

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT on

OBJECT ORIENTED MODELING AND DESIGN

Submitted by

NIKHIL S N(1BM19CS102)

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 **NIKHIL S N(1BM18CS102)**, 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.

Dr. Shyamala
Assistant Professor
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Course Outcome

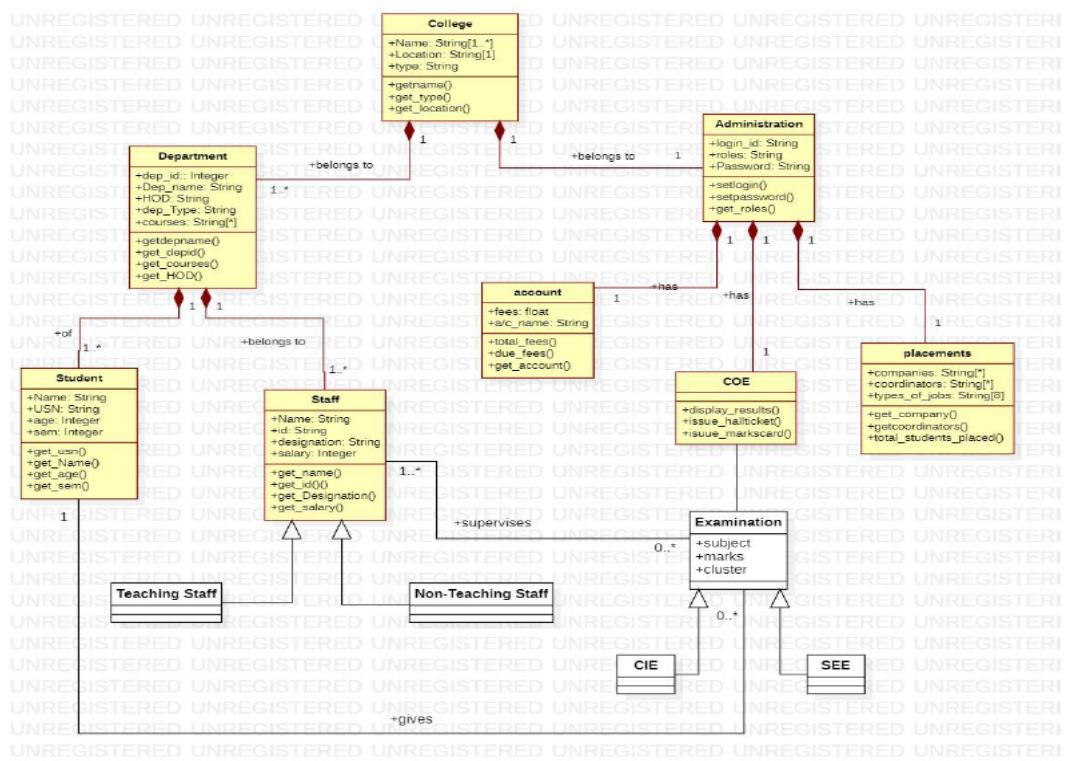
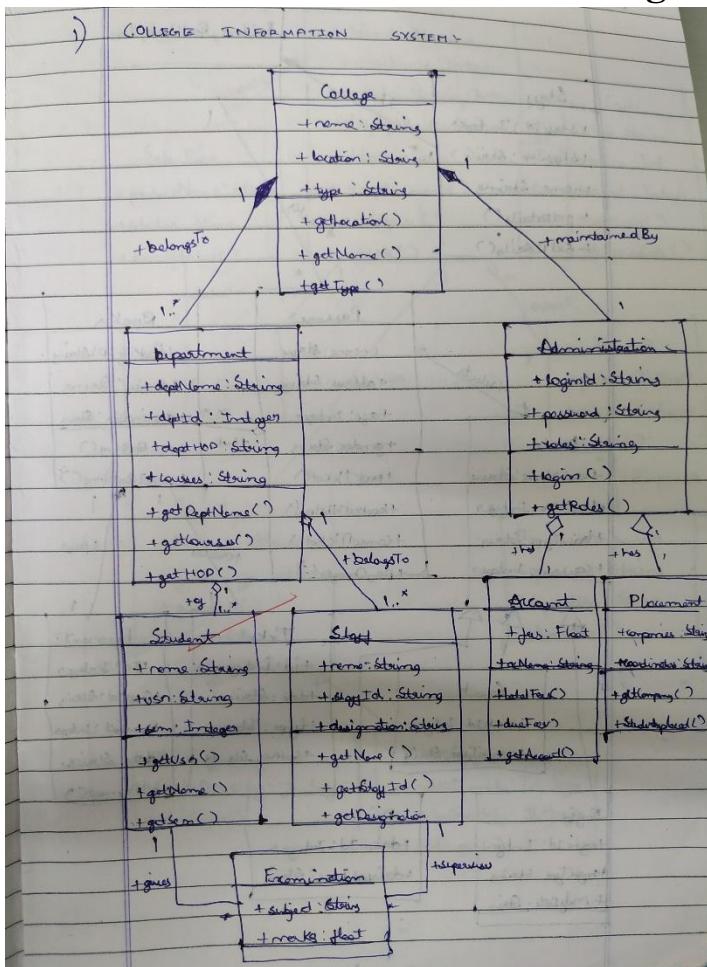
| | |
|-----|--|
| CO4 | Ability to conduct practical experiments to solve a given problem using Unified Modeling language. |
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Exercise 1: College Information System

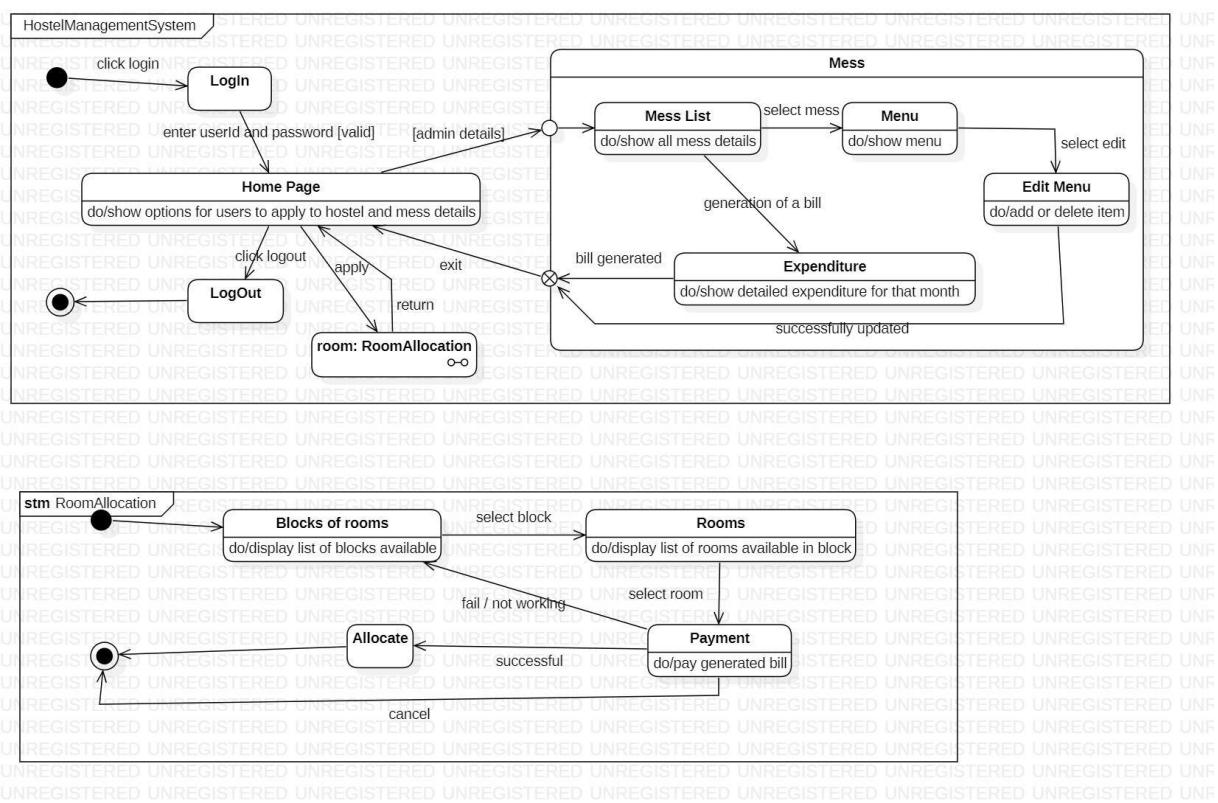
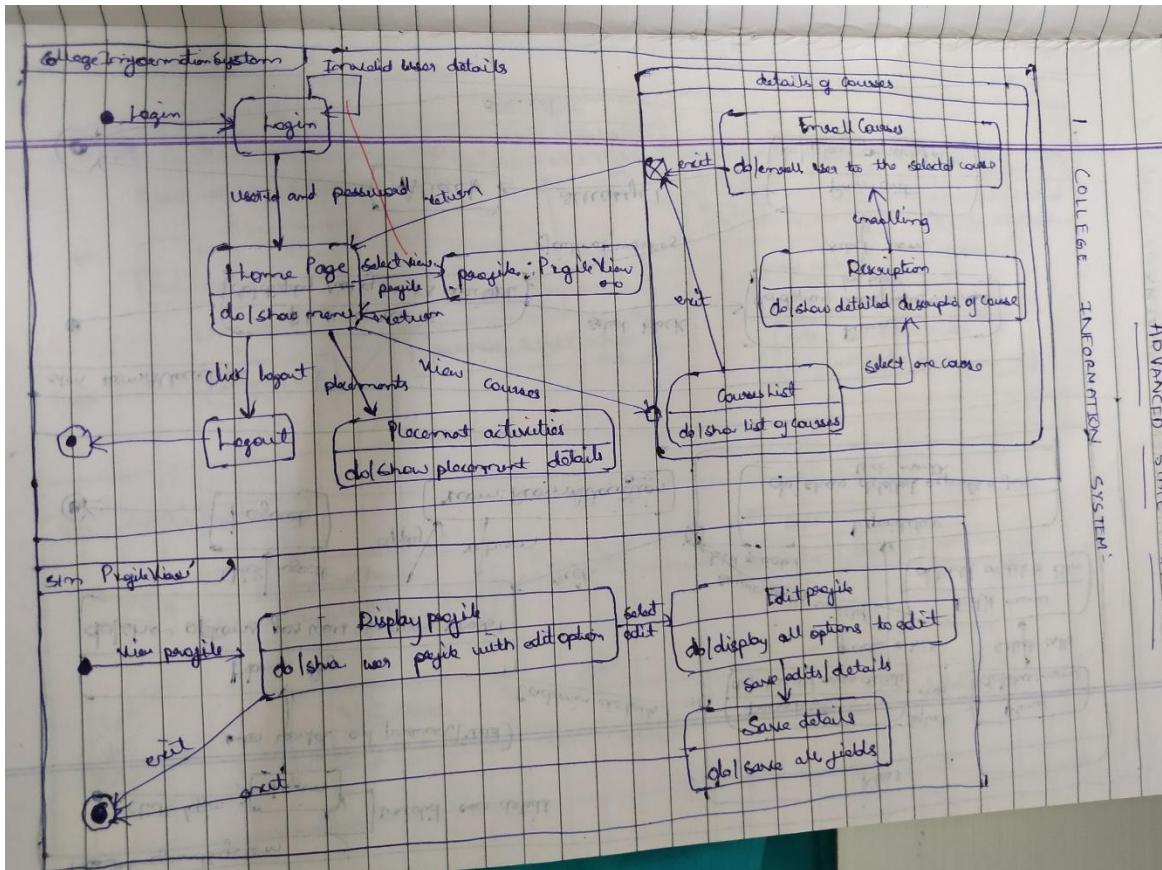
1. Write SRS

| <u>SOFTWARE REQUIREMENTS SPECIFICATION</u> | | |
|---|--|--|
| (1) COLLEGE INFORMATION SYSTEM | | |
| → Educational institutions should be able to add, edit & view student personal details like name, age, gender, email, phone number, address & so on. | | |
| → Educational institutions should be able to add, edit & view student academic details, like usn, department Semester and registered courses. | | |
| → Faculty should be able to view all student personal details and should be able to view and edit internal evaluation marks and attendance of students. | | |
| → The COE office should be able to view all student personal details, and should be able to view and edit internal evaluation marks and attendance of students. | | |
| → Placement section should be able to view all student details and add companies coming to the campus for placements. | | |
| → Management section should be able to view, add and edit teaching and non-teaching staff details. | | |
| → Students should not be allowed to edit their personal or academic details. | | |
| → The system should be convenient and easy to use by students, management and faculty. | | |

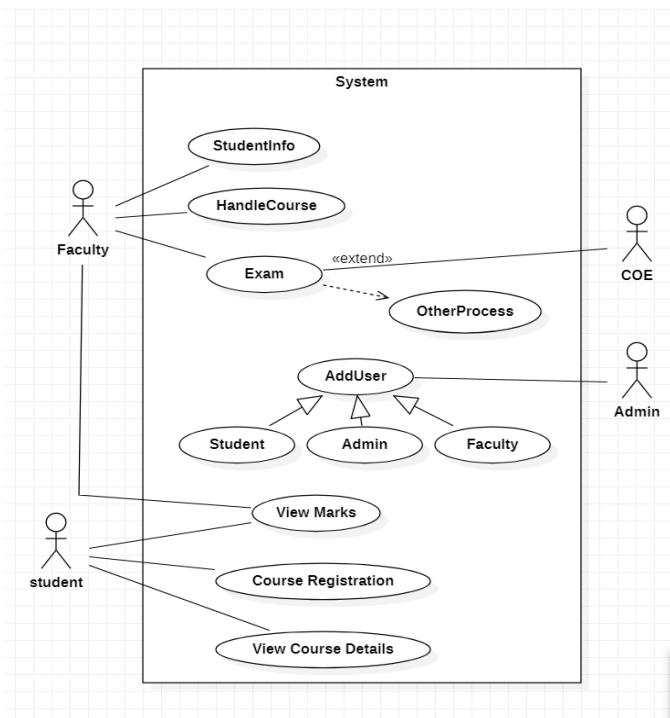
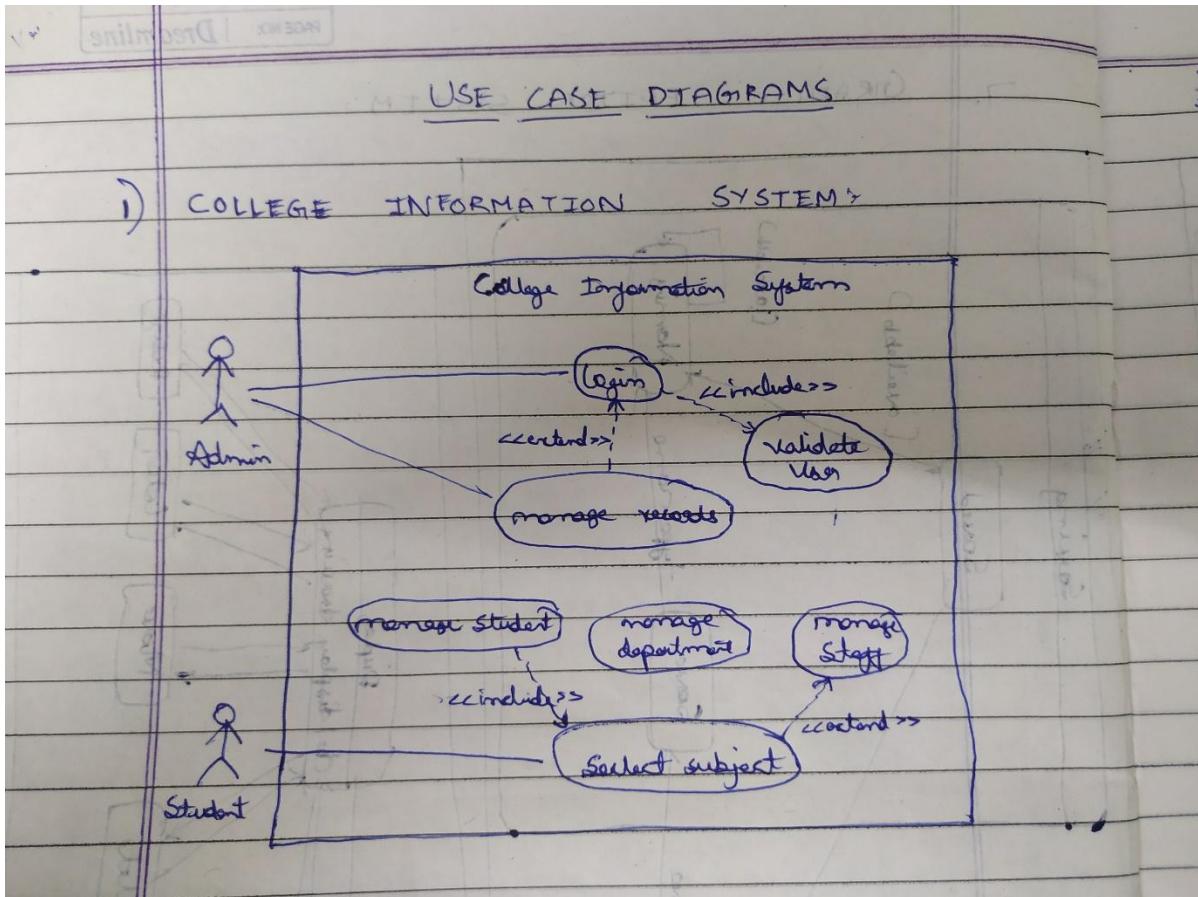
2. Draw the advanced class diagram



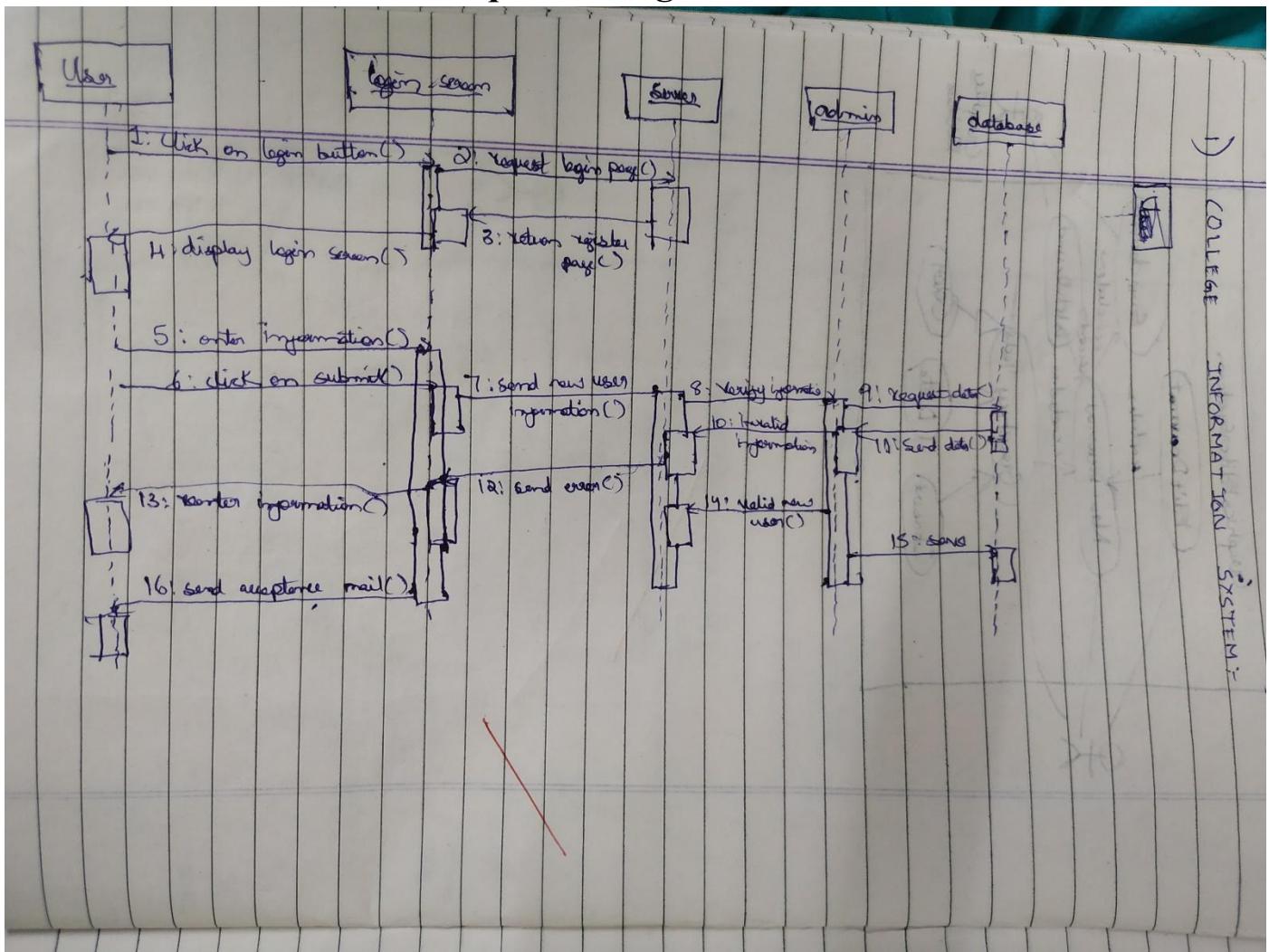
3. Draw the advanced state diagram



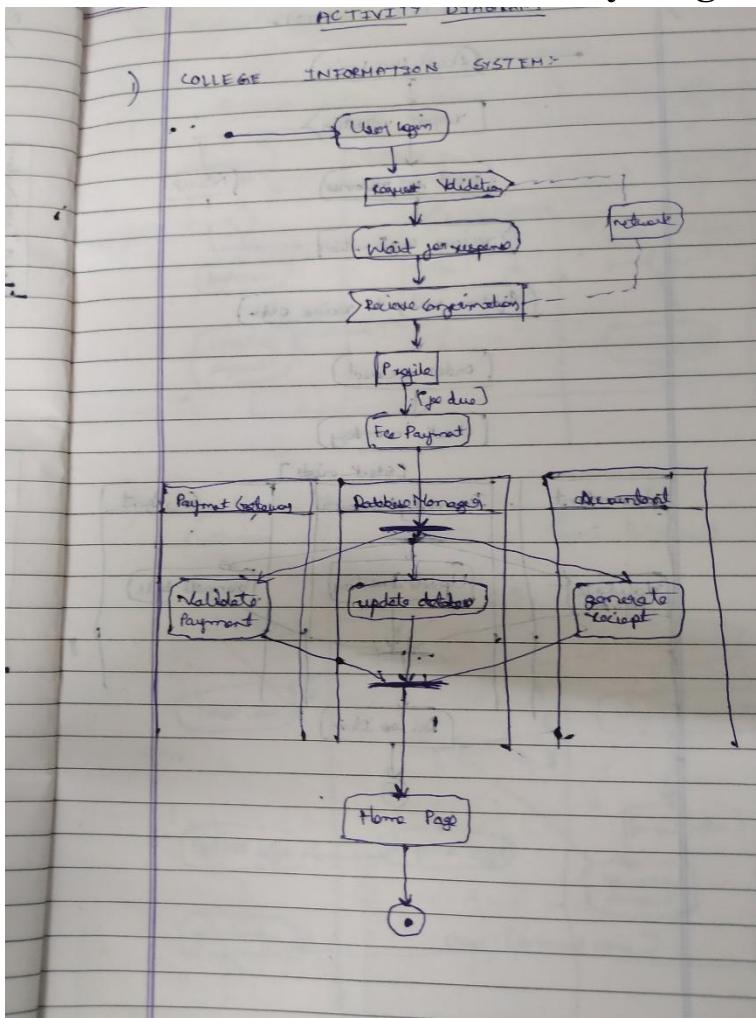
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram

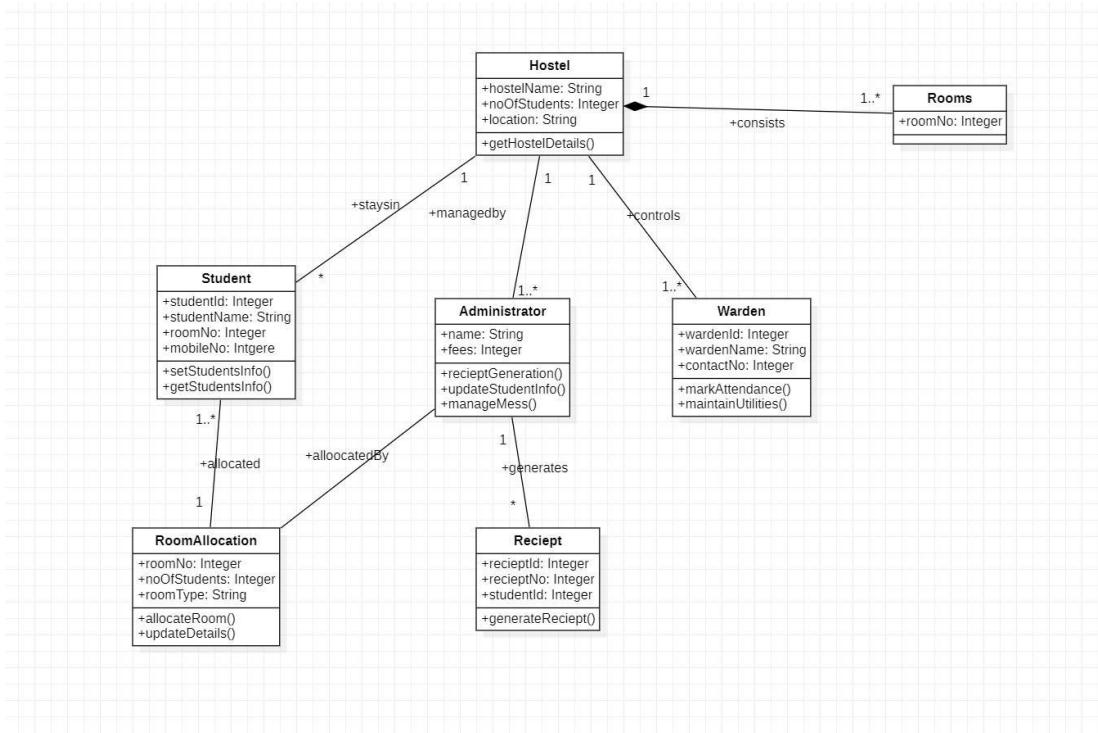
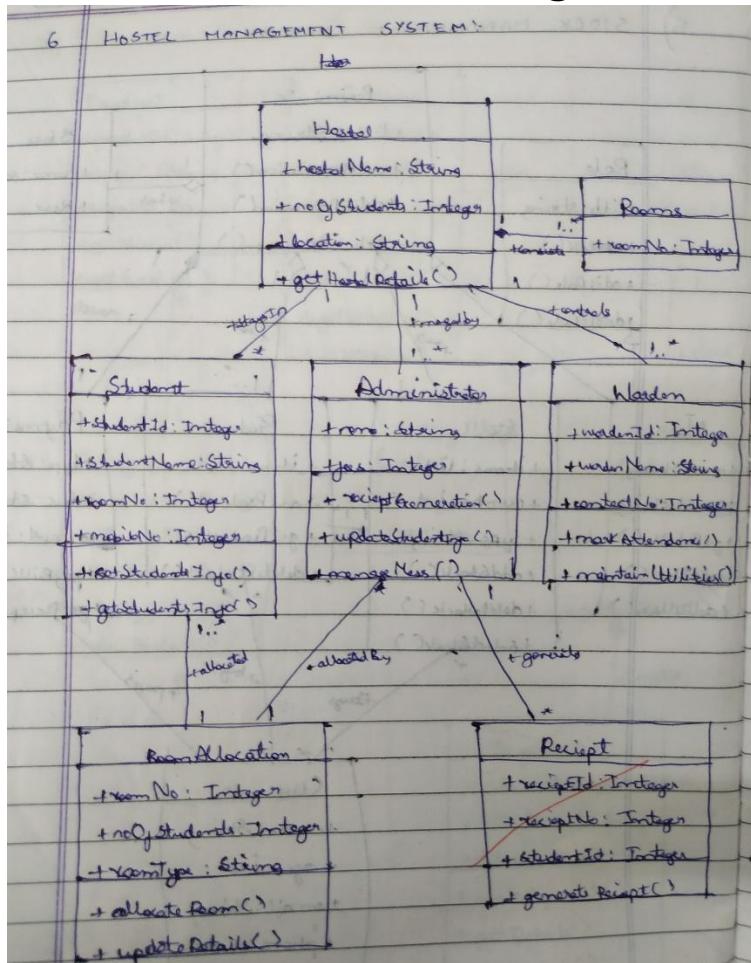


Exercise 2: Hostel Management System

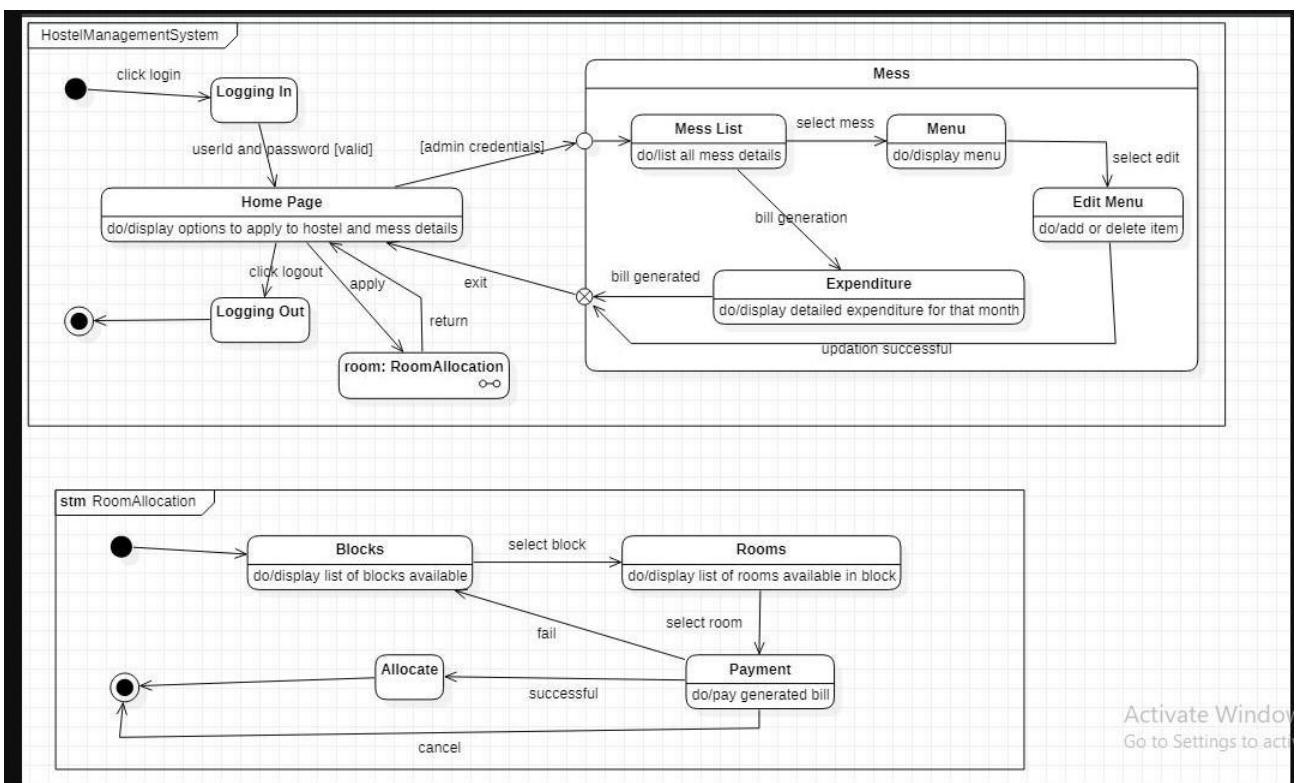
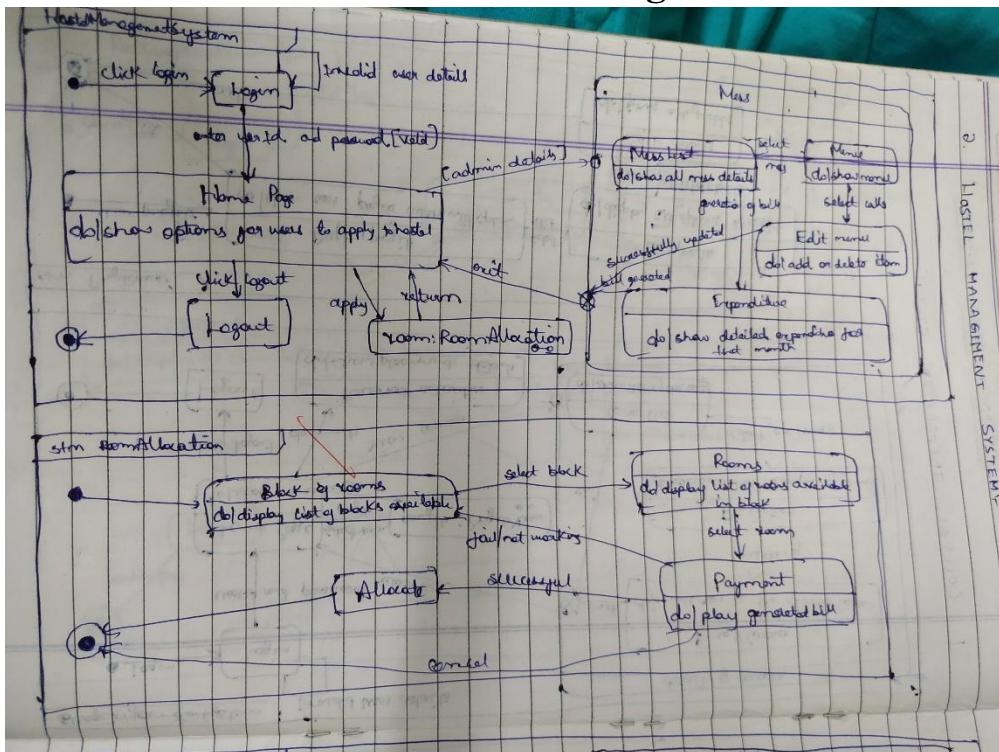
1. Write SRS

- ④ Hostel Management System:-
 - Admin can login using credentials provided to him.
 - Admin can allot room to students.
 - Students can login using the credentials provided and can give feedback about staff.
 - Admin can review the feedback provided by students.
 - Admin can appoint staff.
 - Admin can assign work to staff members.
 - Students can provide ^{new} feedback.

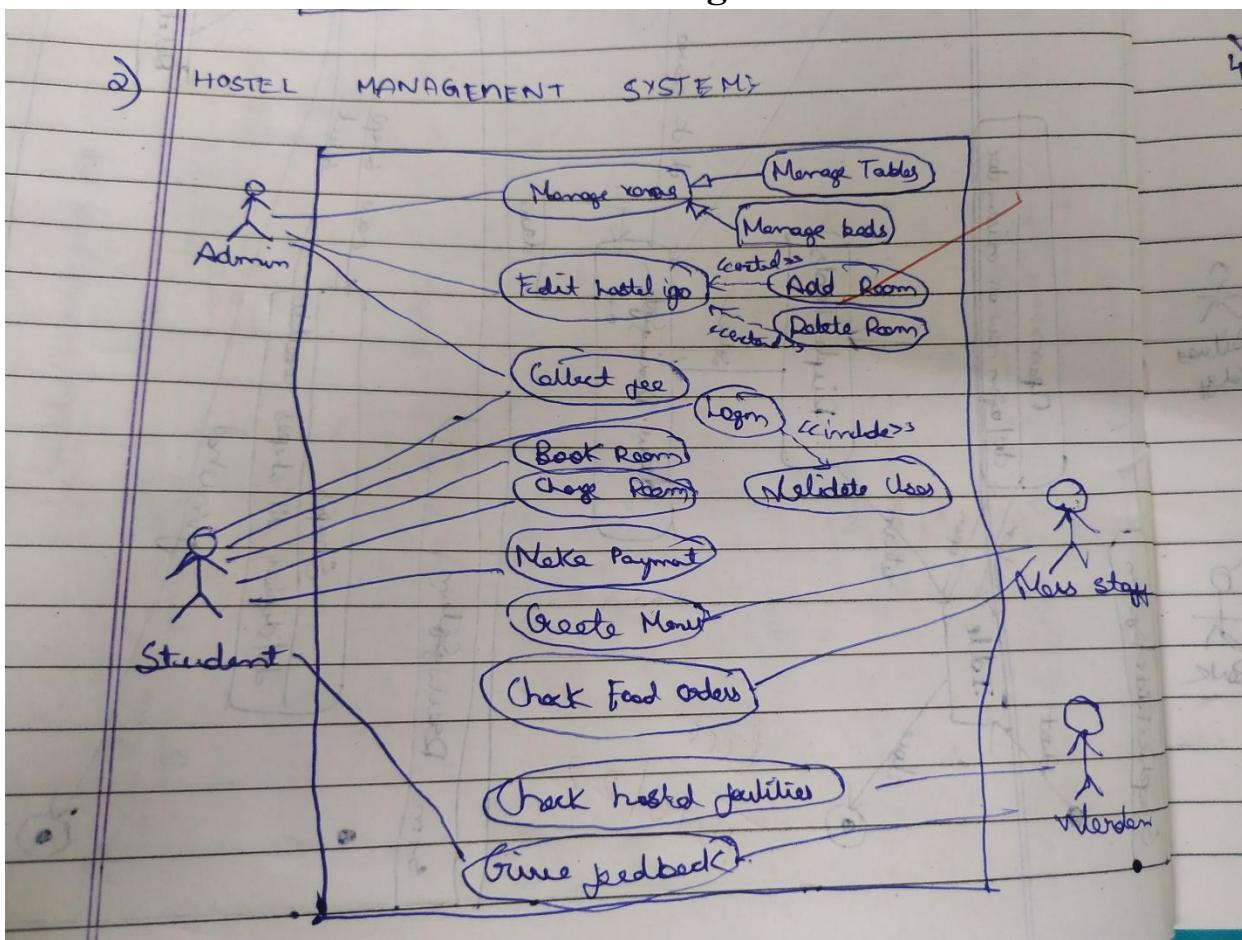
2. Draw the advanced class diagram



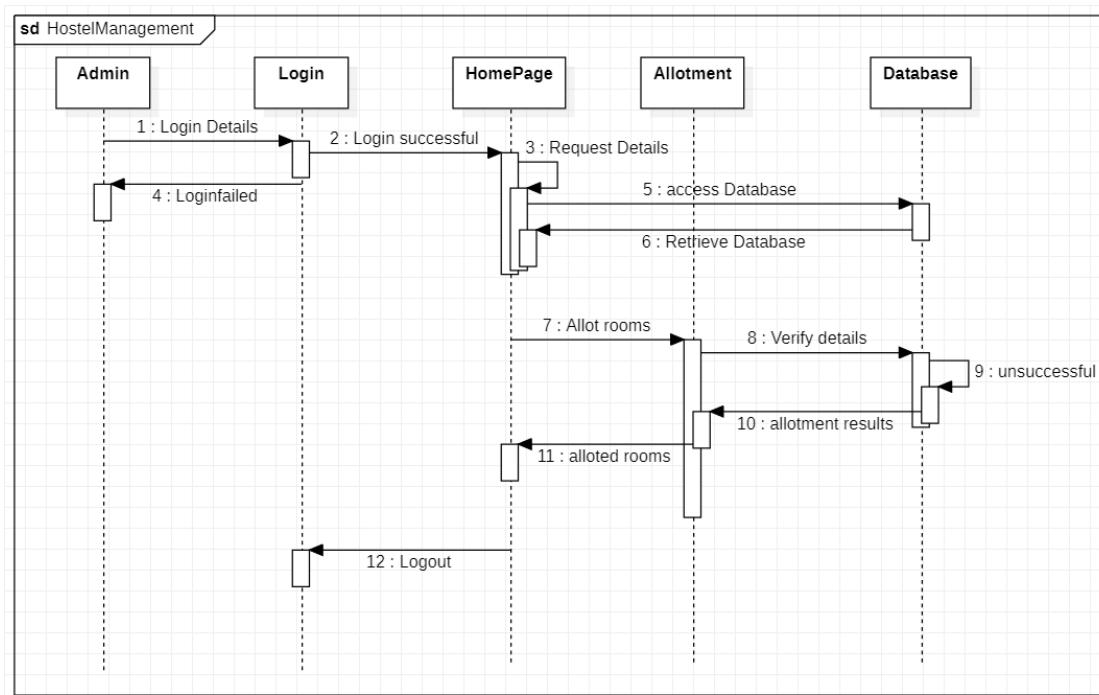
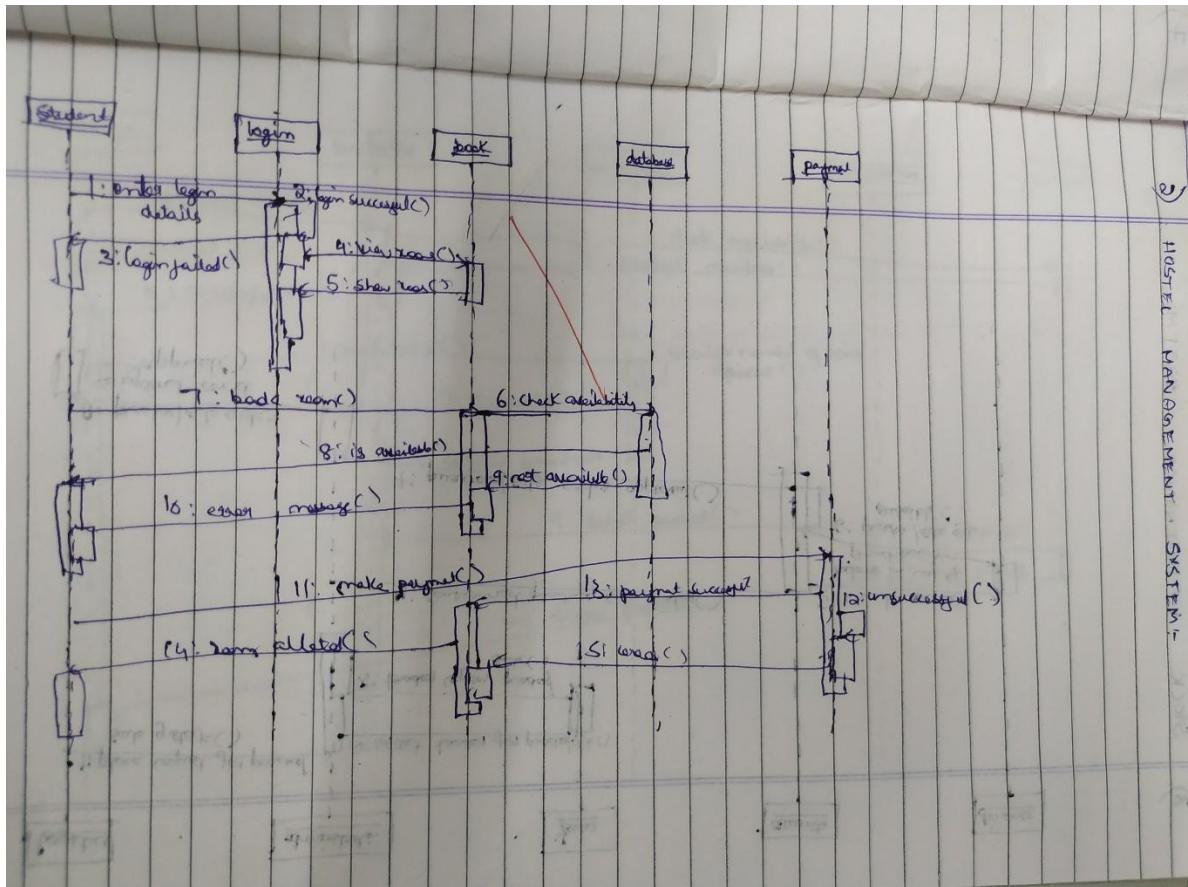
3. Draw the advanced state diagram



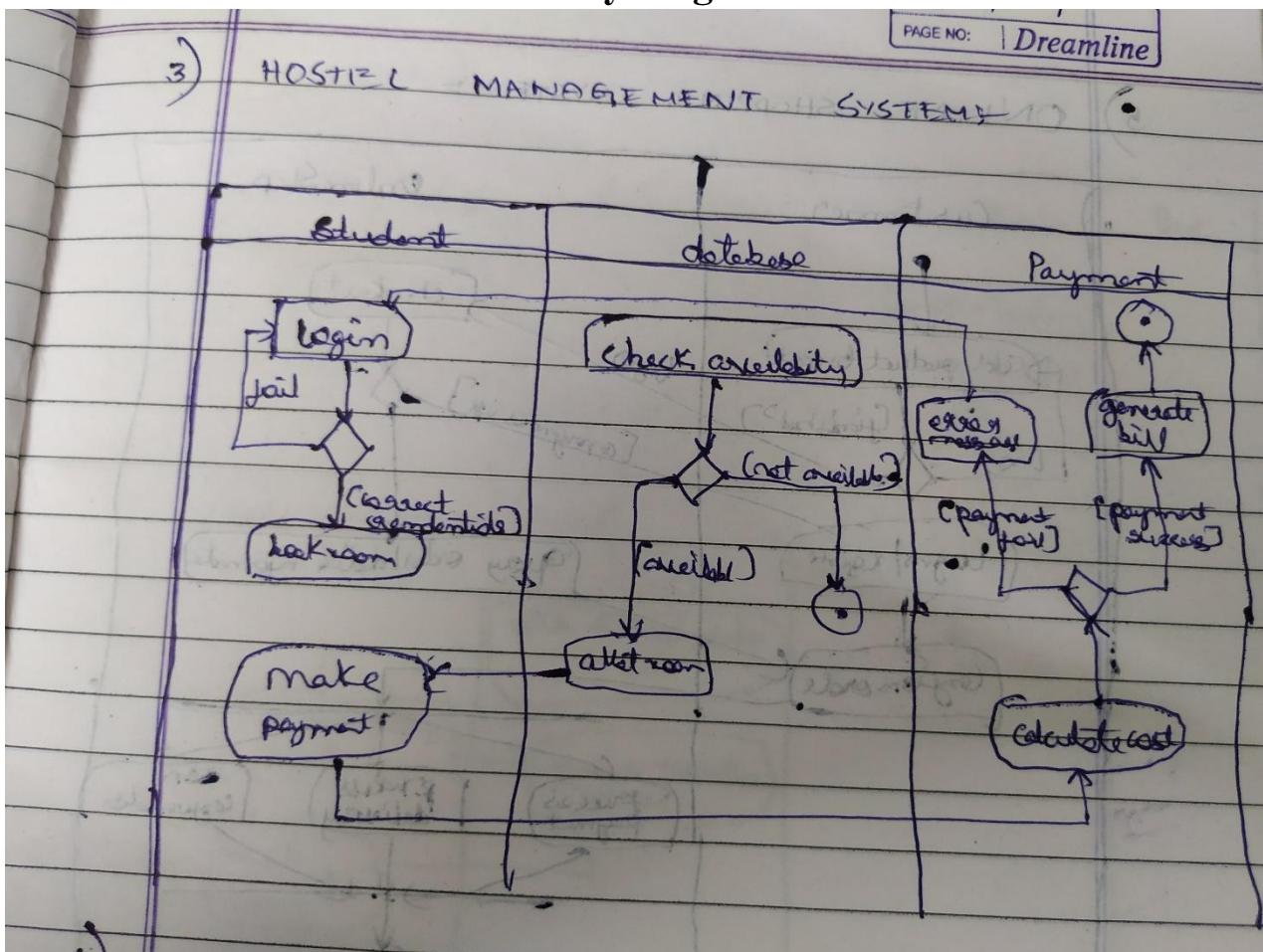
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram

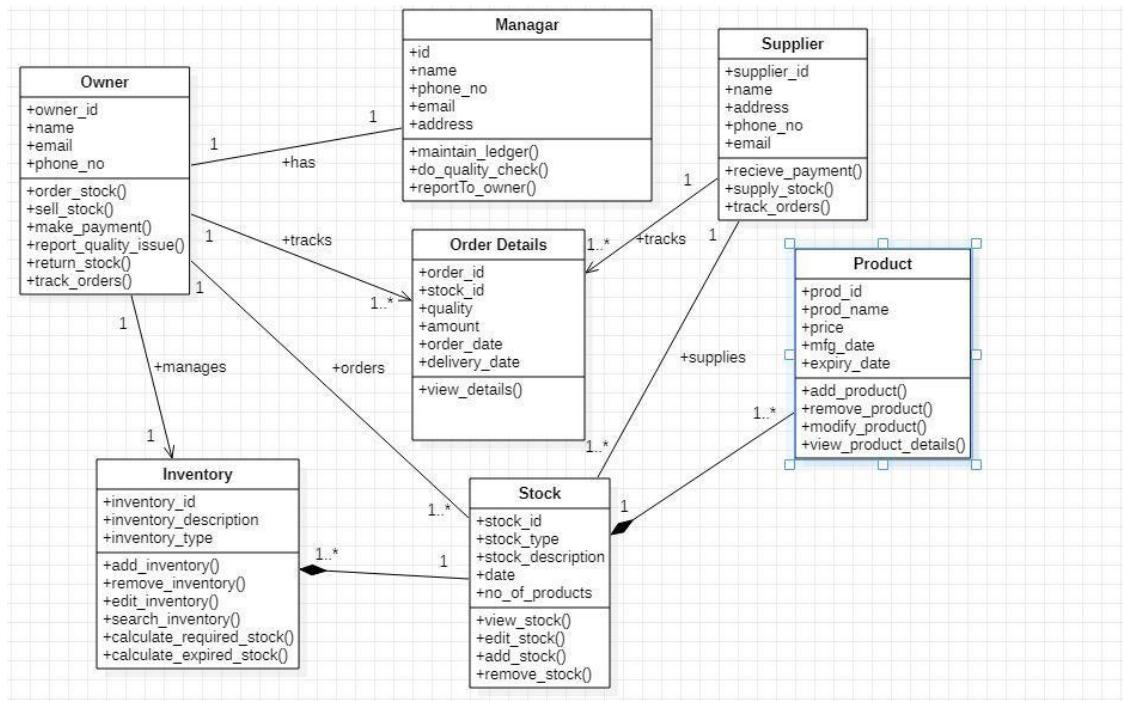
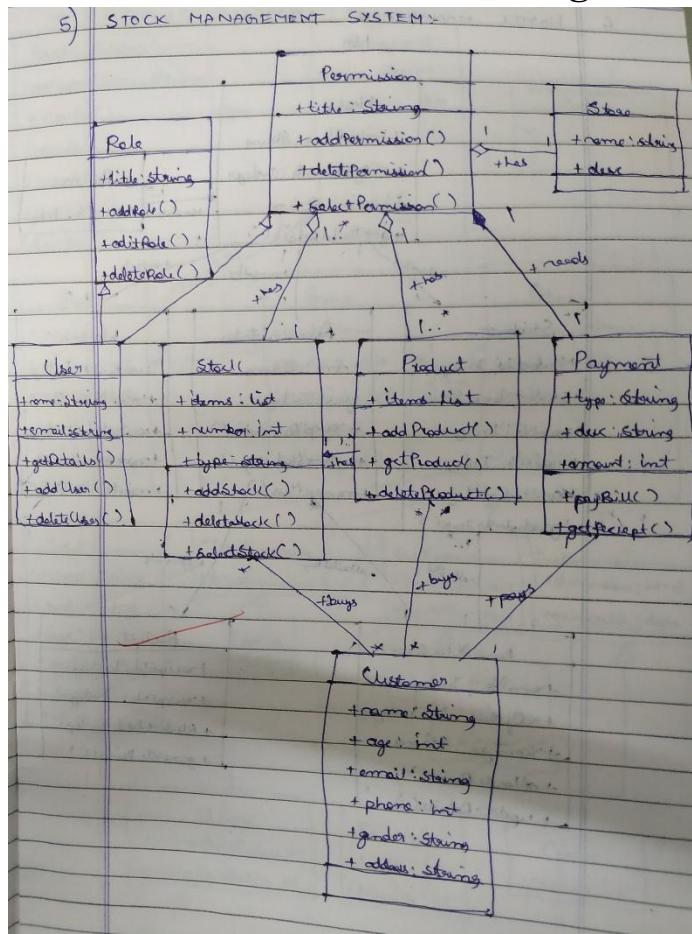


Exercise 3: Stock Management System

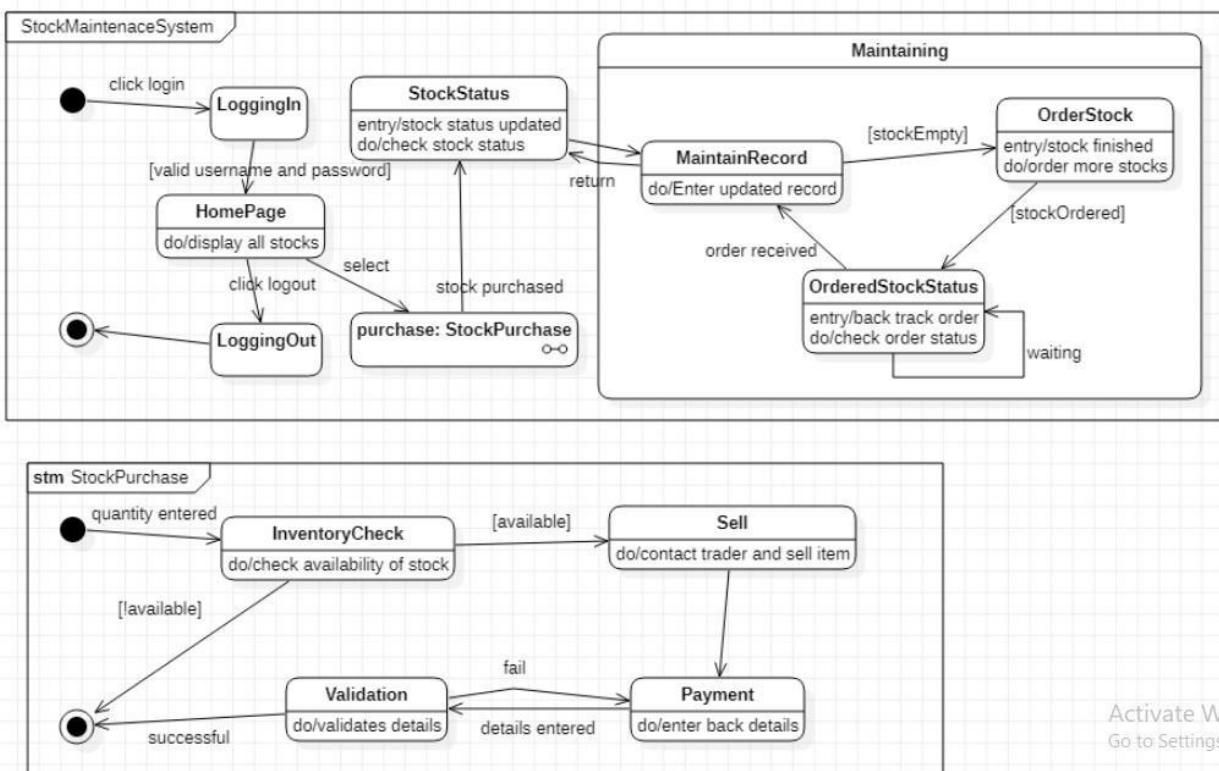
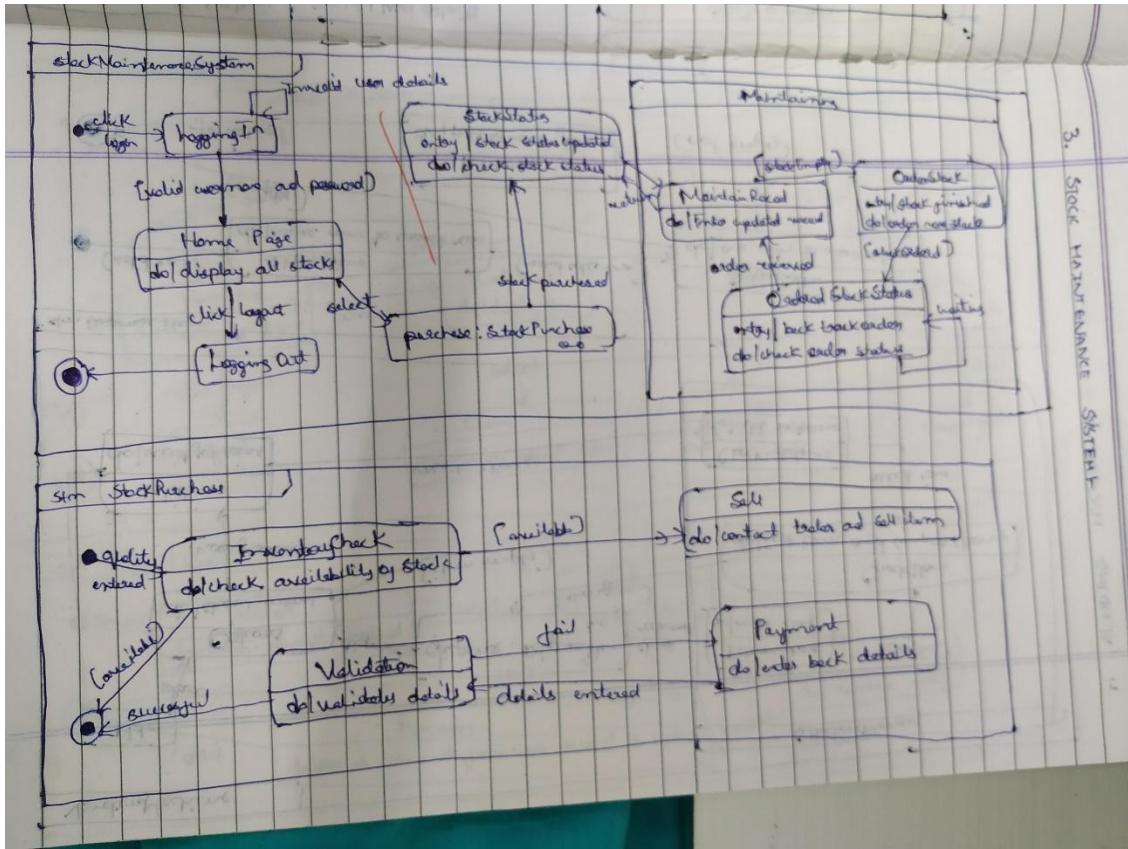
1. Write SRS

- (6) Stock Management System :-
- The owner has a manager which manages the inventory. The owner can order, sell stock. He can make payments, report quality issue, return stock and track his order.
 - The manager maintains a ledger, does quality check and reports to the owner.
 - In the inventory, we can add, remove edit and search the inventory. We can calculate the required and expired stock.
 - The order details contain details of order.
 - The stock can be viewed, edited, added and removed.
 - The supplier tracks order details and supplies the stock and receives payment.
 - A product is added, removed, modified. The details of the product can be viewed.

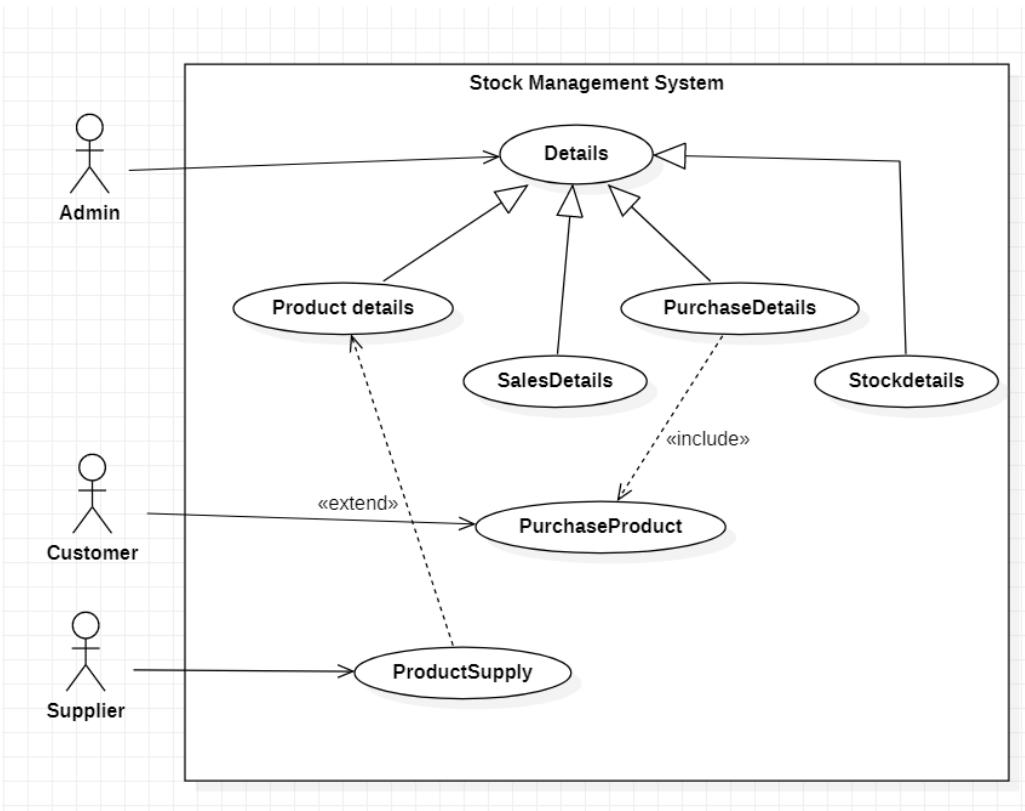
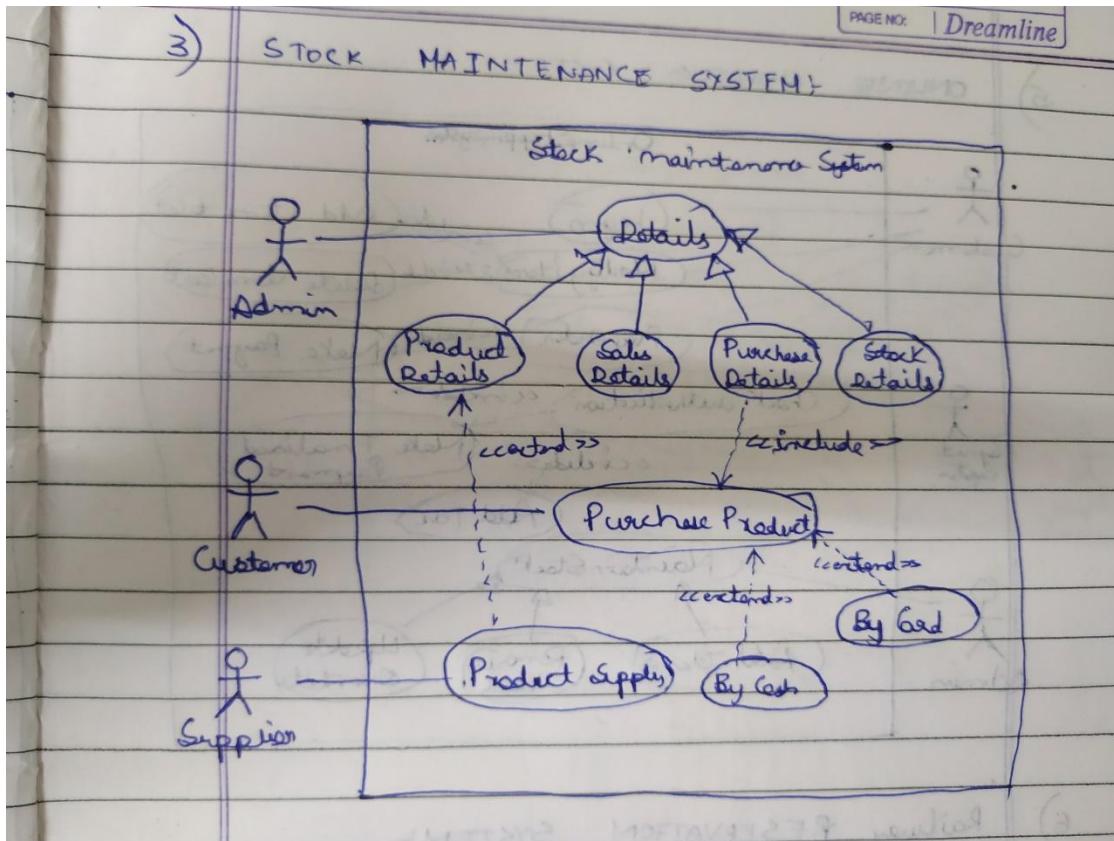
2. Draw the advanced class diagram



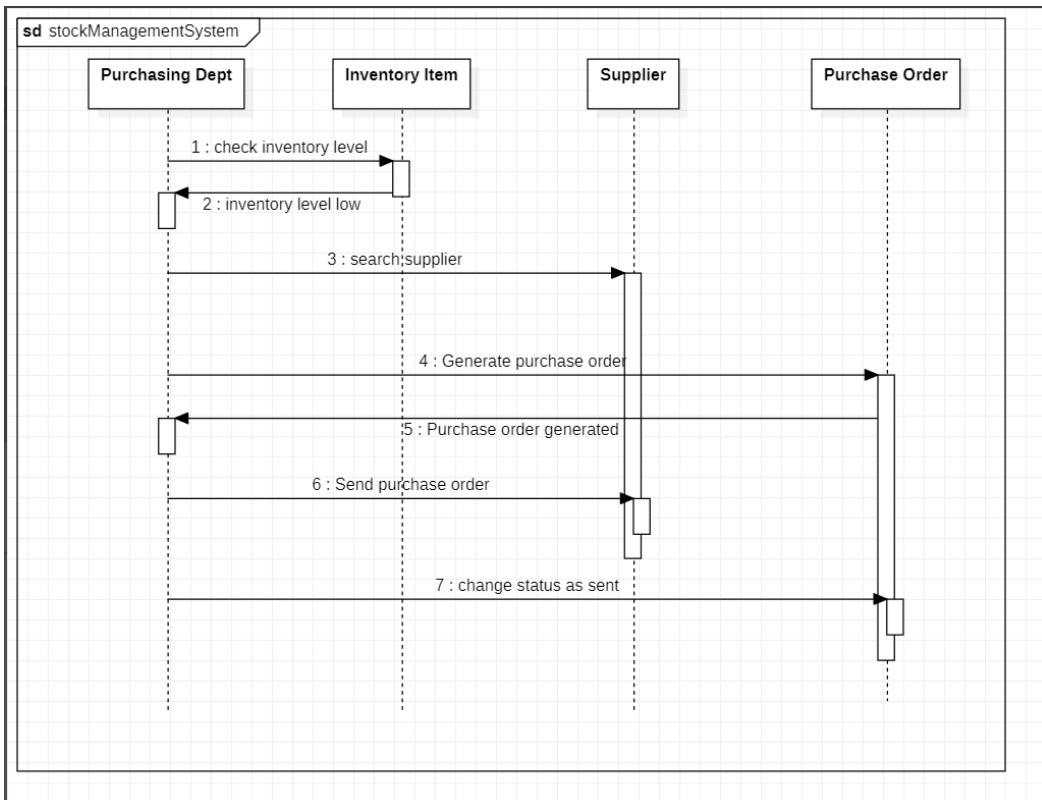
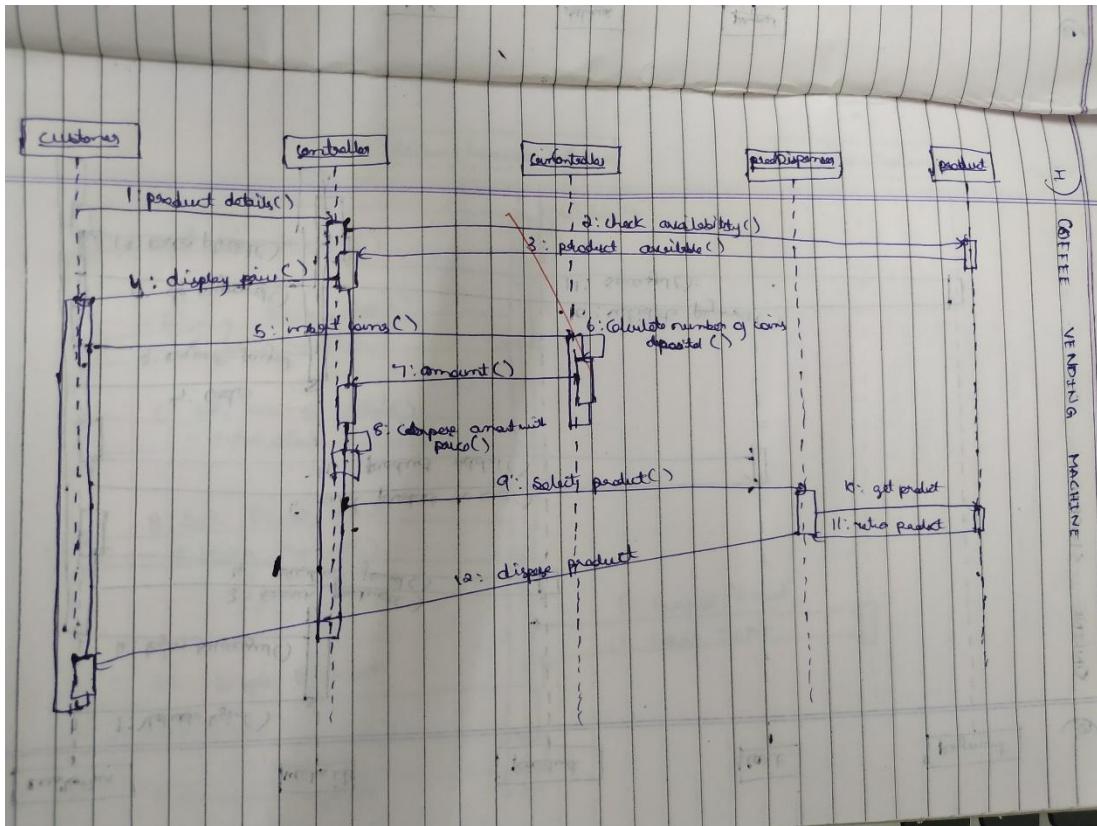
3. Draw the advanced state diagram



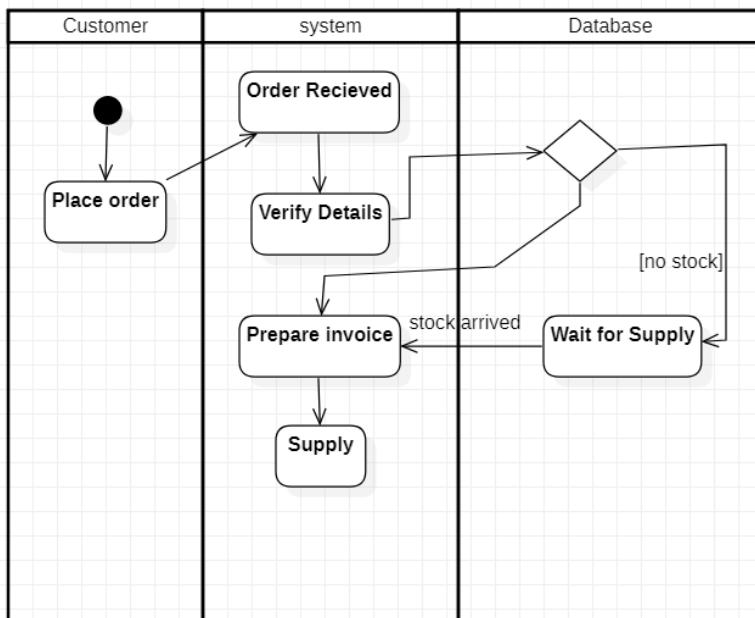
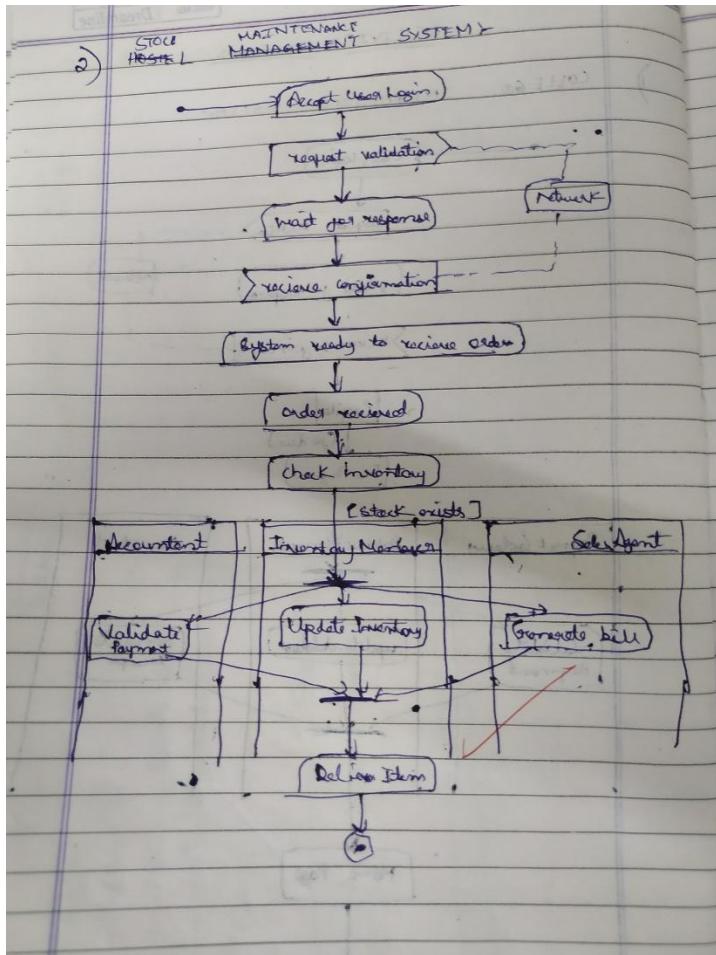
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram



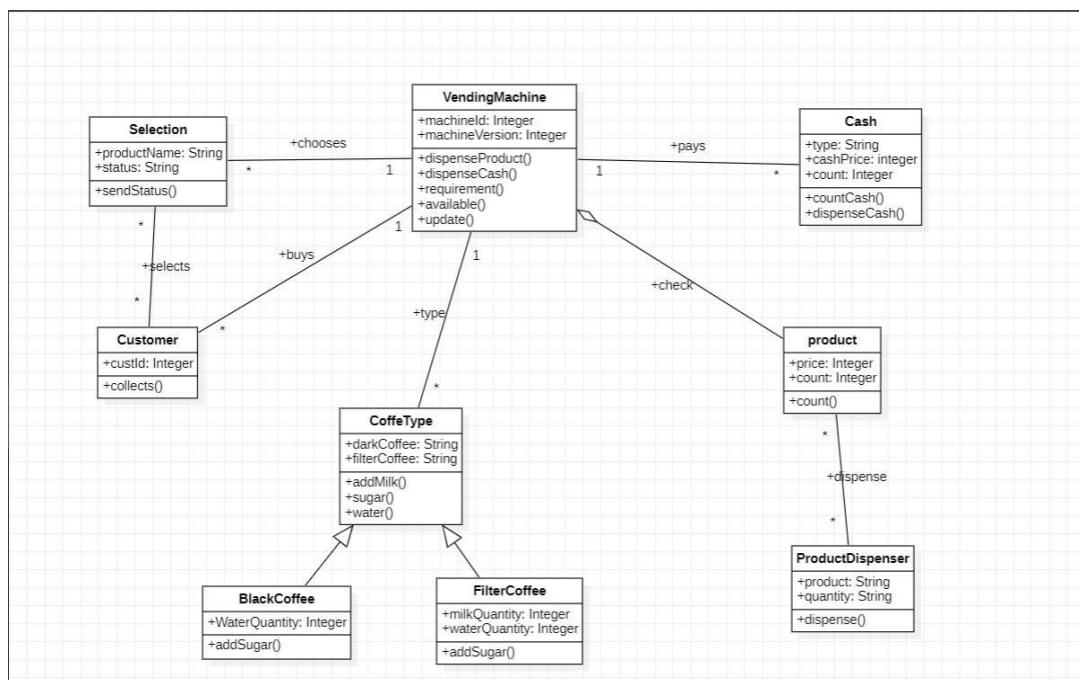
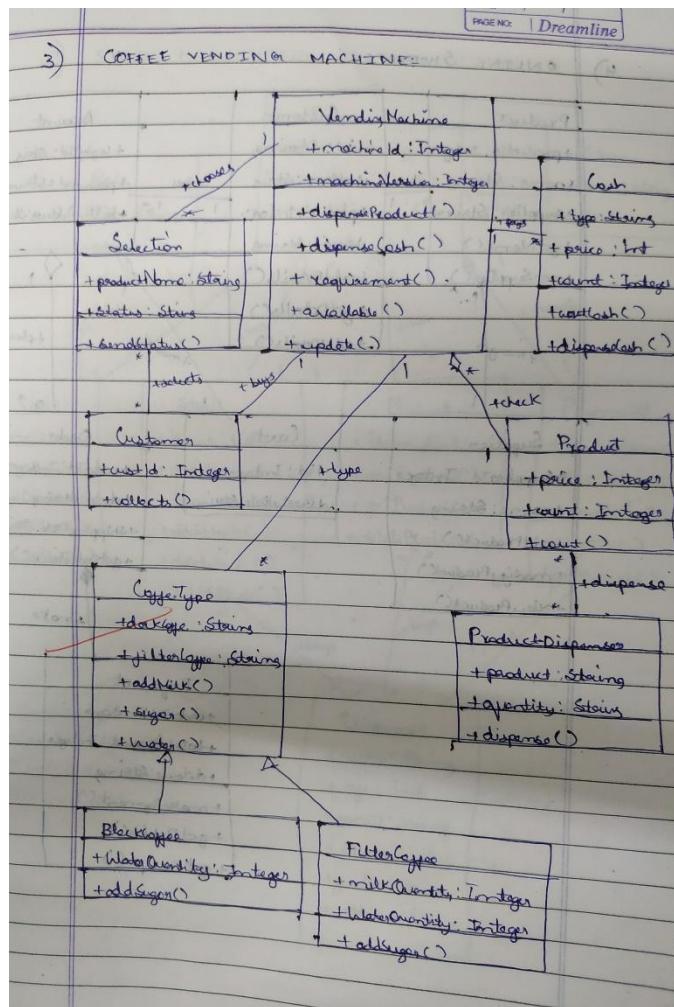
Exercise 4: Coffee Vending Machine

1. Write SRS

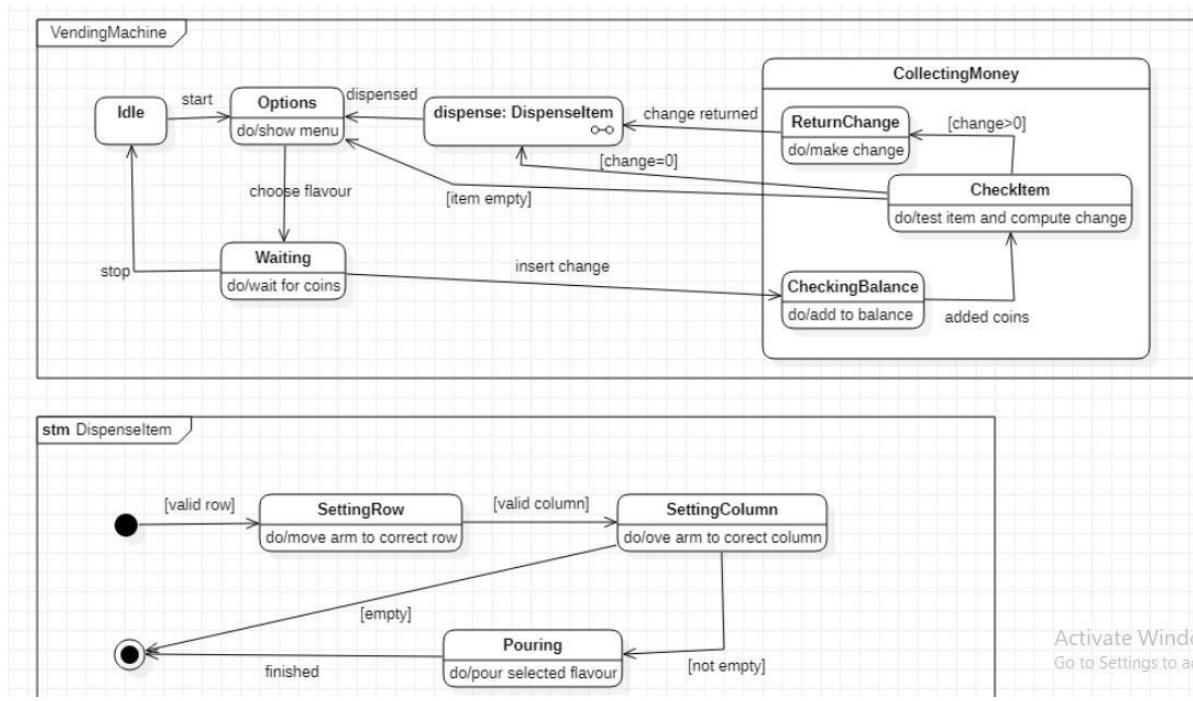
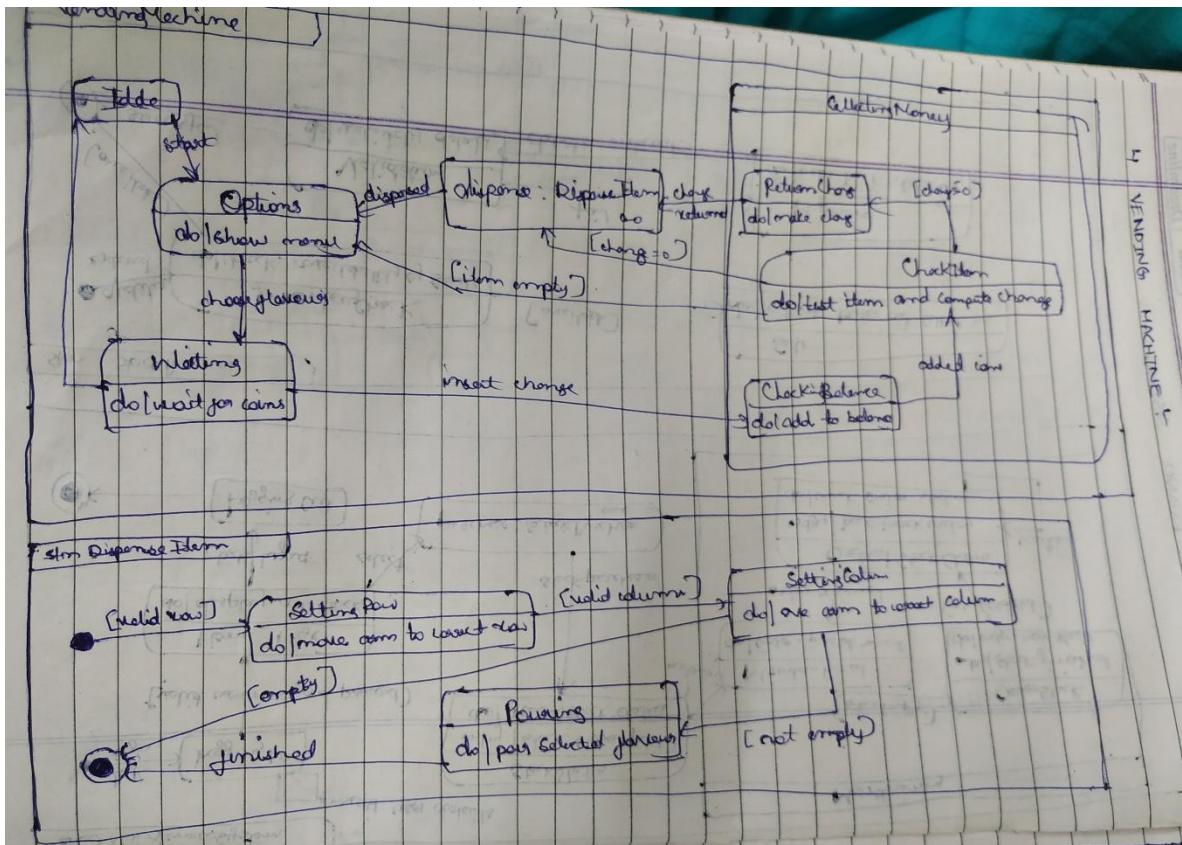
⑥

- Coffee Vending Machine :-
- The controller should dispense the product, check availability of product, update product quality after each dispense.
 - The selection panel sends the status of selected product.
 - The coin collector should count the coins given by customer & keeps track of it.
 - Product dispenser should dispense the selected product.
 - The price and quality of the product should

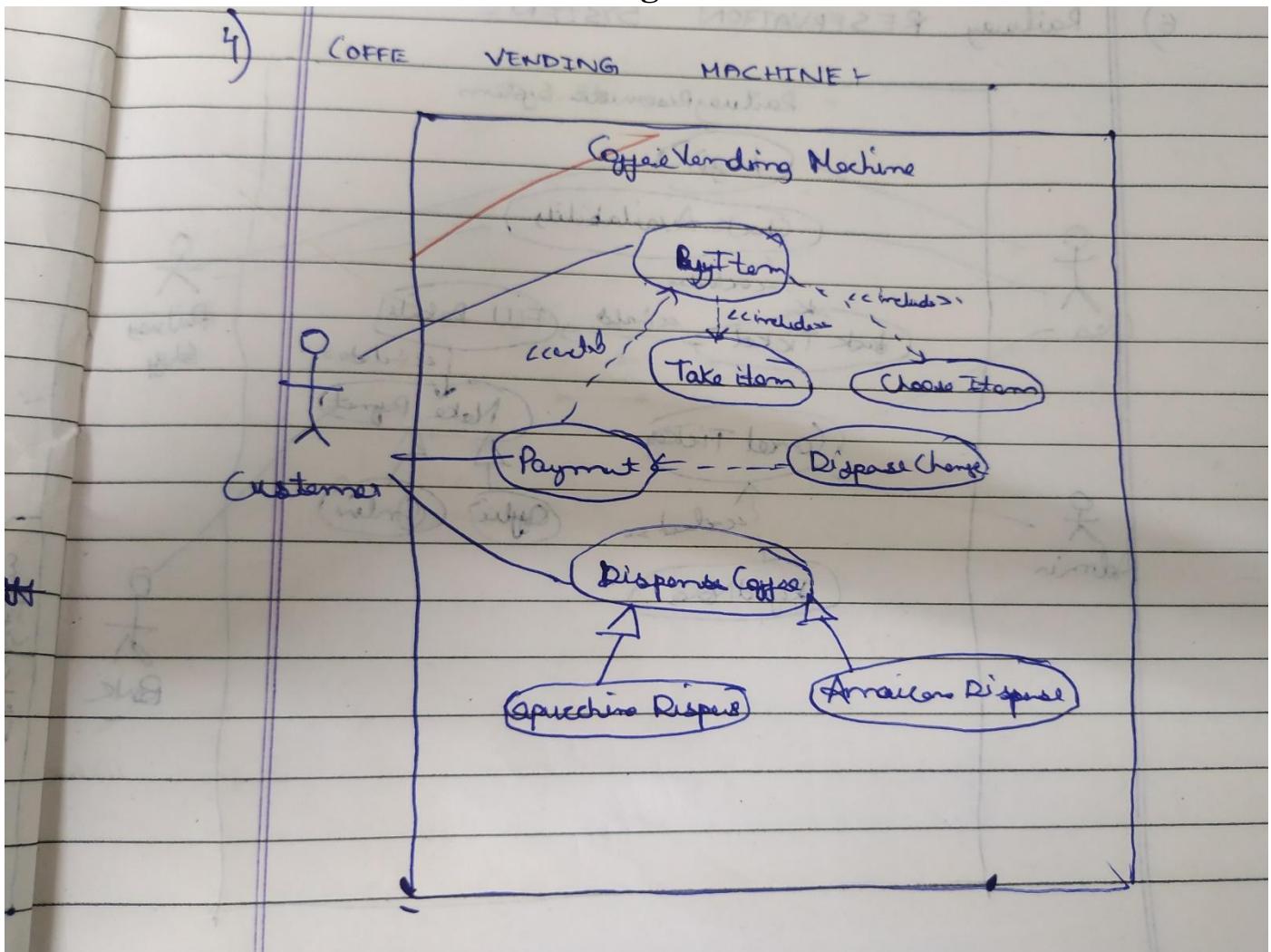
2. Draw the advanced class diagram



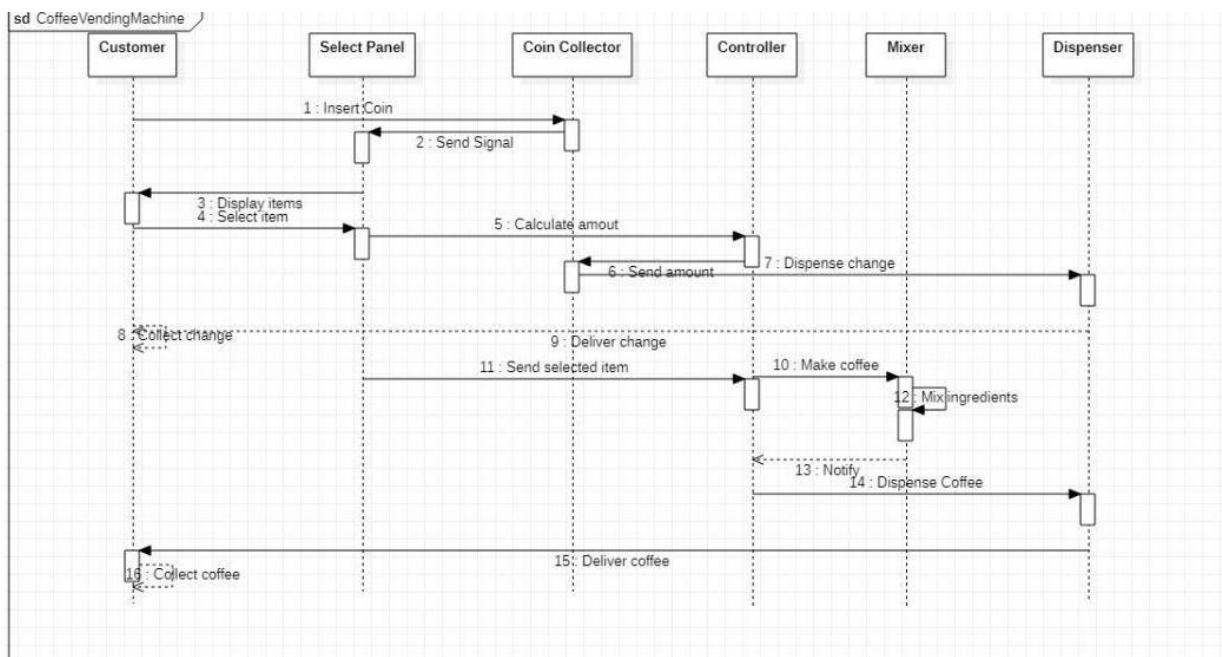
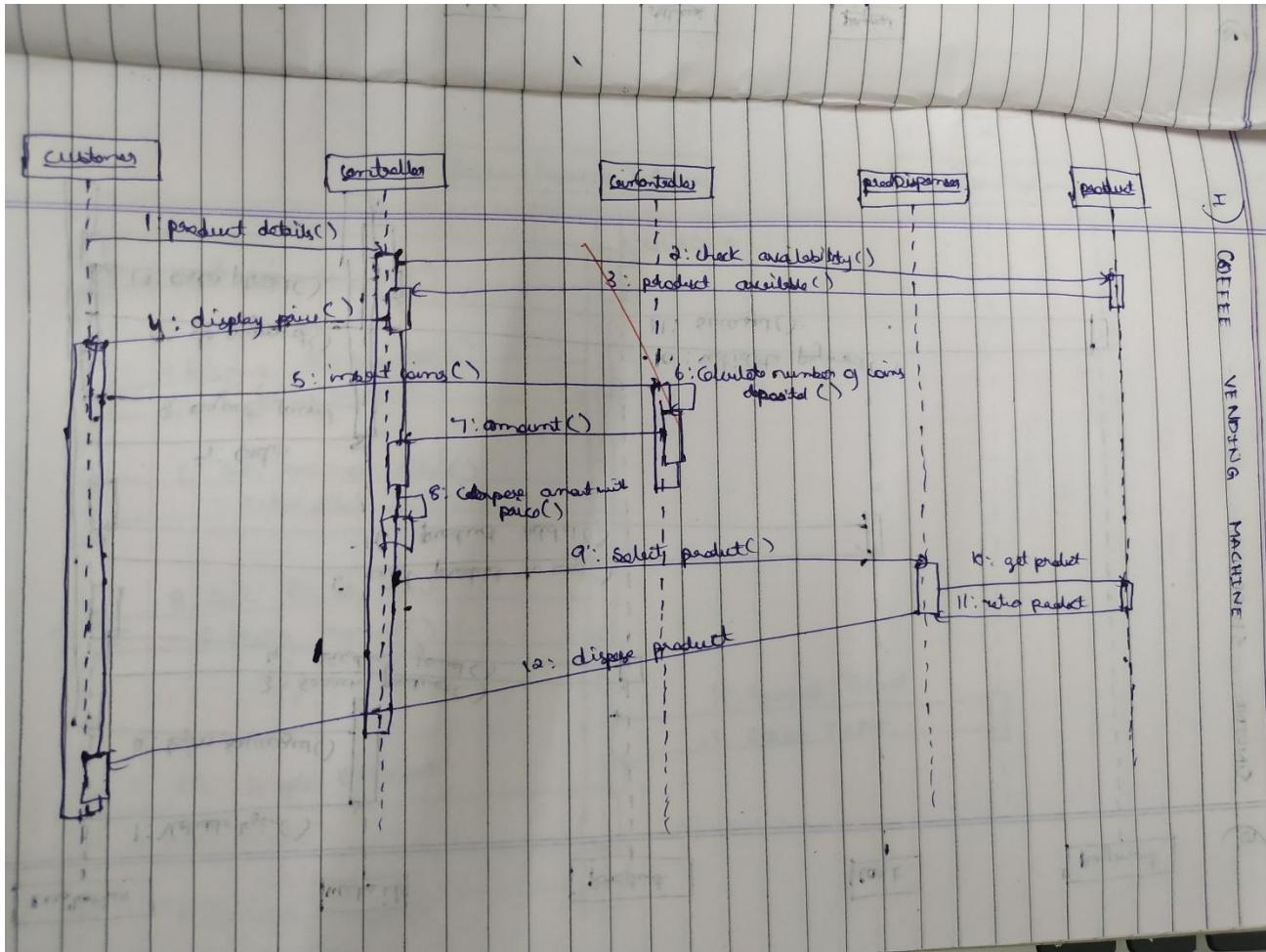
3. Draw the advanced state diagram



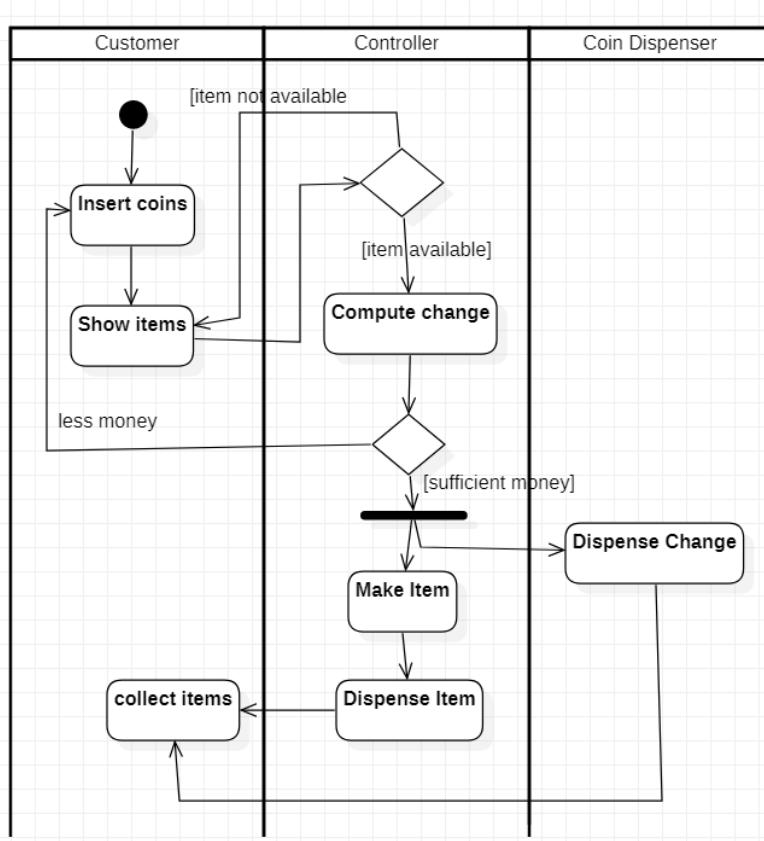
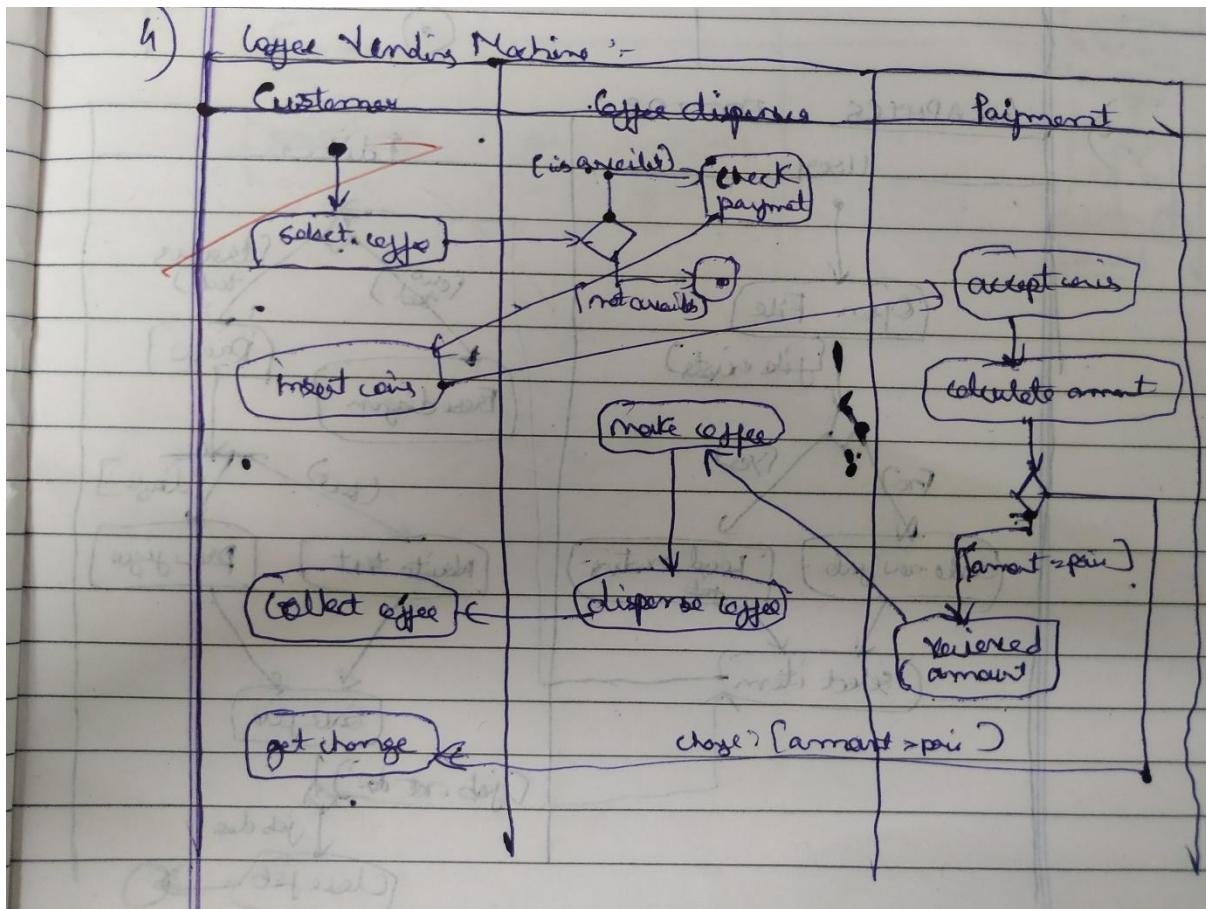
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram

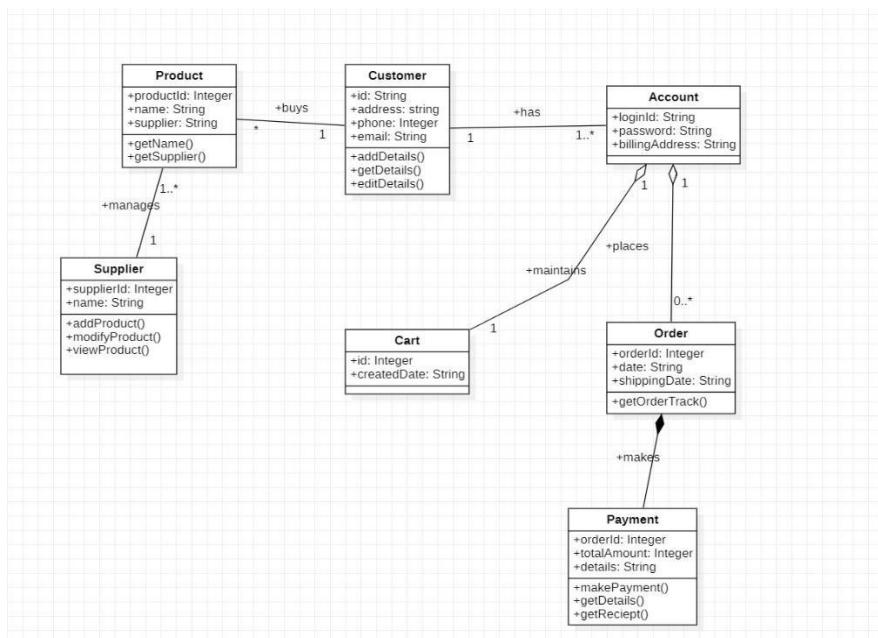
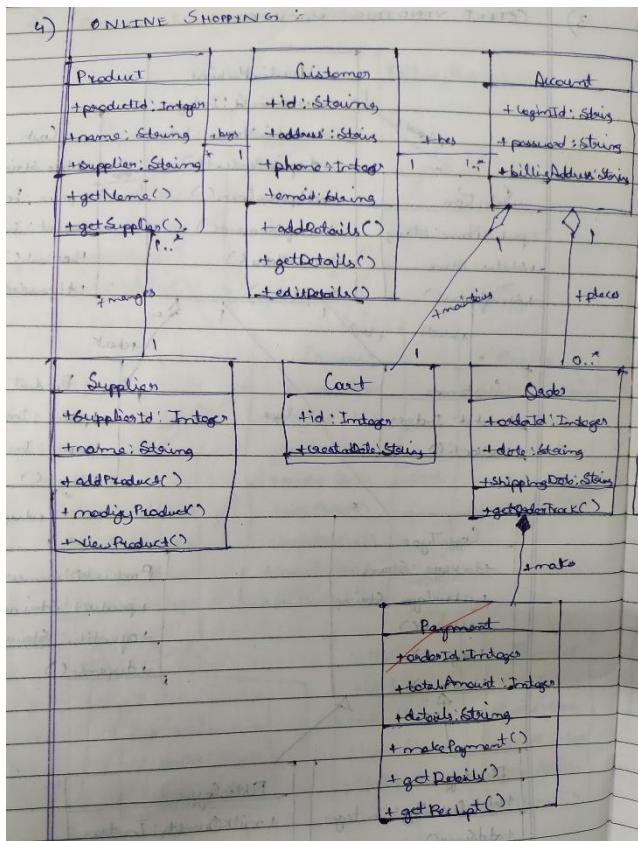


Exercise 5: Online Shopping System

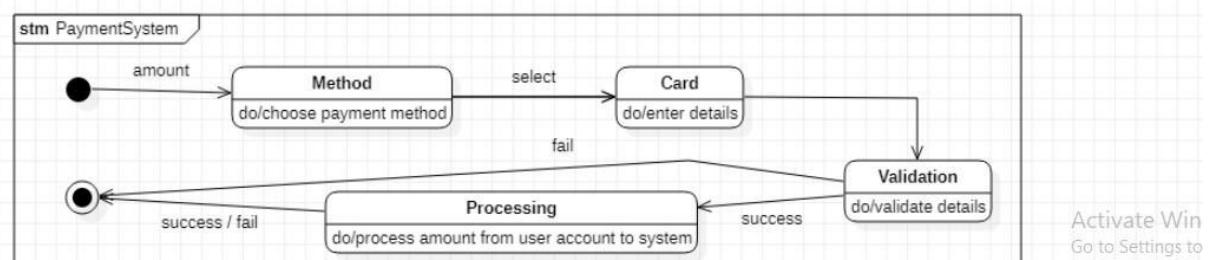
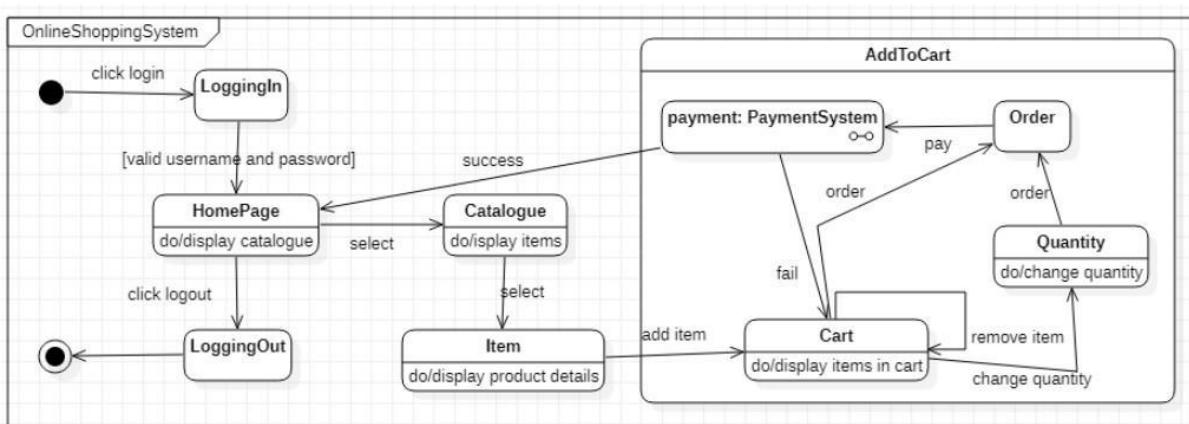
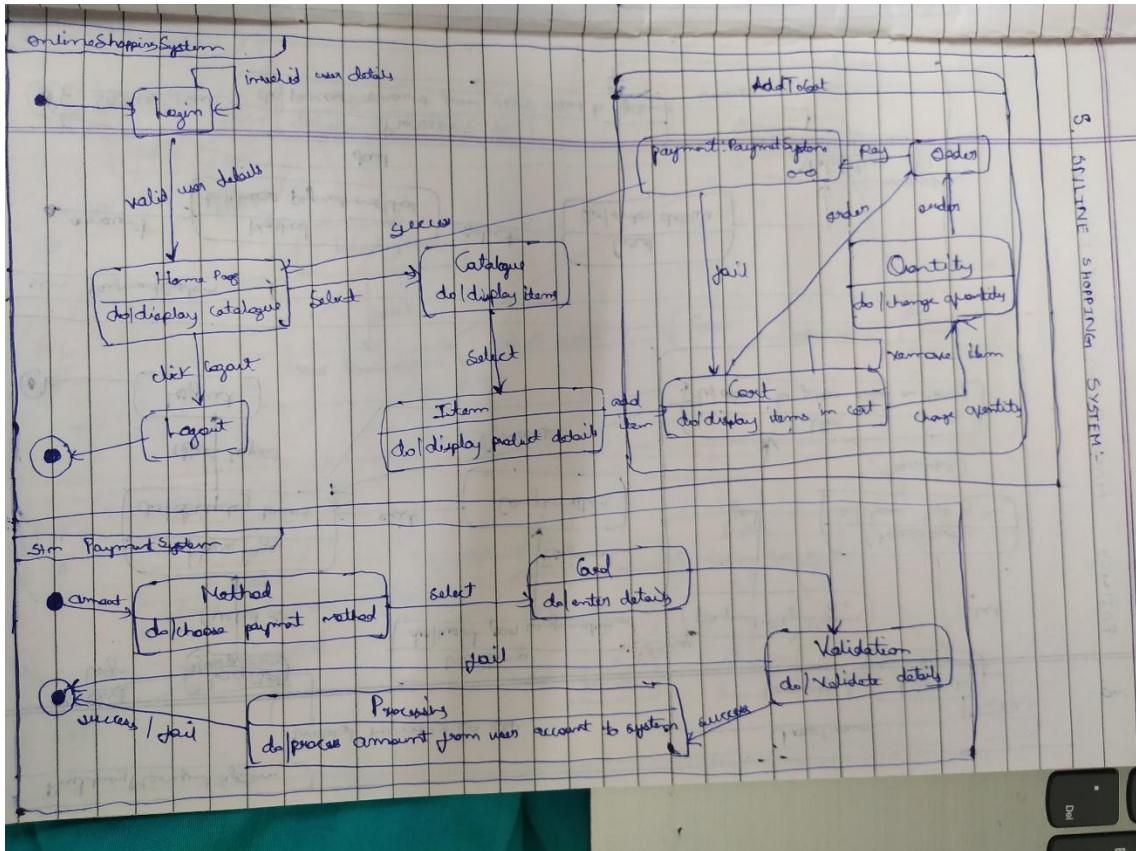
1. Write SRS

- ① Online Shopping System:
- The system is used by users who can be an admin, a session manager or a customer.
 - The admin handles actions like create and delete departments and products. He can view the catalog details and update new product details or existing ones. can also manage customers.
 - The customers can register and login to the system, he/she can buy products by searching and also update their profile.
 - The session manager manages the session for a customer like listing products, getting customer details and give order details.
 - A shopping cart feature exists which lists all the products a customer intends to buy.
 - The various orders can be placed in the system by giving relevant order details.
 - There exists different departments which contains various categories of products and their info.
 - Once an order is placed the shipping info of the product must be available for product delivery to customers.

2. Draw the advanced class diagram

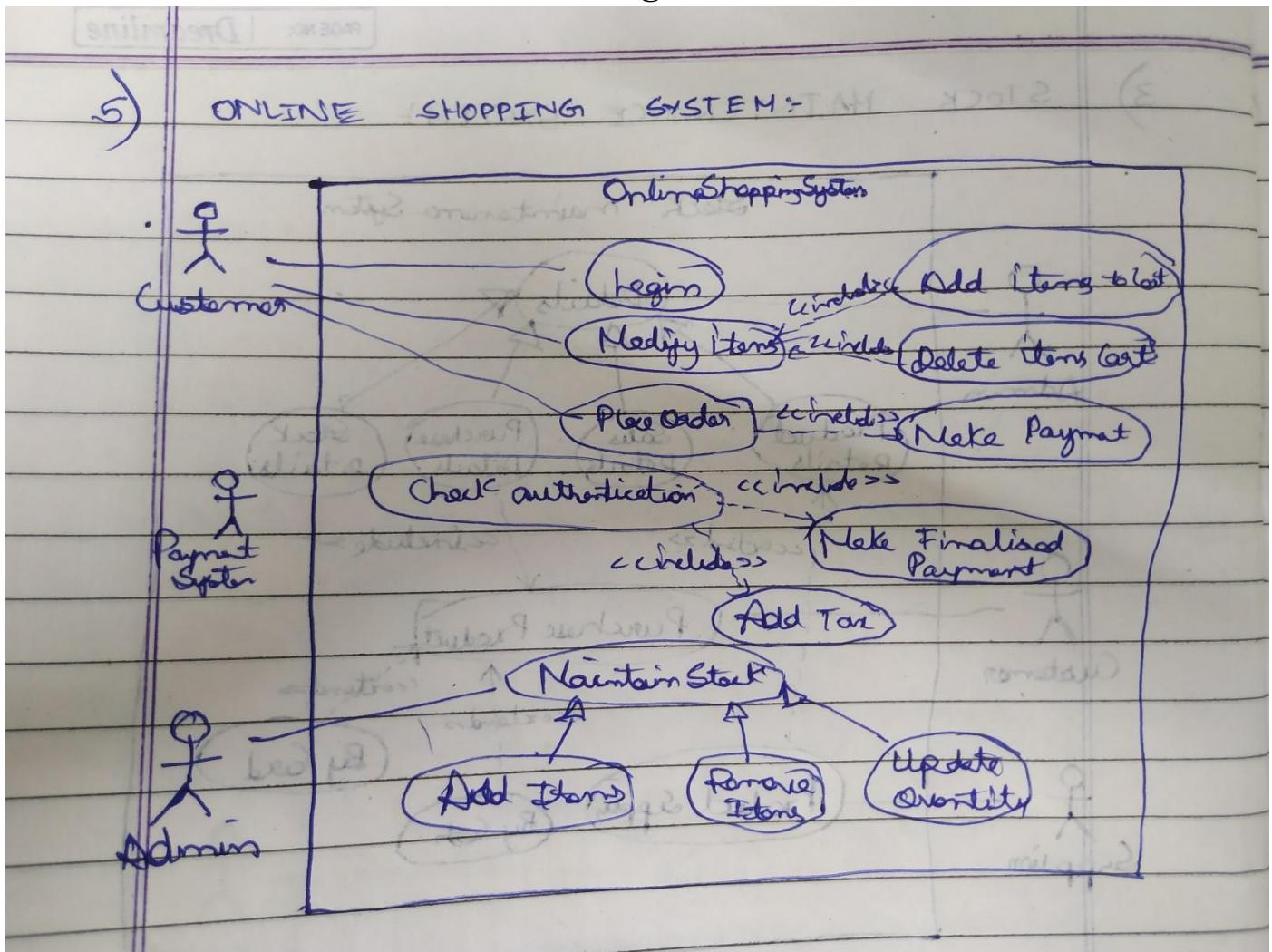


3. Draw the advanced state diagram

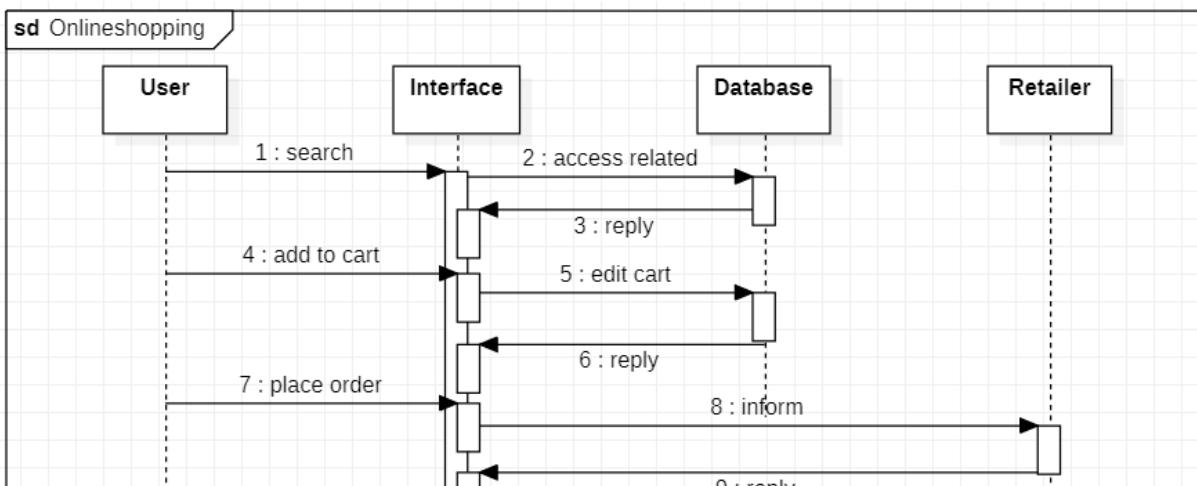
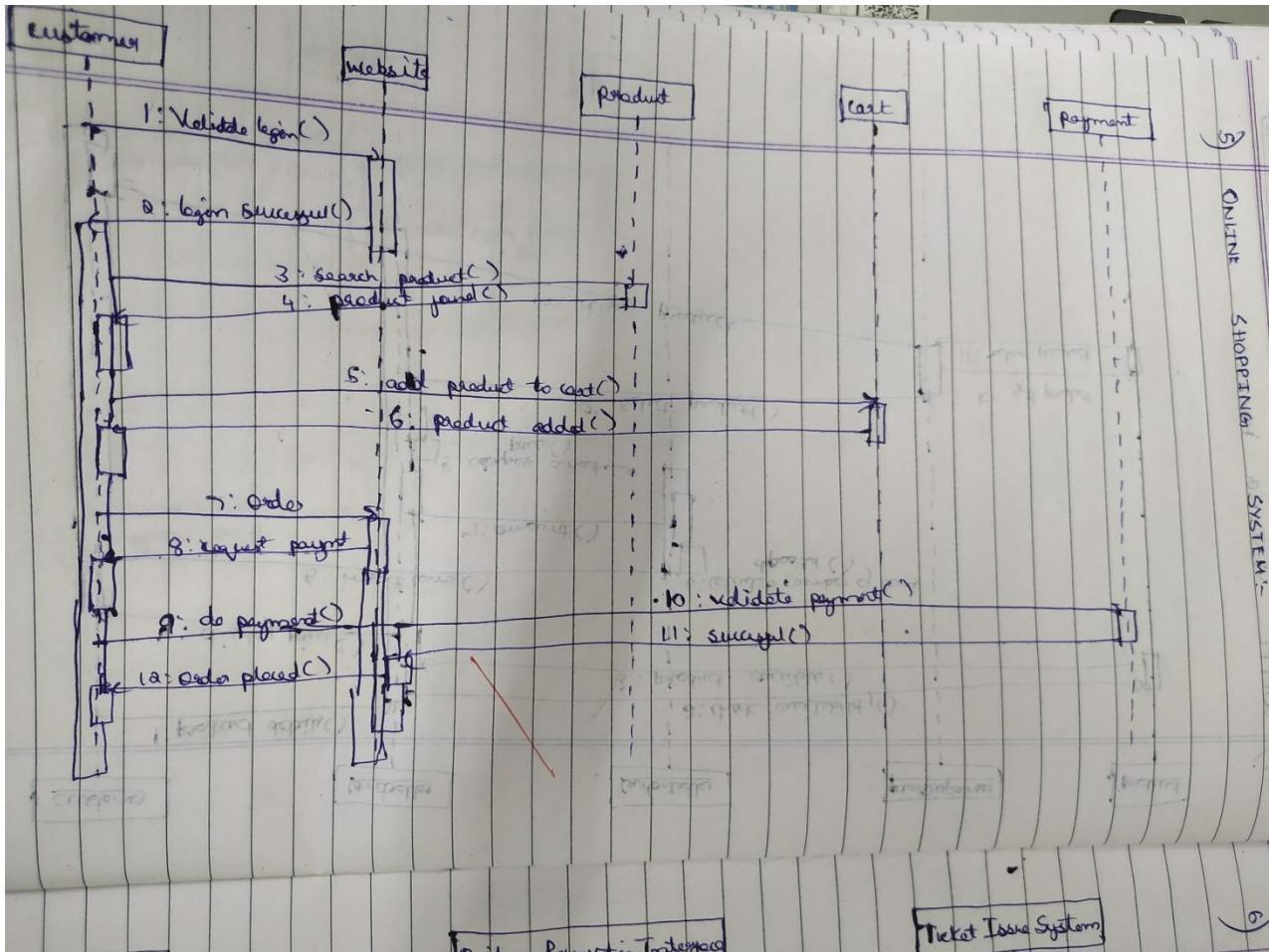


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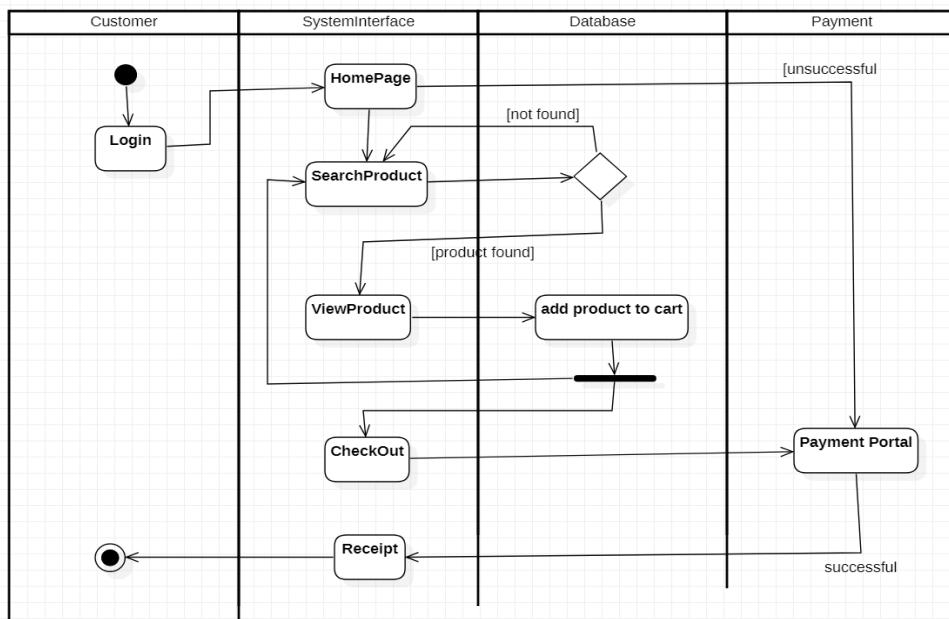
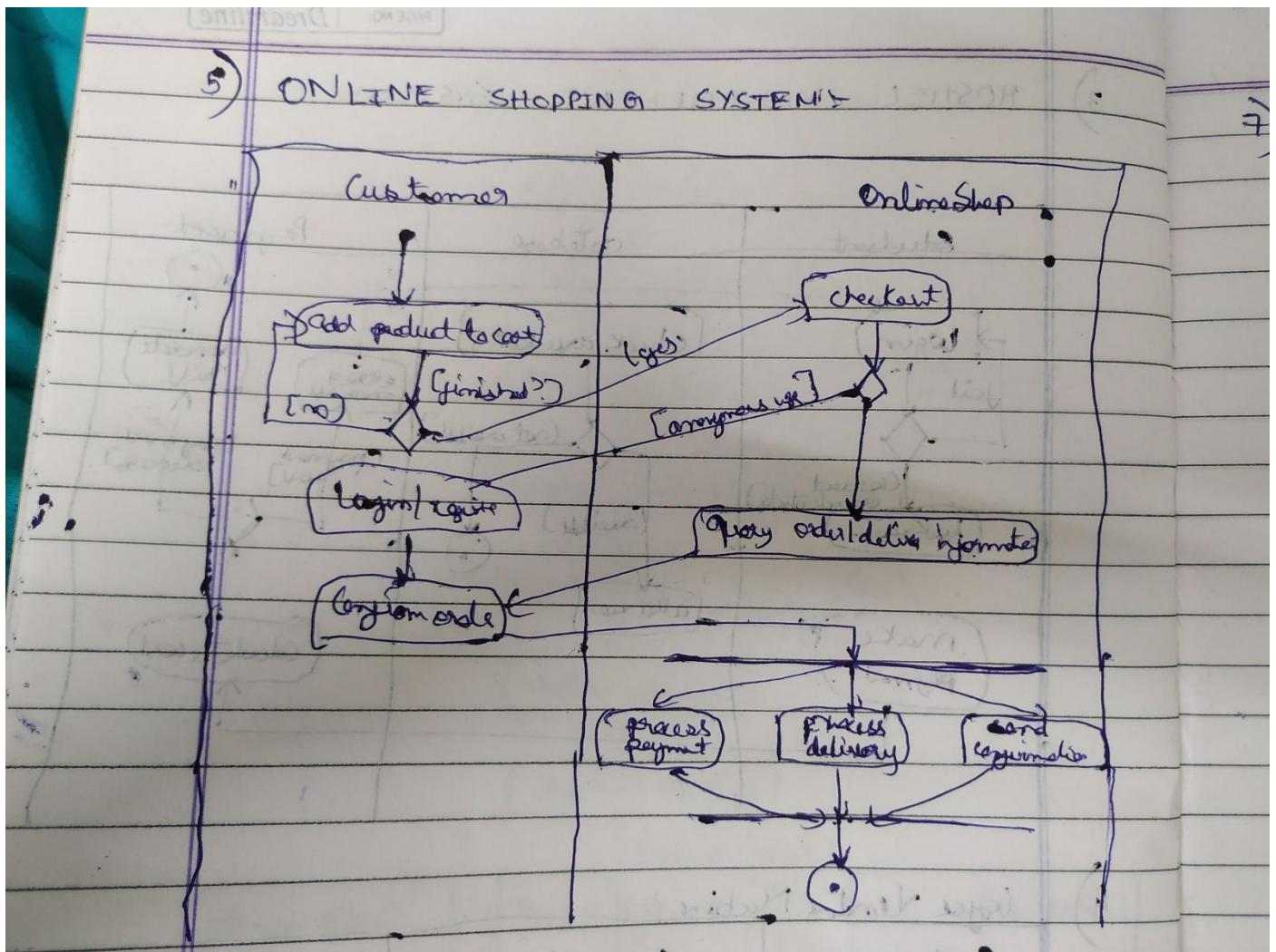
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram



Exercise 6: Railway Reservation System

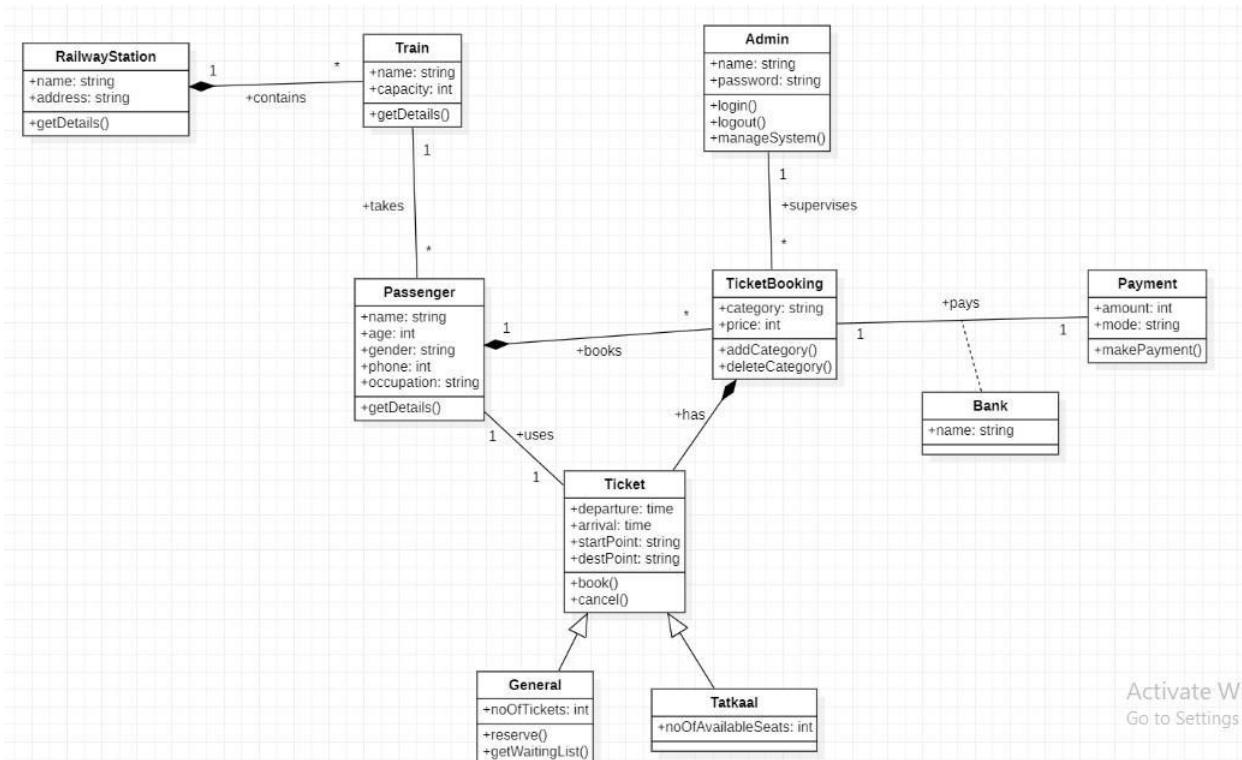
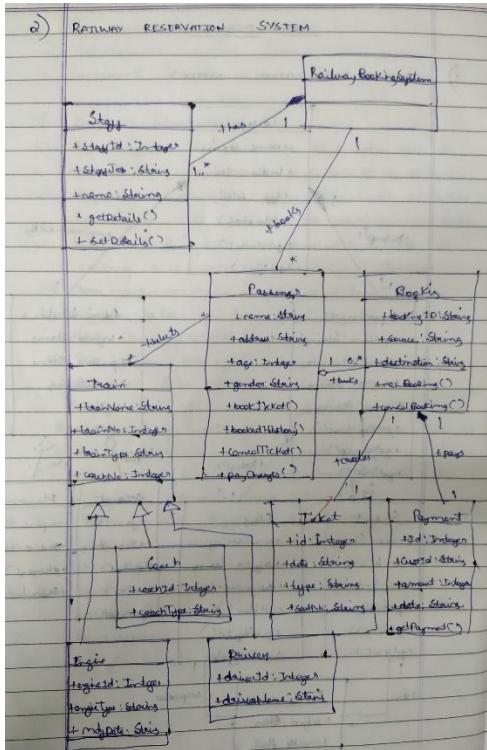
1. Write SRS

①

RAILWAY RESERVATION SYSTEM:-

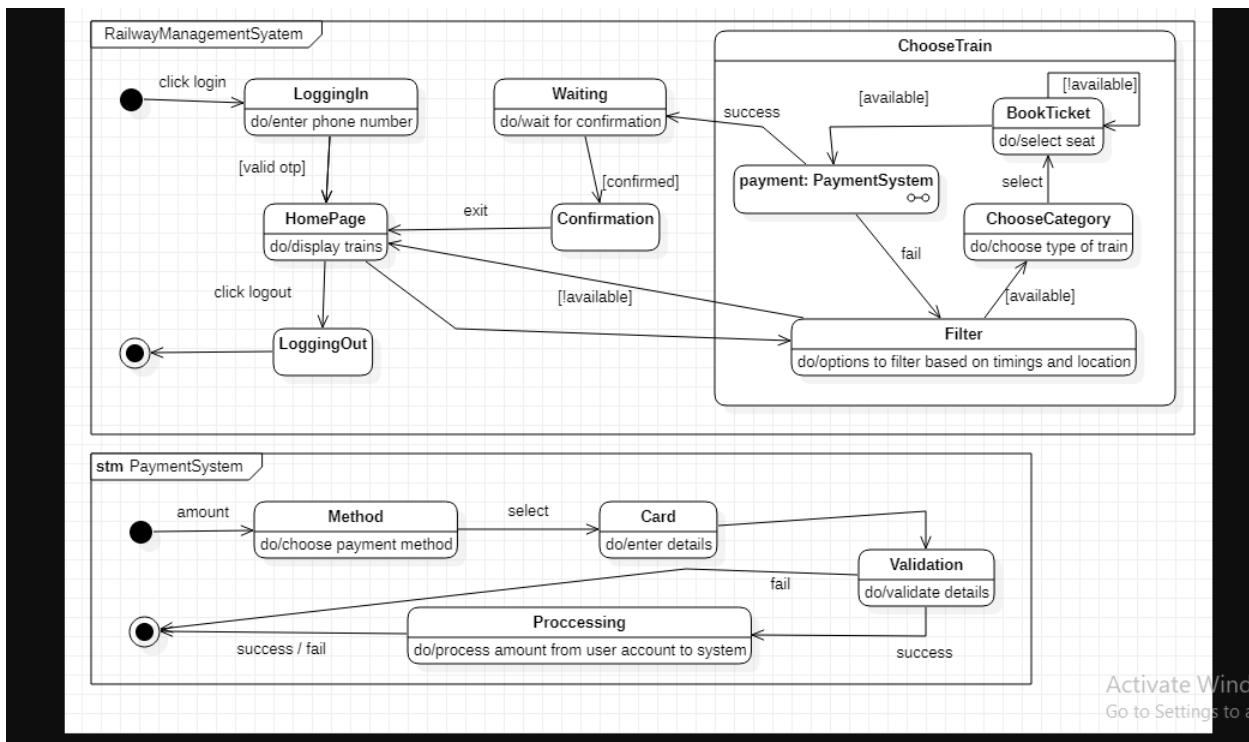
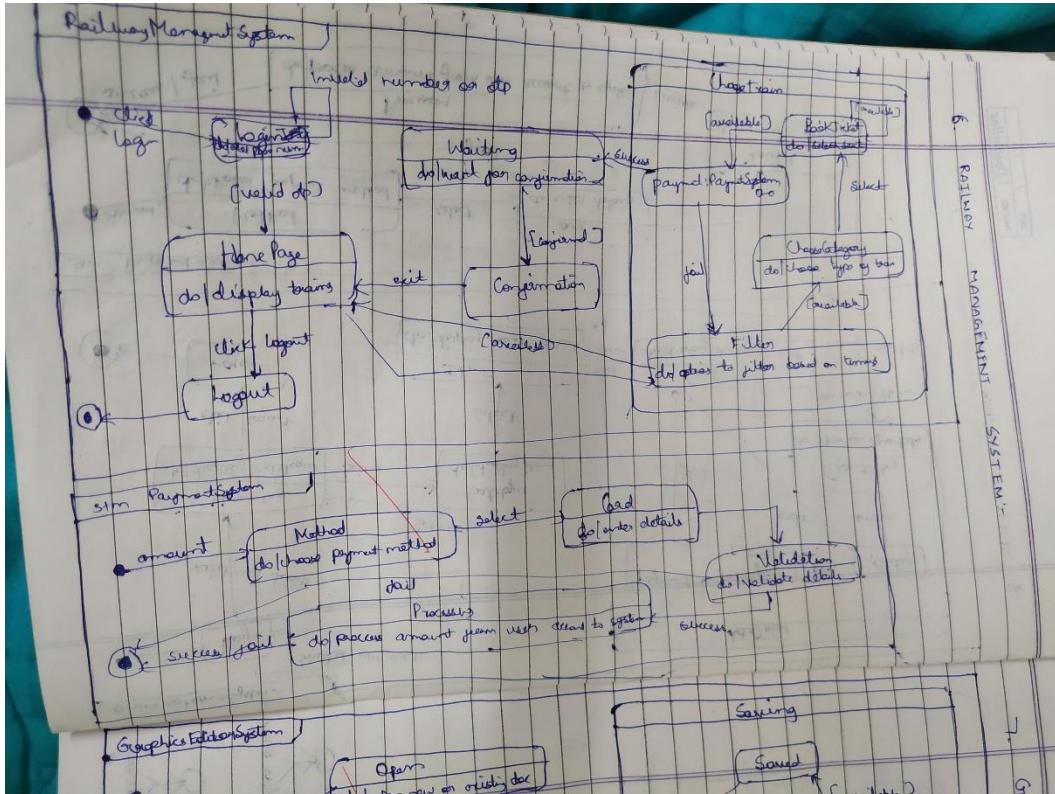
- Admin can add new train & supervise the ticket booking.
- Train has name and no. of passengers it can carry is specified
- Railway System Station has the name & details of the ~~to~~ train passing through it

2. Draw the advanced class diagram



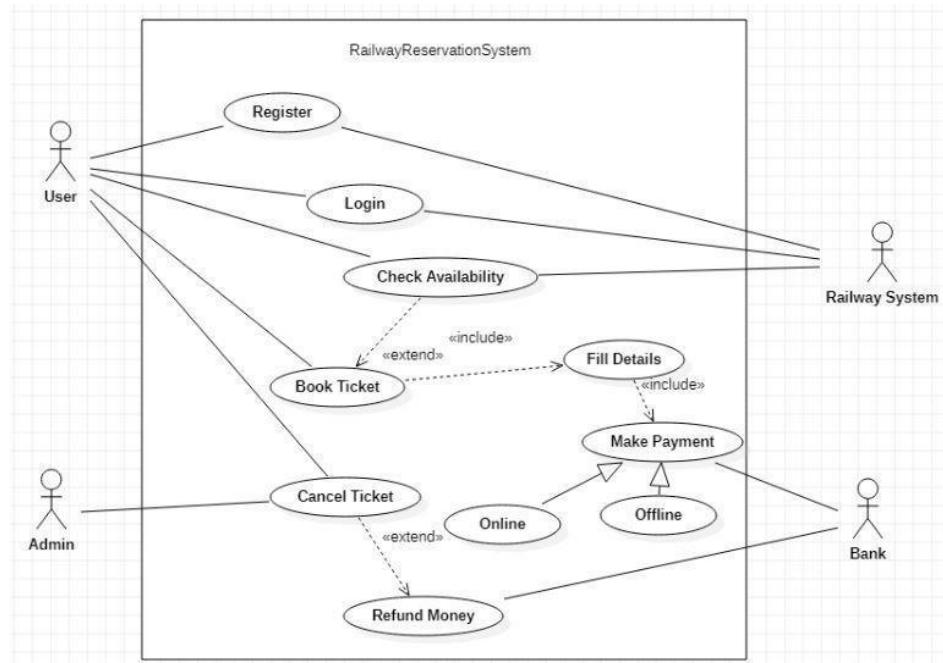
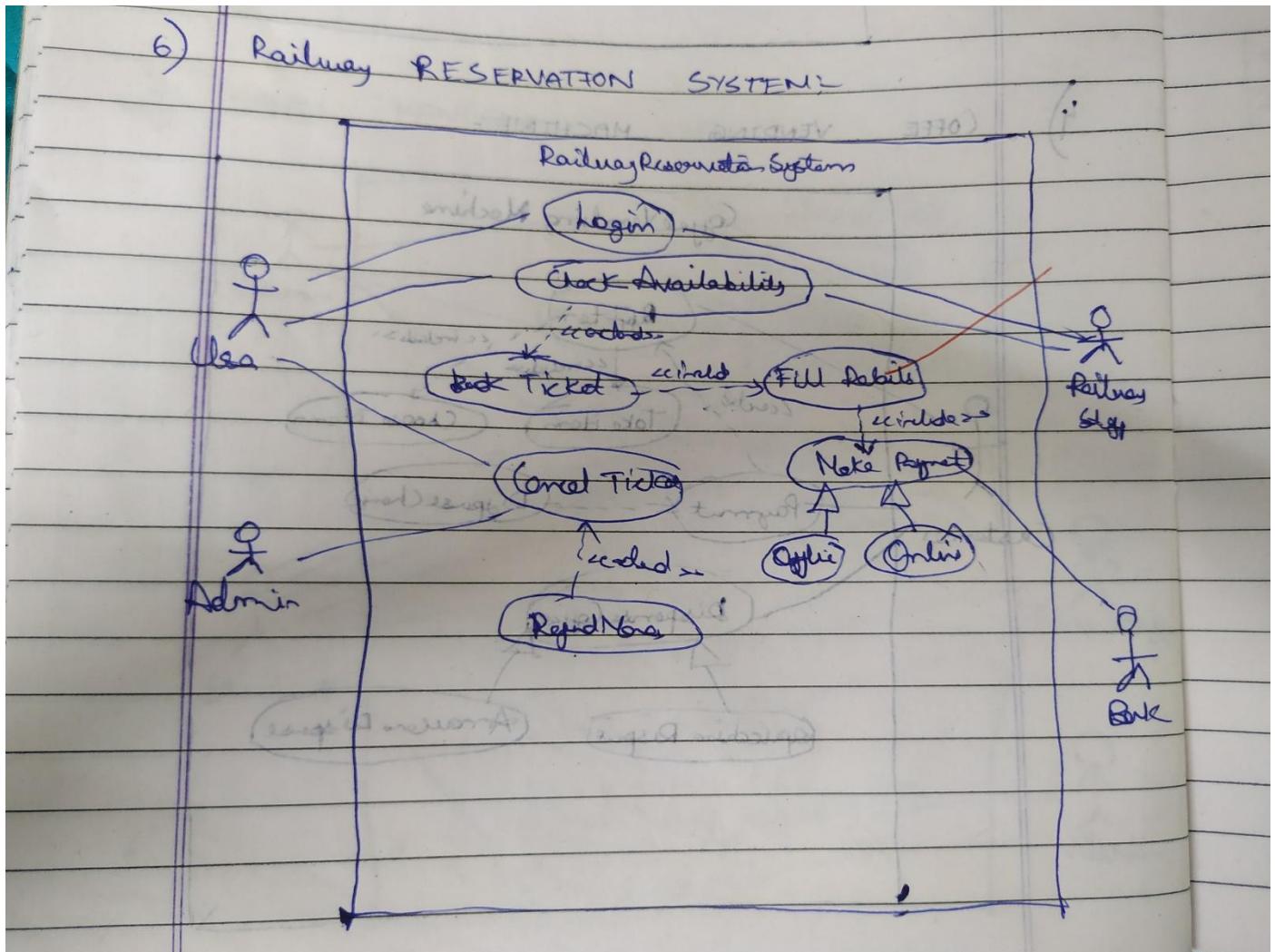
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3. Draw the advanced state diagram

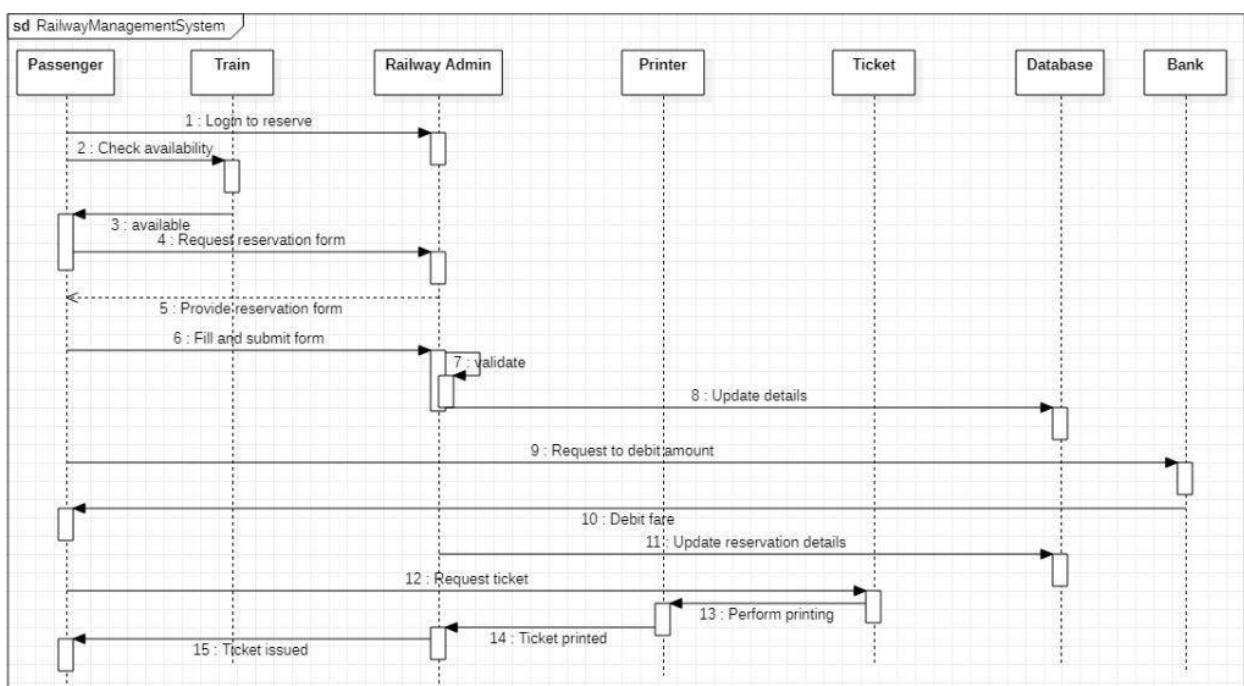
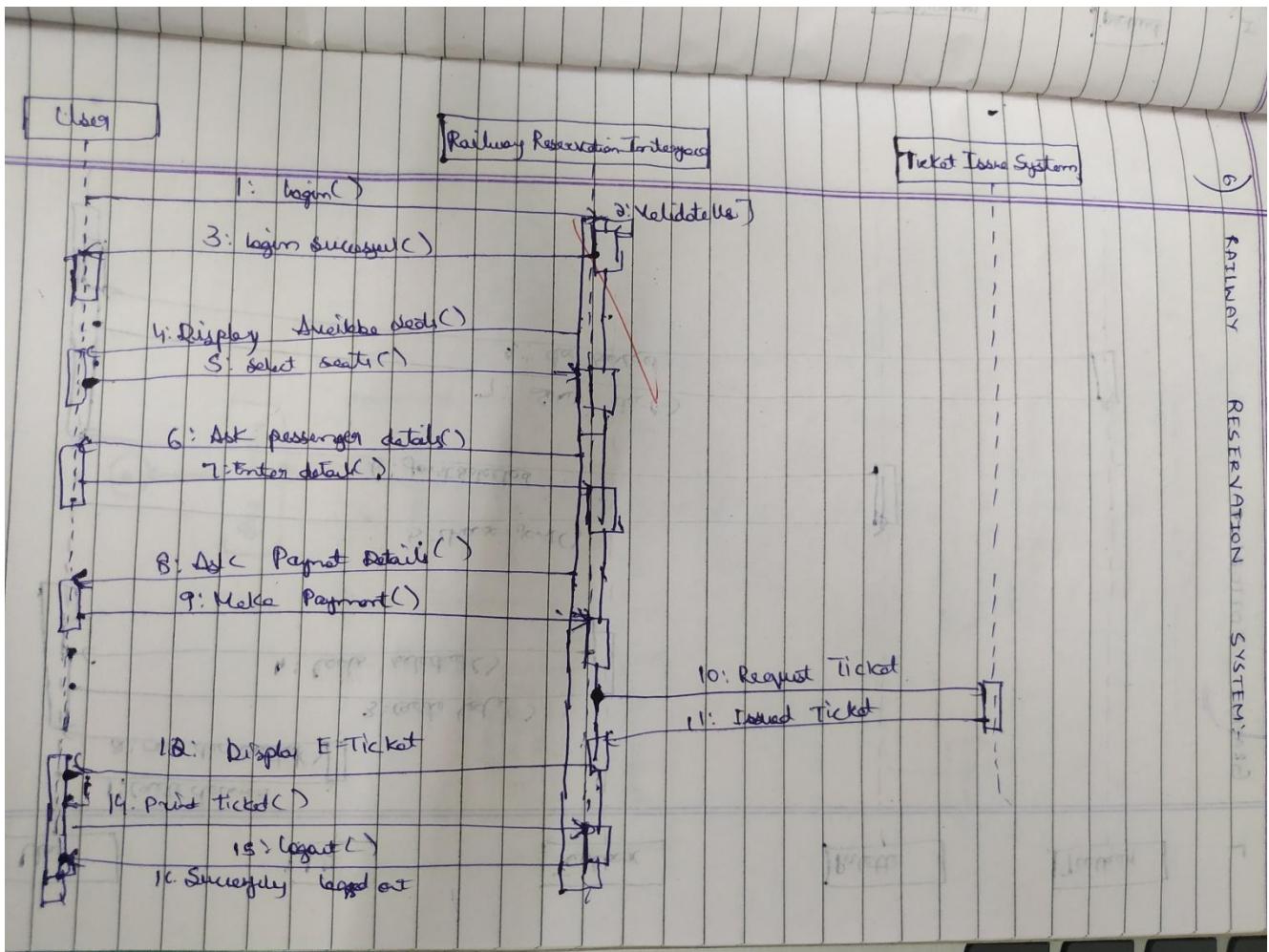


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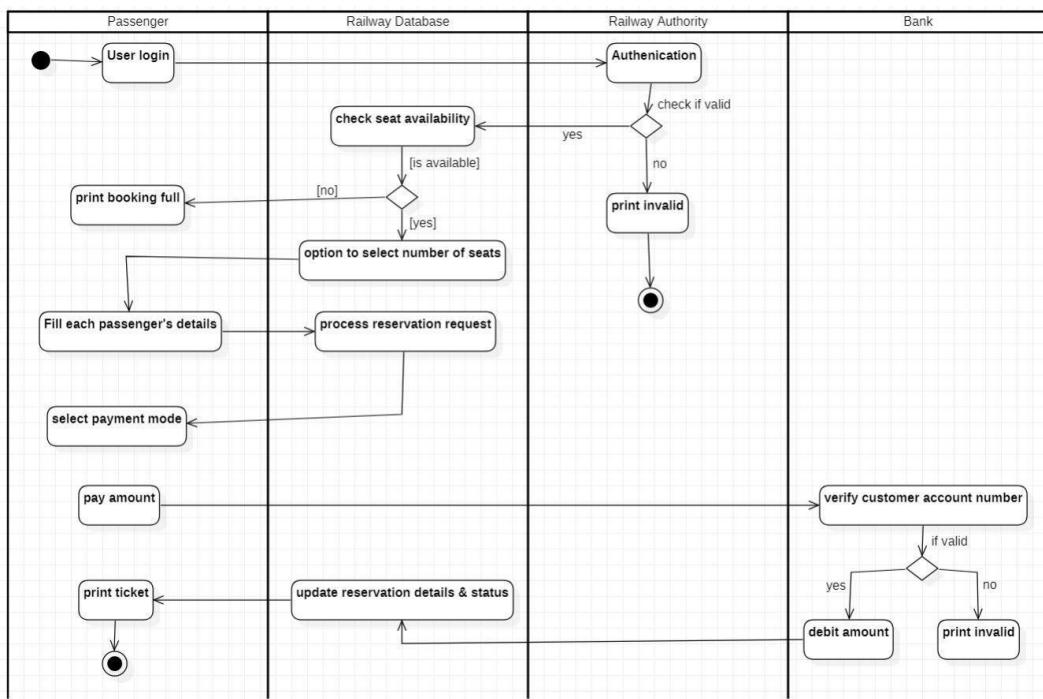
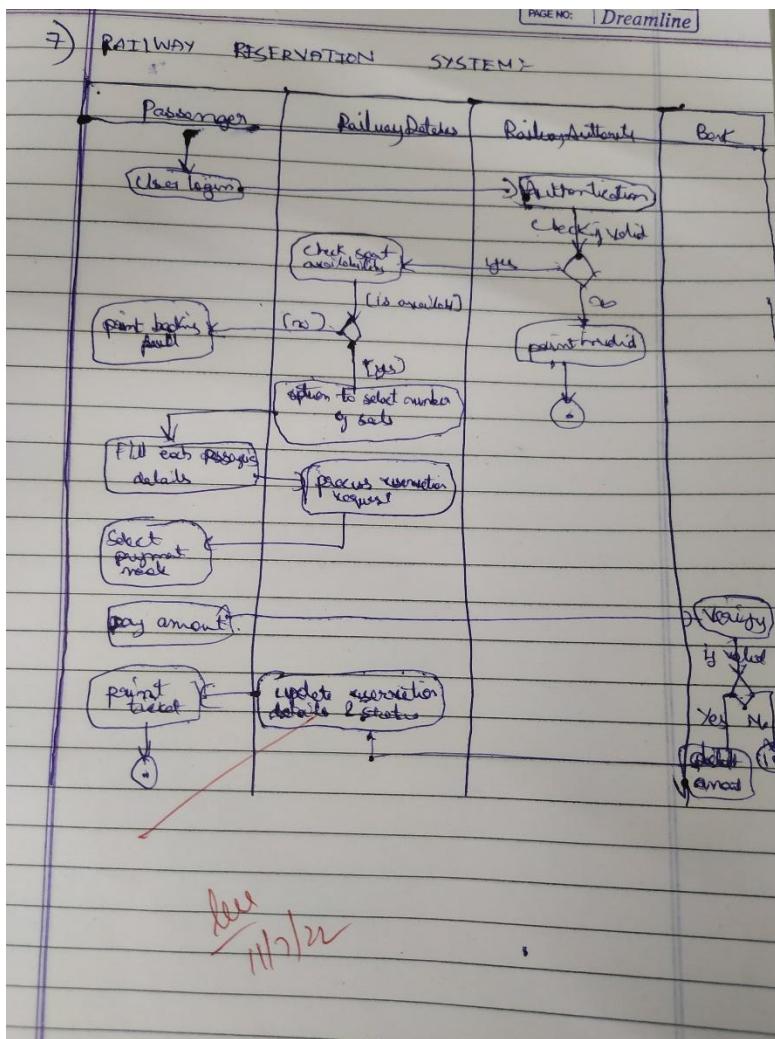
4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram



Exercise 7: Graphics Editor System

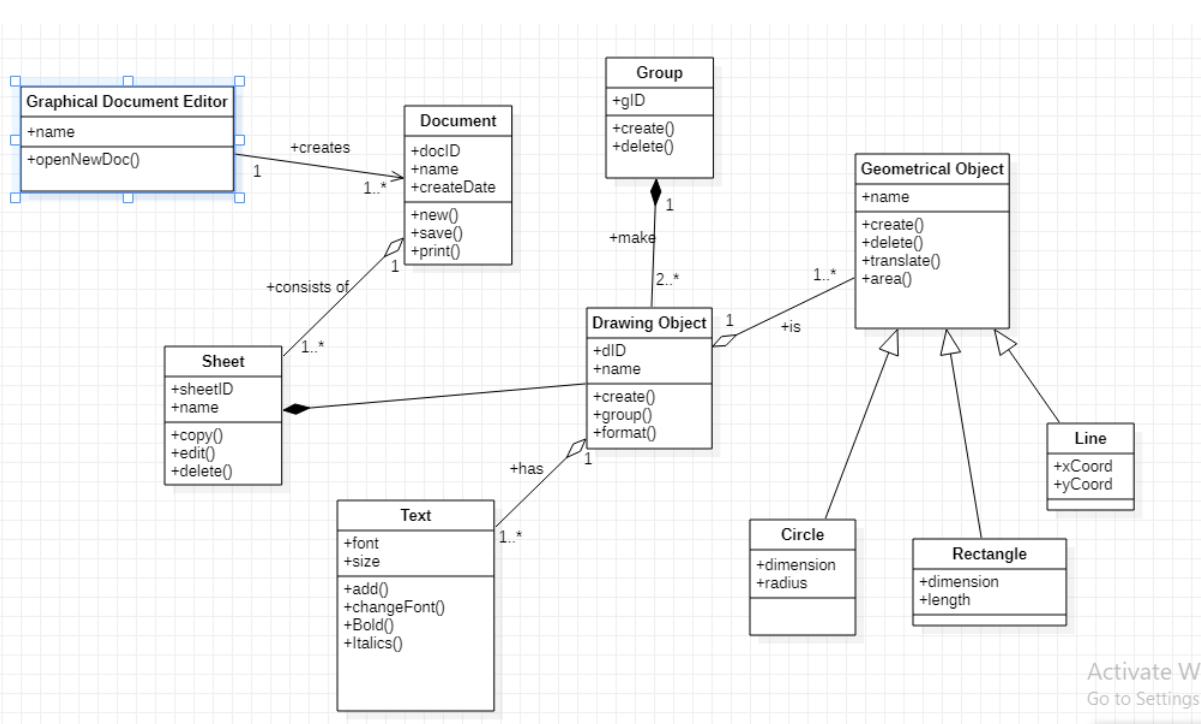
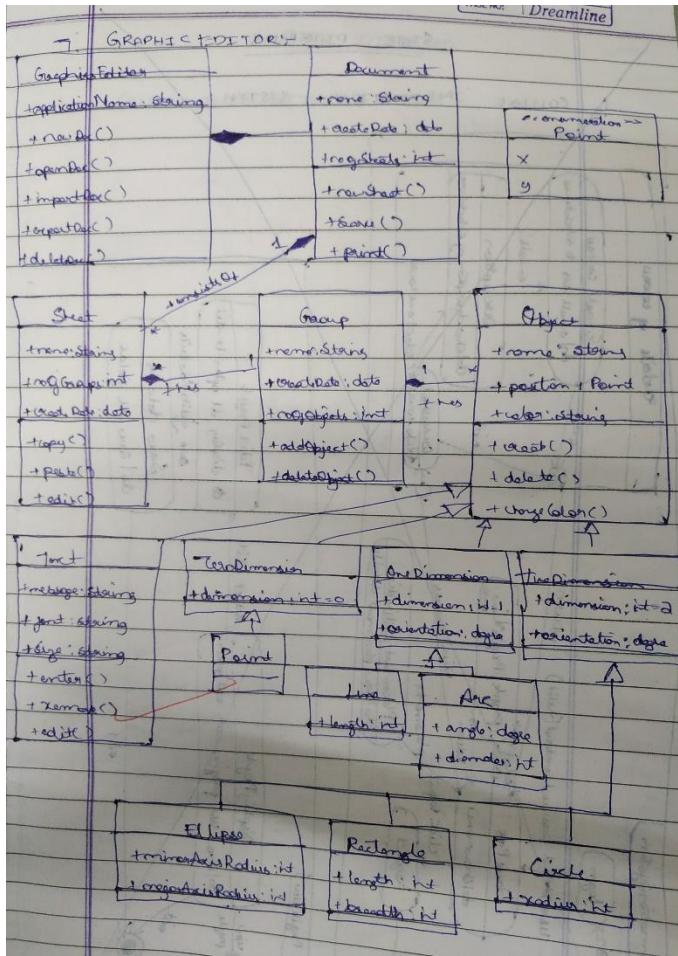
1. Write SRS

(3)

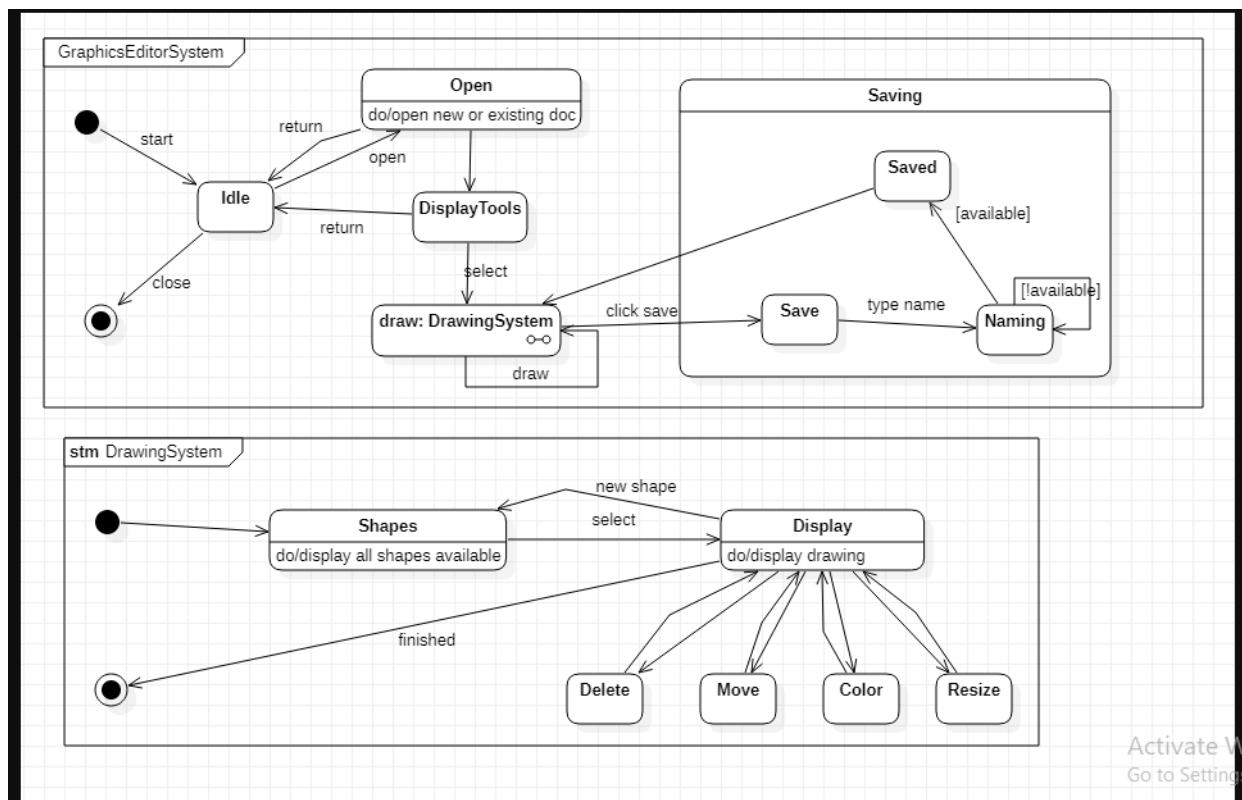
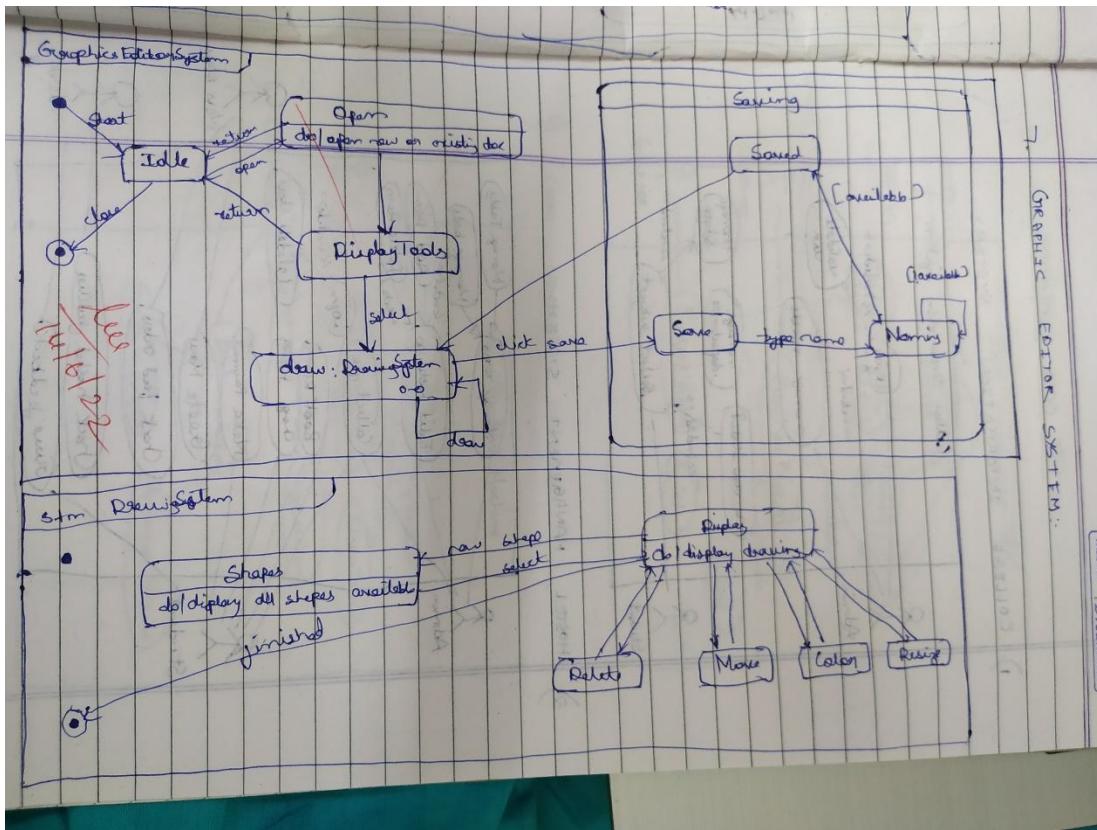
GRAPHIC EDITOR:

- It contains the toolbox which contains tools like circle, rectangle, arc etc.
- Color box or palette.
- Standard toolbars with options for new, open, save, toolbar and text toolbar.
- One integrated view to users for toolbar, color box, menu and ~~and~~ graphic screen.
- Easy handling of tools for users.
- Ability to group several drawings into one, i.e., complex drawing.
- Provision of zoom in and zoom out.
- Different shadings of the tool are provided.

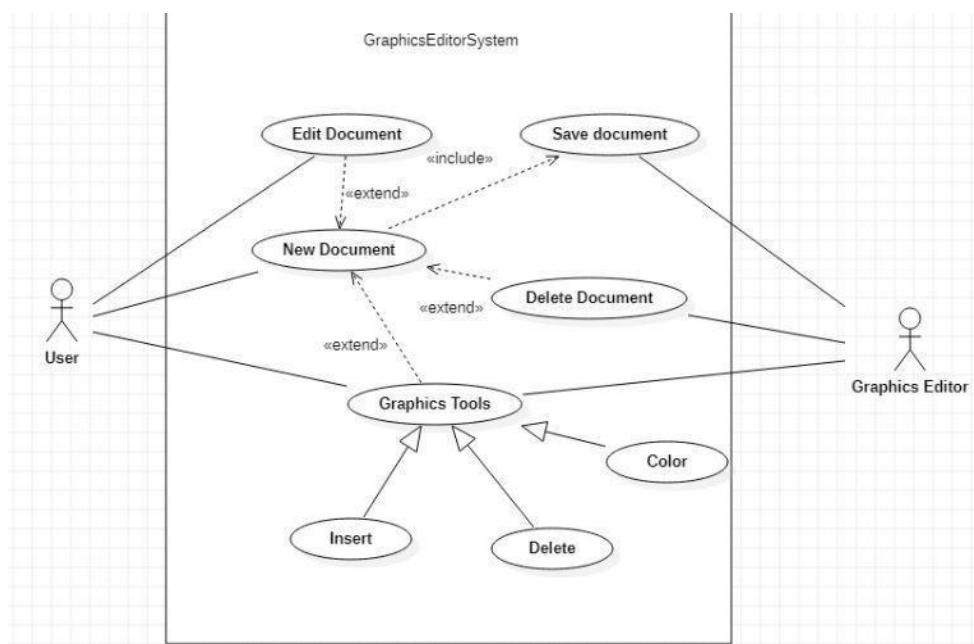
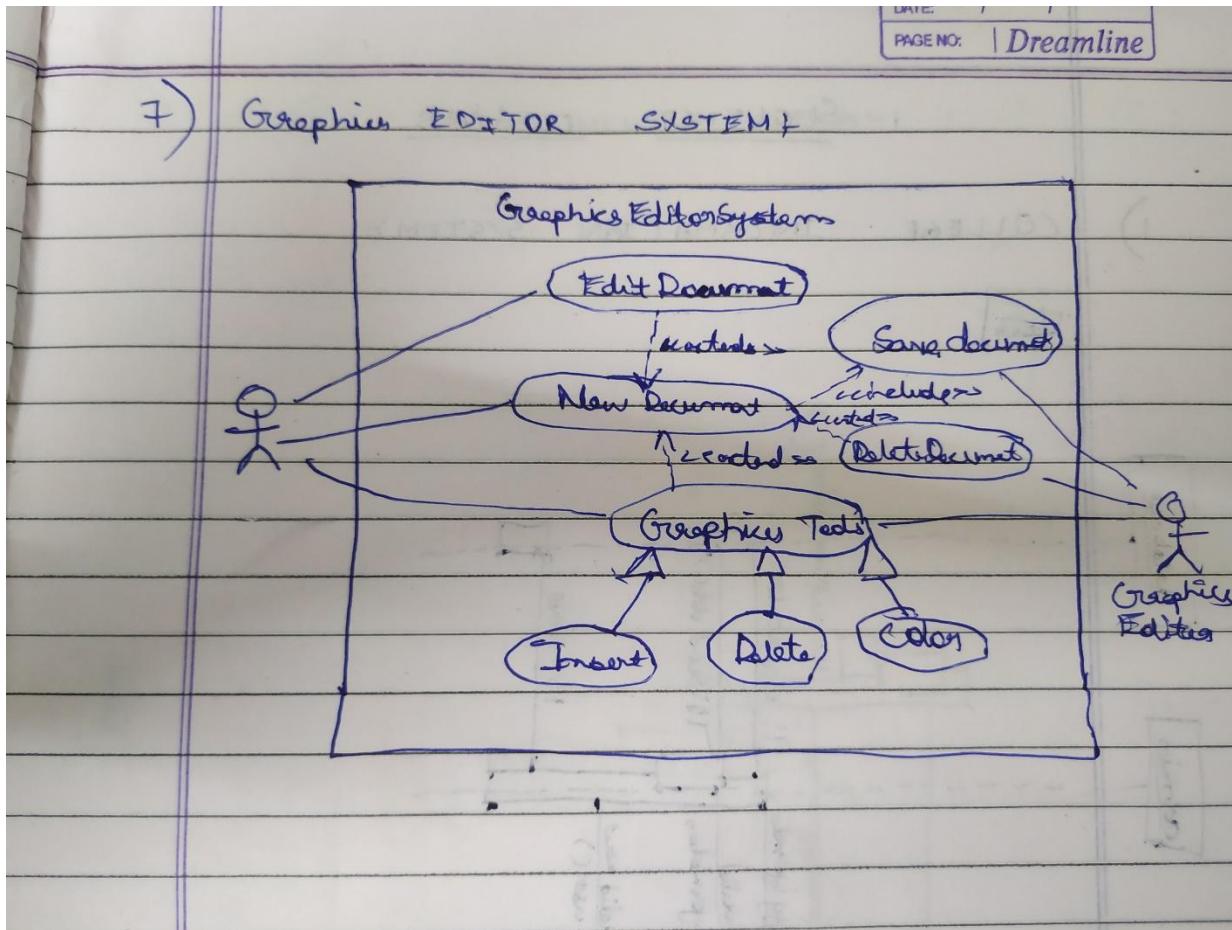
2. Draw the advanced class diagram



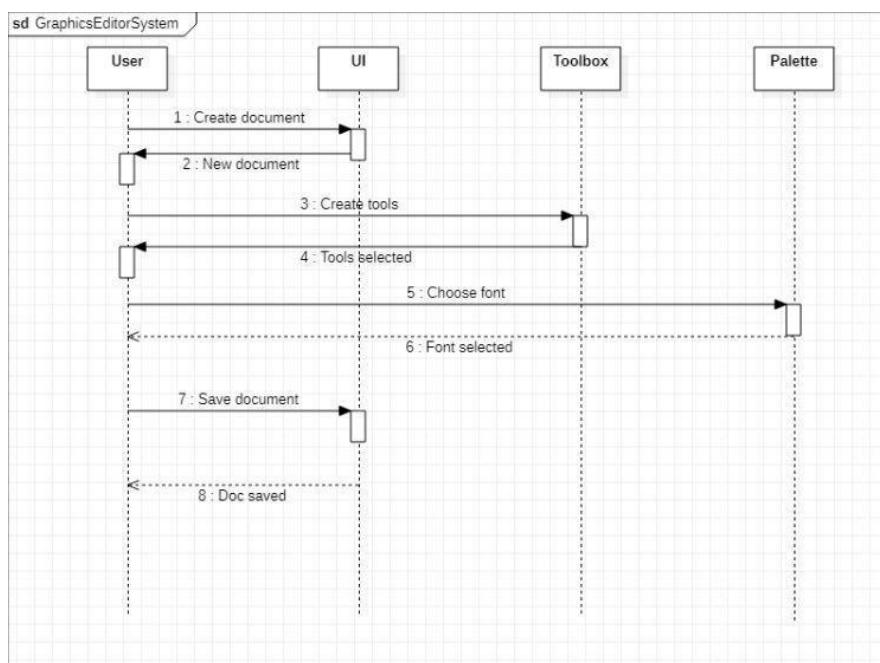
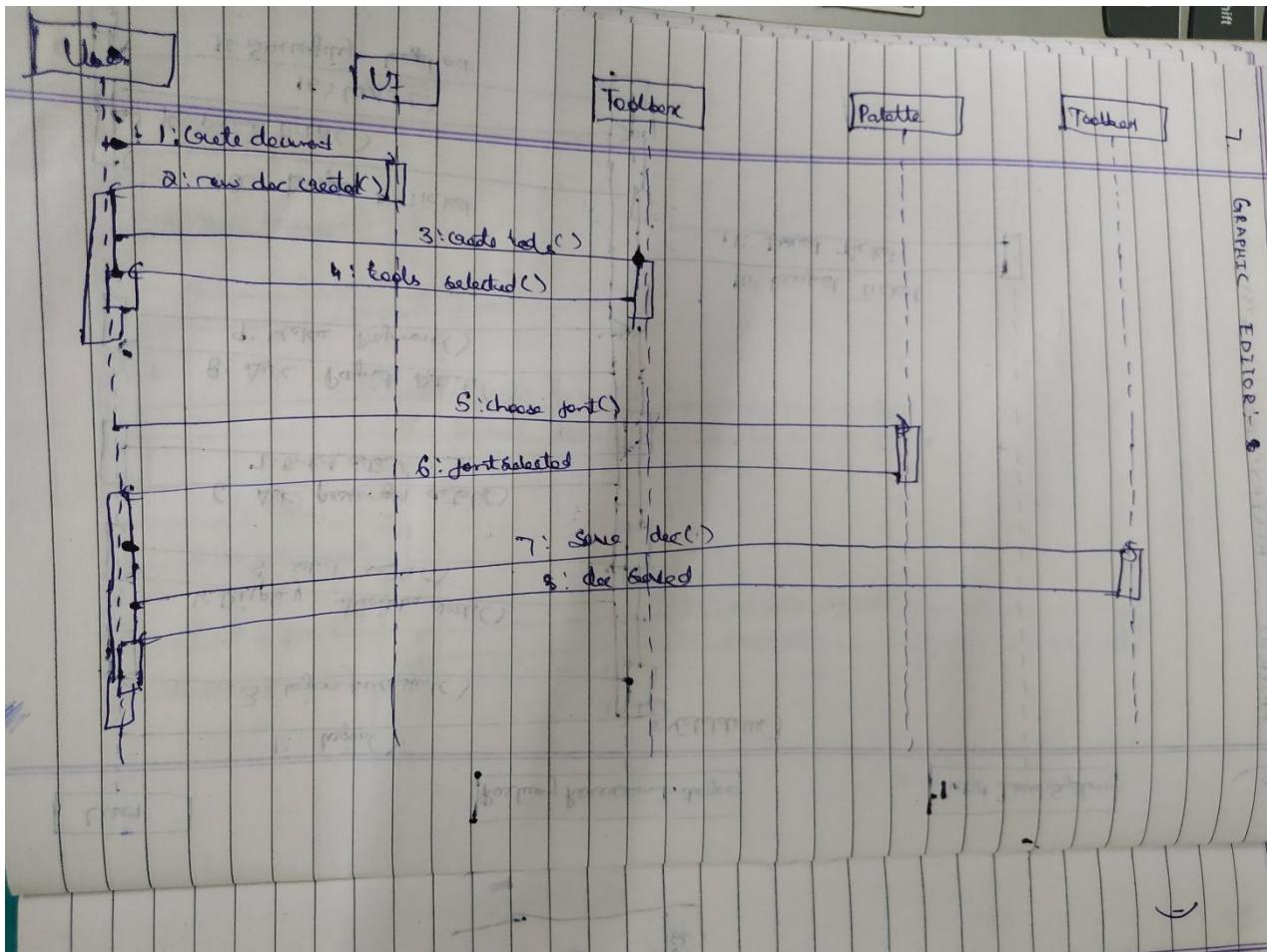
3. Draw the advanced state diagram



4. Draw the advanced use case diagram



5. Draw the advanced sequence diagram



6. Draw the advanced activity diagram

