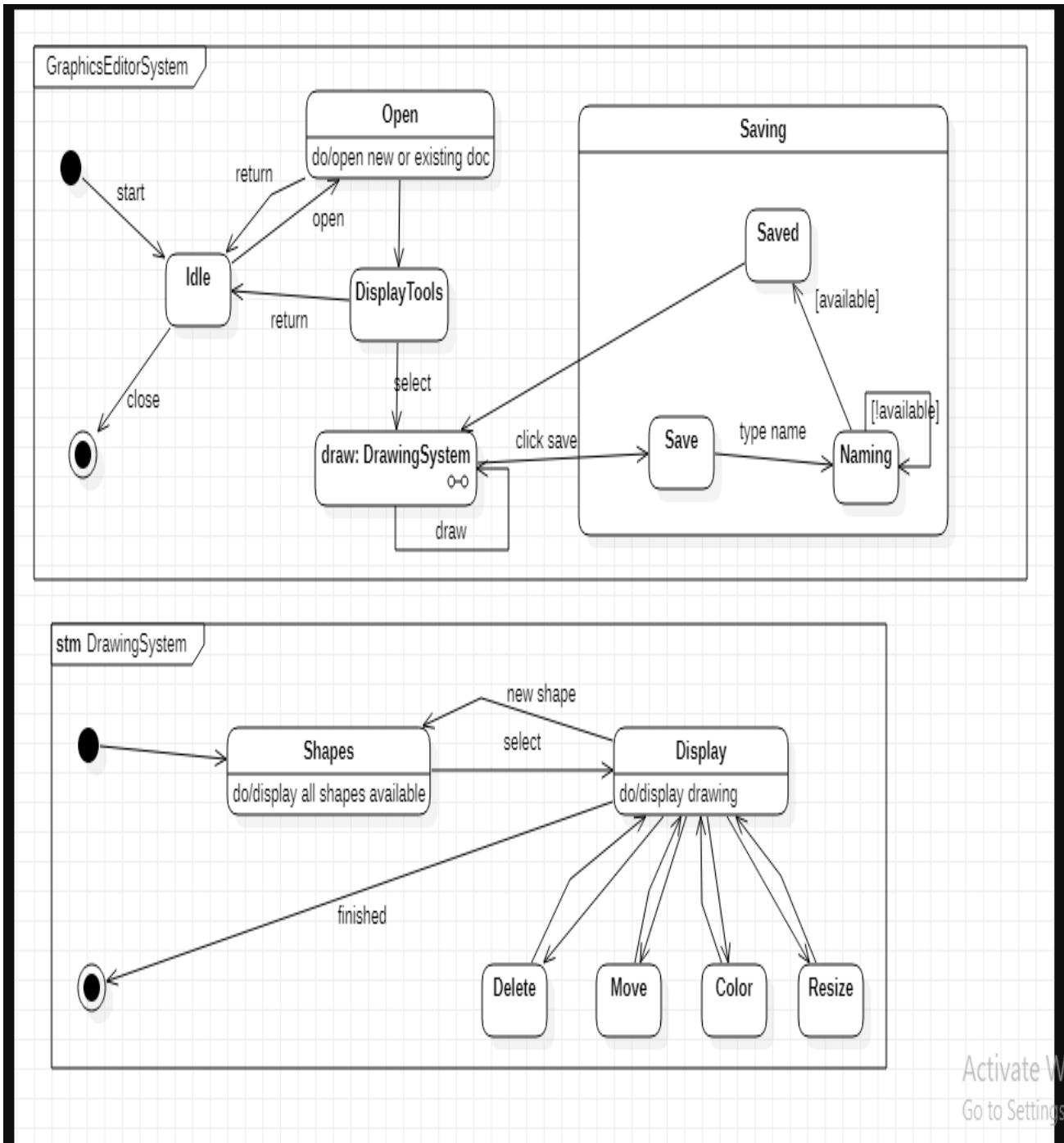


Activate W
Go to Settings

> Class Diagrams

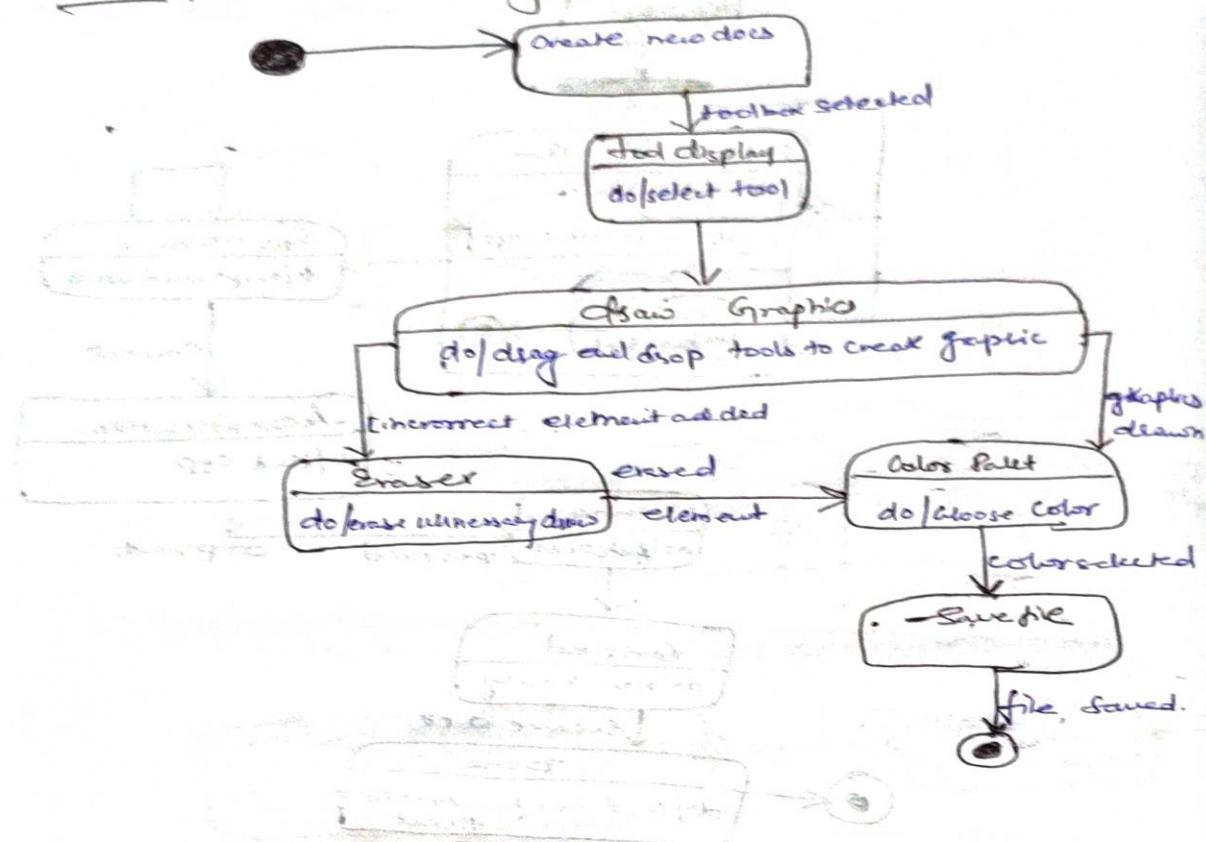


3. Draw the advanced state diagram

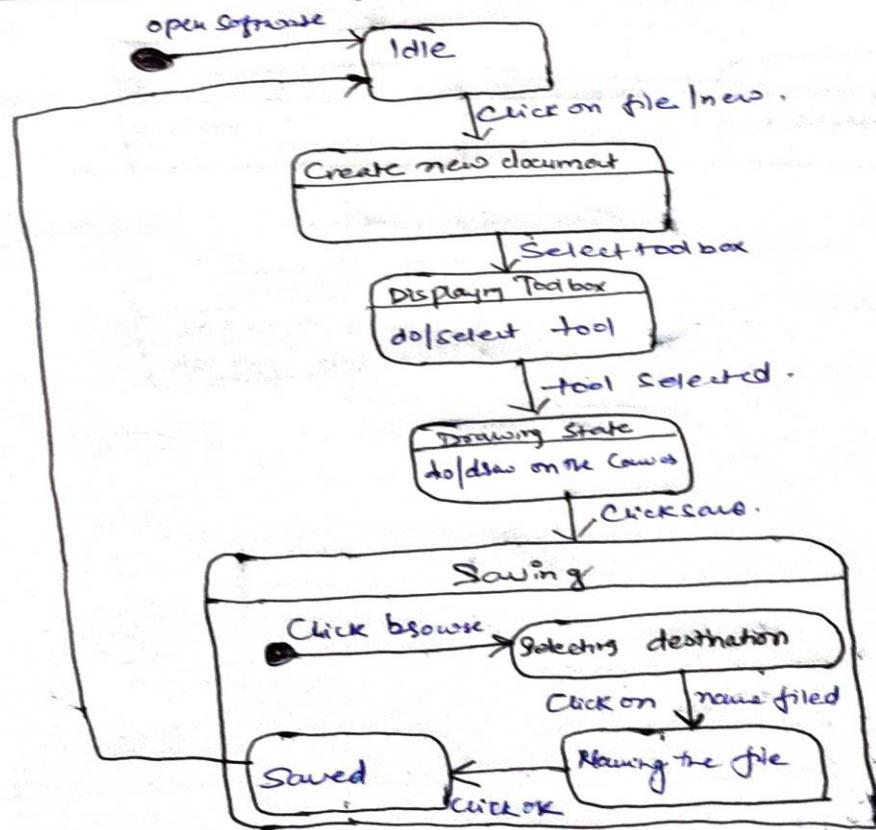


→7. Graphics Editor : State Diagram:-

1. Simple State Diagram:-



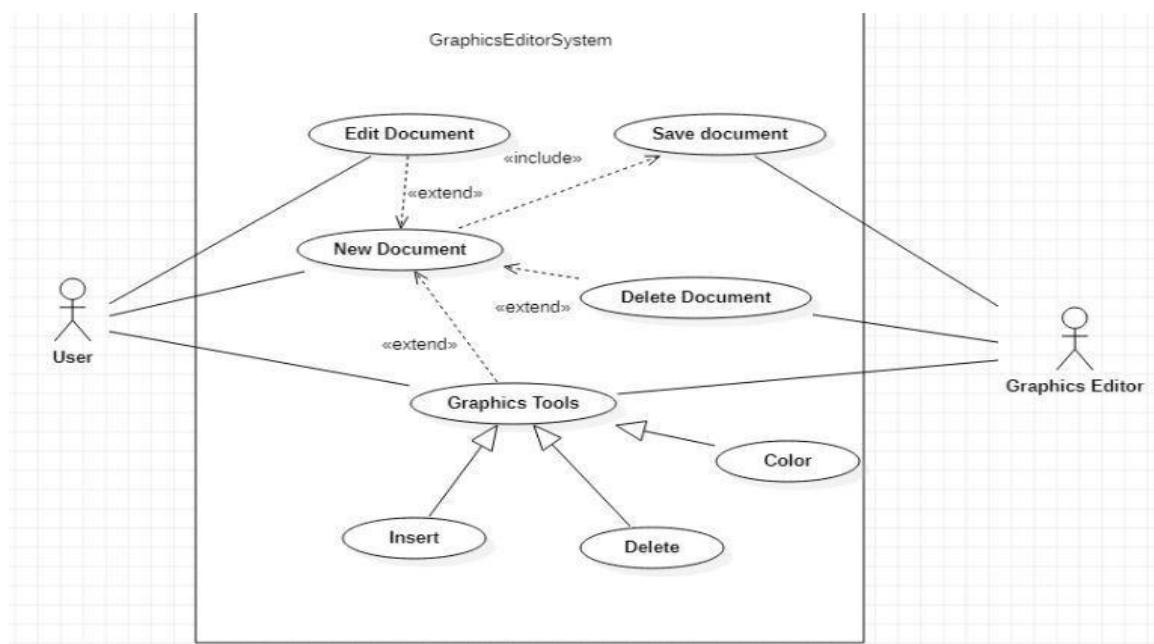
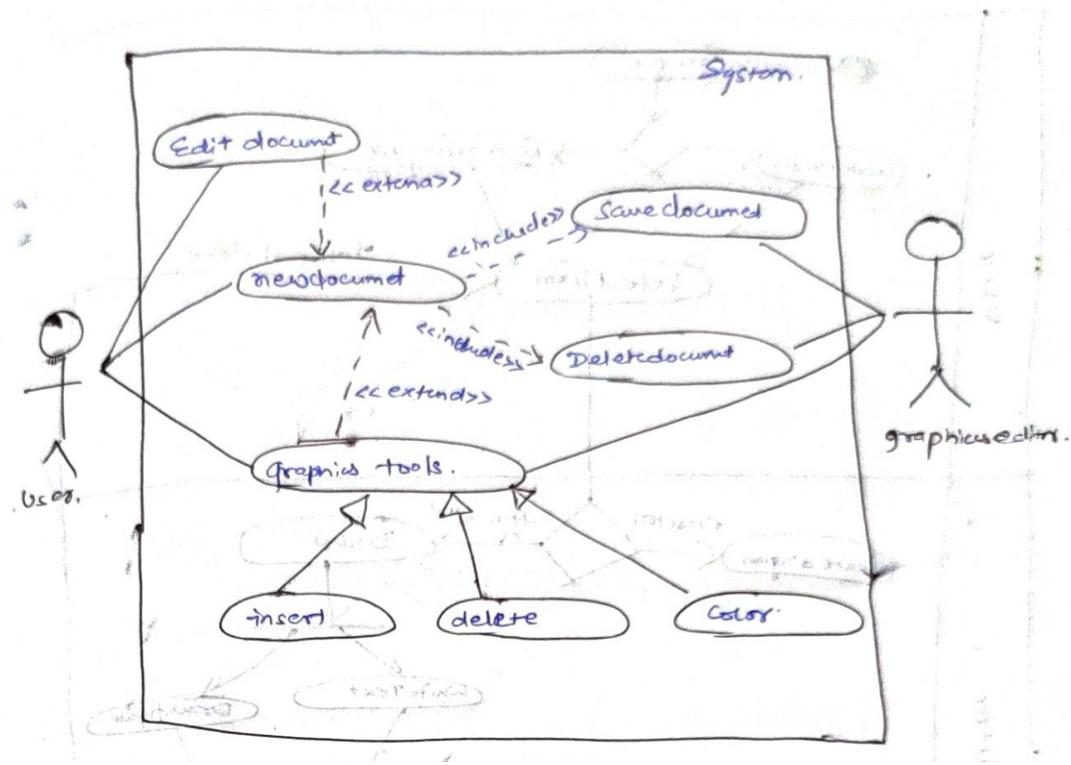
2. Advanced State Diagram:-



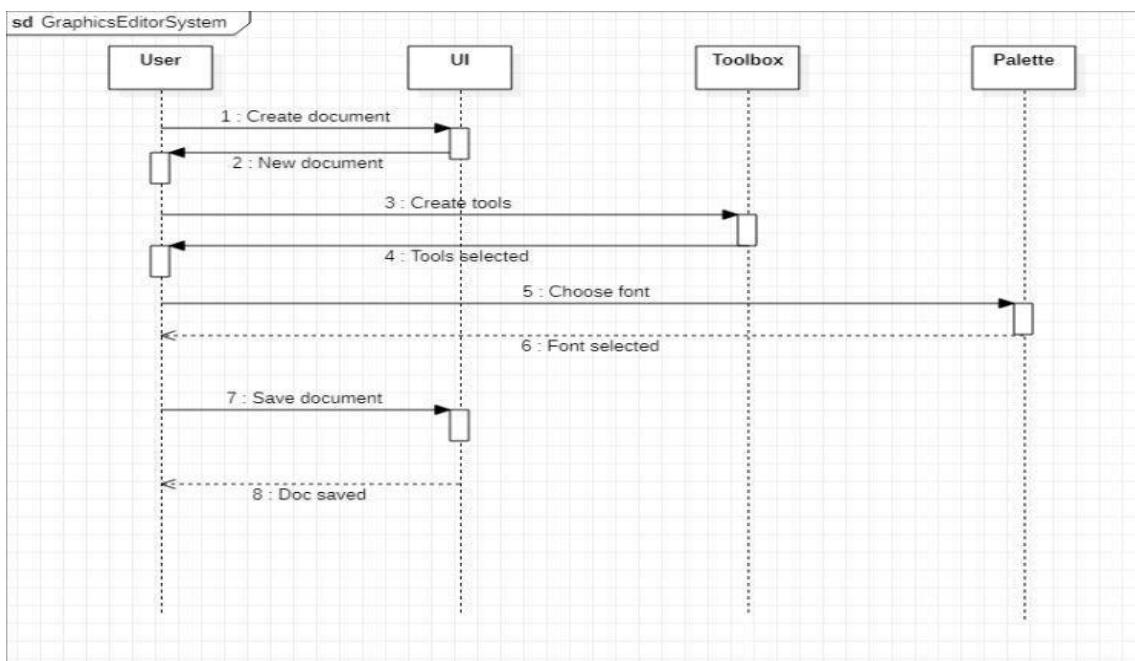
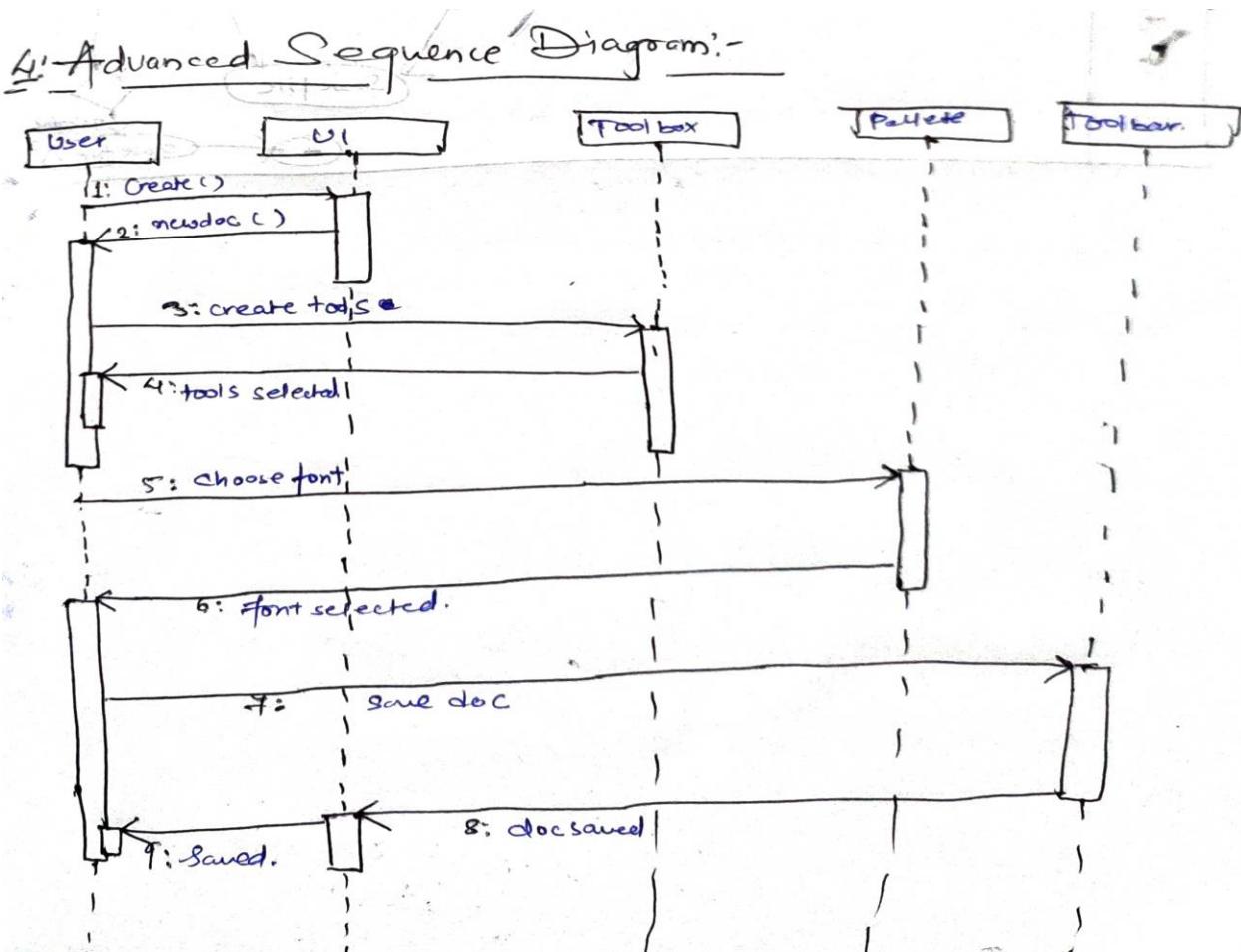
4. Draw the advanced use case diagram

Graphics Editor-

3. Advanced Use Case Diagram-



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram

★ Advanced Activity Diagram :-

