

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT on

Object Oriented Analysis and Design

Submitted by

Mohammed Aman Taiyab (1BM19CS089)

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 “**LAB COURSE Object Oriented Analysis and Design**” carried out by **Mohammed Aman Taiyab (1BM19CS089)**, 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 Analysis and Design - (20CS6PCOMD)** work prescribed for the said degree.

Dr. Shyamala G
Assistant Professor
Department of CSE
BMSCE, Bengaluru

Dr. Jyothi S Nayak
Professor and Head
Department of CSE
BMSCE, Bengaluru

Index Sheet

Sl. No.	Experiment Title	Page No.
1	College Information System	4-13
2	Hostel Management System	14-23
3	Stock Maintenance System	24-44
4	Coffee Vending Machine	45-56
5	Online Shopping System	56-62
6	Railway reservation System	63-72
7	Graphics Editor	72-80

Course Outcome

CO4	Ability to conduct practical experiment to solve a given problem using Unified Modeling language.
-----	---

1. College Information System -

a) SRS:

Date _____
Page _____
SPLASH

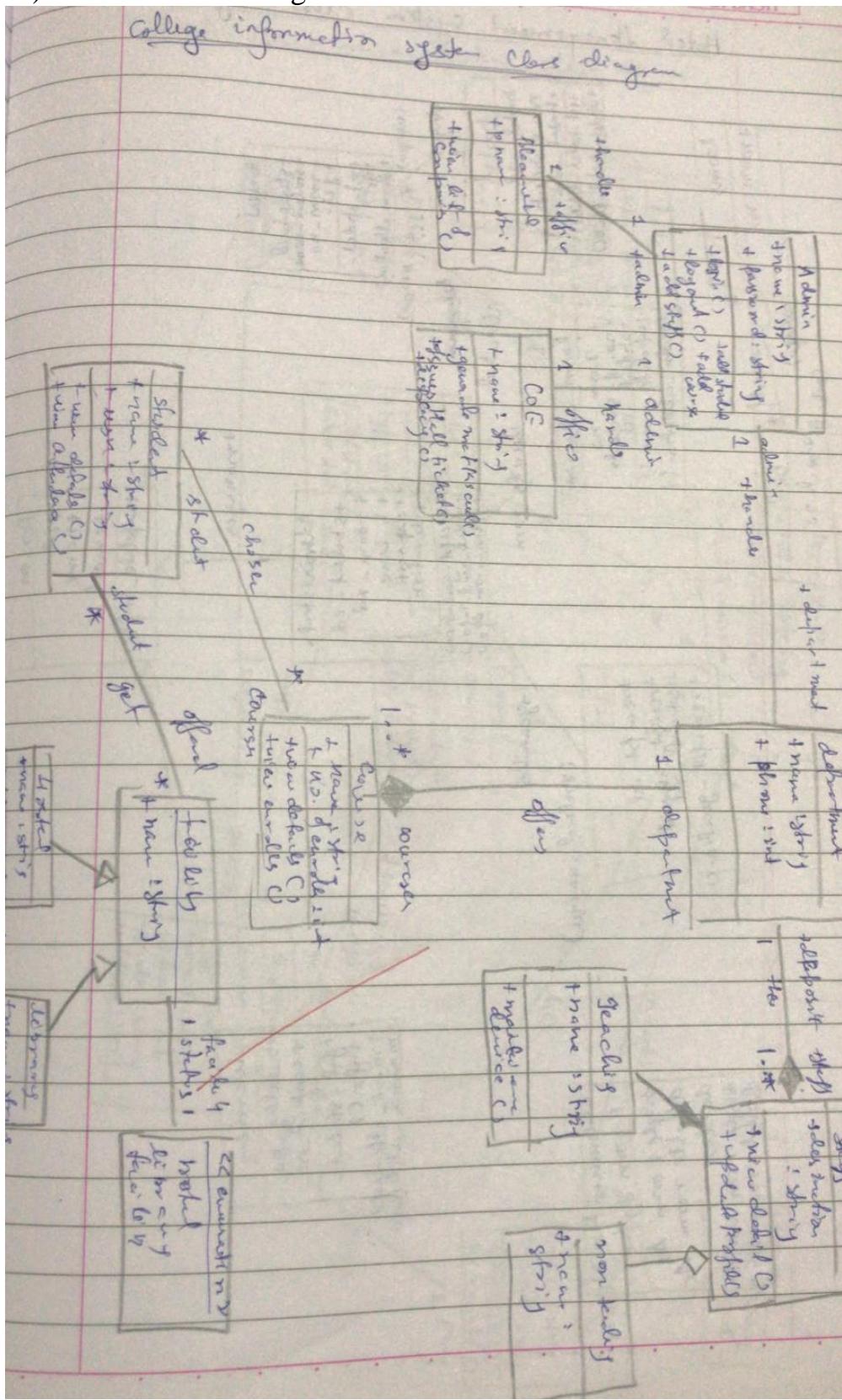
① College Information System

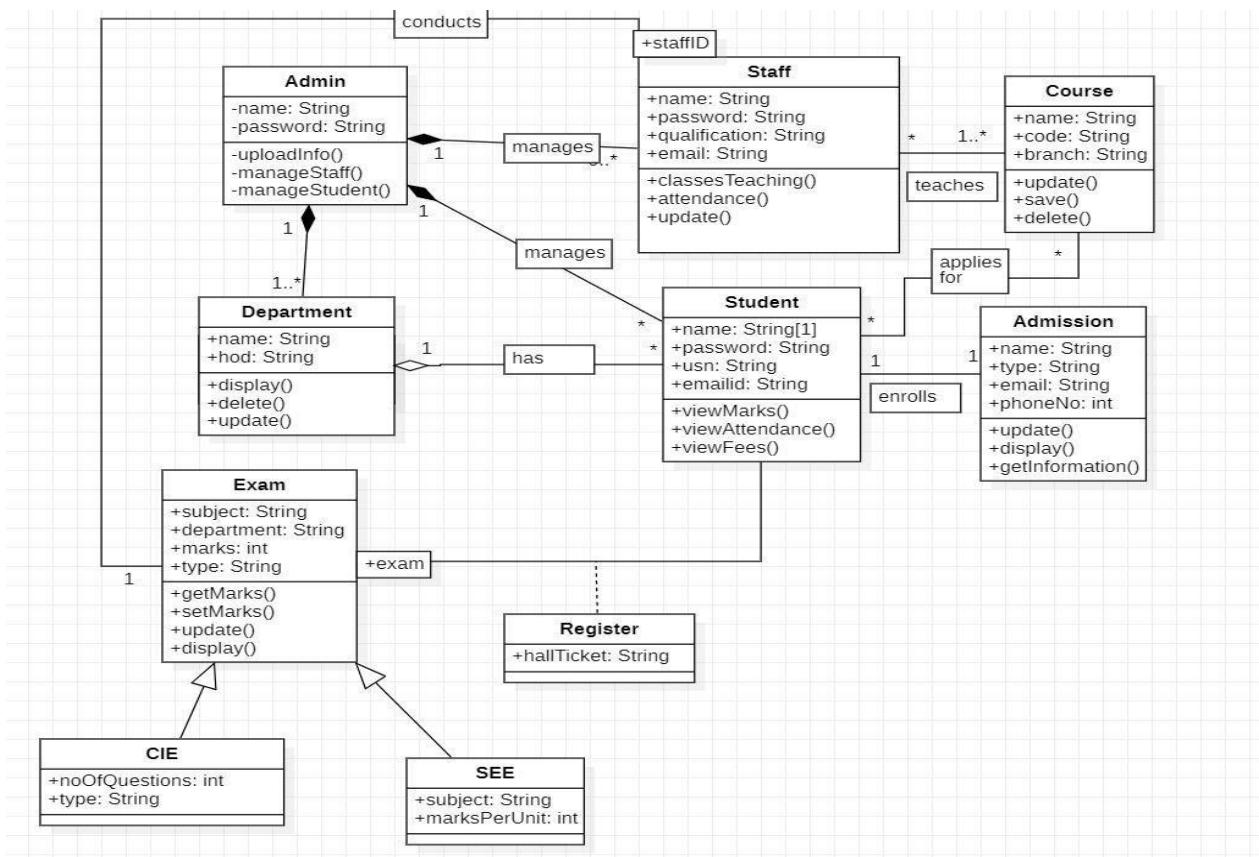
* Problem Statement
Manual college system uses paper-based and difficult to maintain expensive, required more man-power.

User Cases

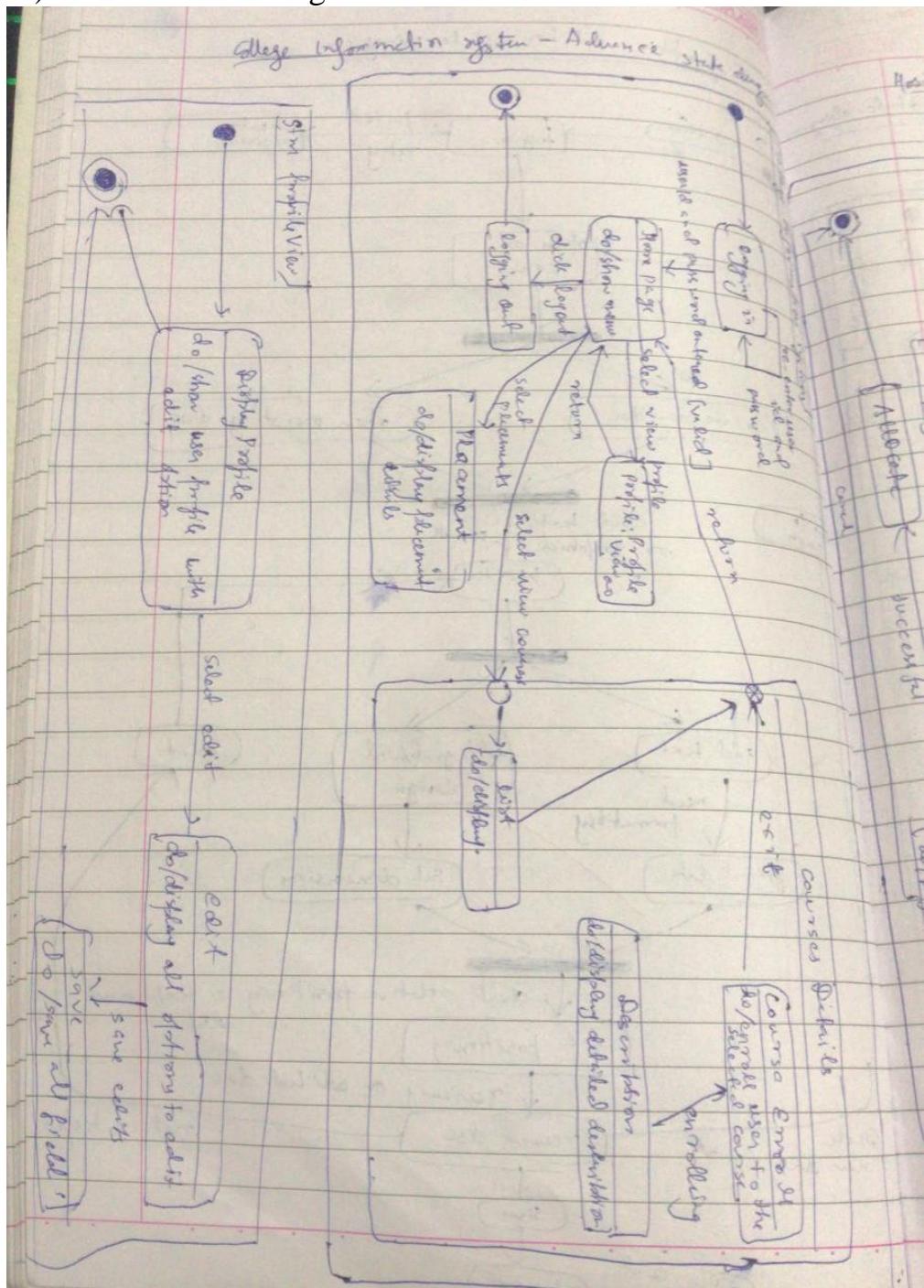
- Attendance
- Student Management : Register new student in college and maintain the records of students.
- Attendance Management : View and manage record of attendance of students. Admin has full access to view and make changes.
- User registration : Admin can create new users for the system such as employee of the college. Admin creates their profile for the user and provides detail to login.
- Internal Marks : View marks of students in internal exams and can add new marks in the system.
- Employee management : Admin registers new employee in college and save their info. in a database for a different purpose.

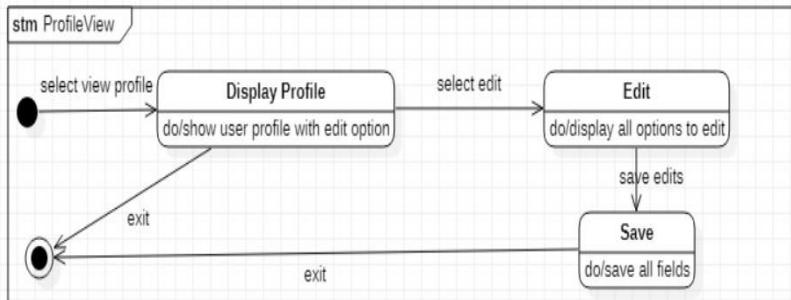
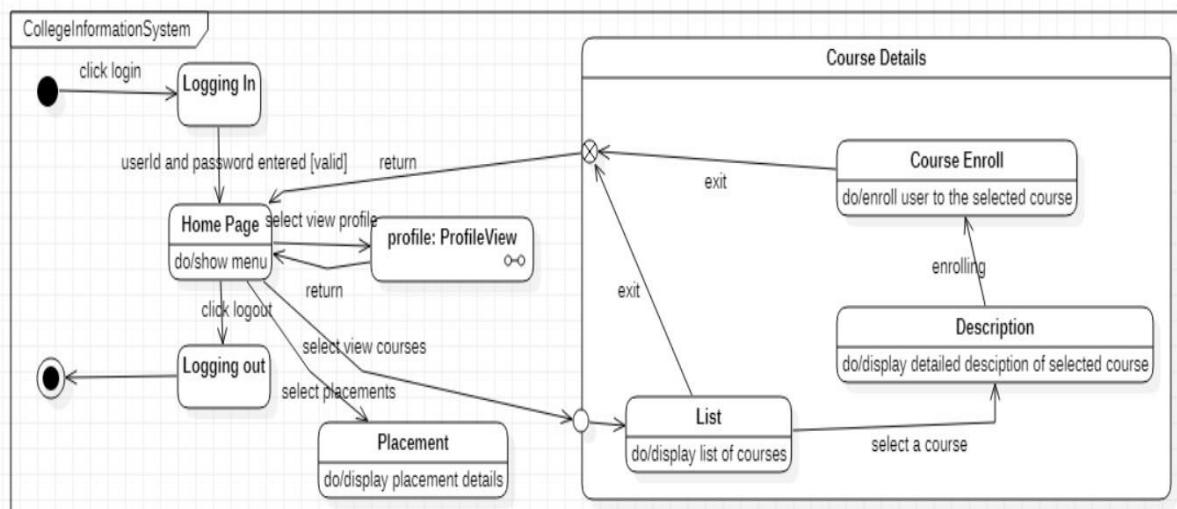
b) Advance Class Diagram:



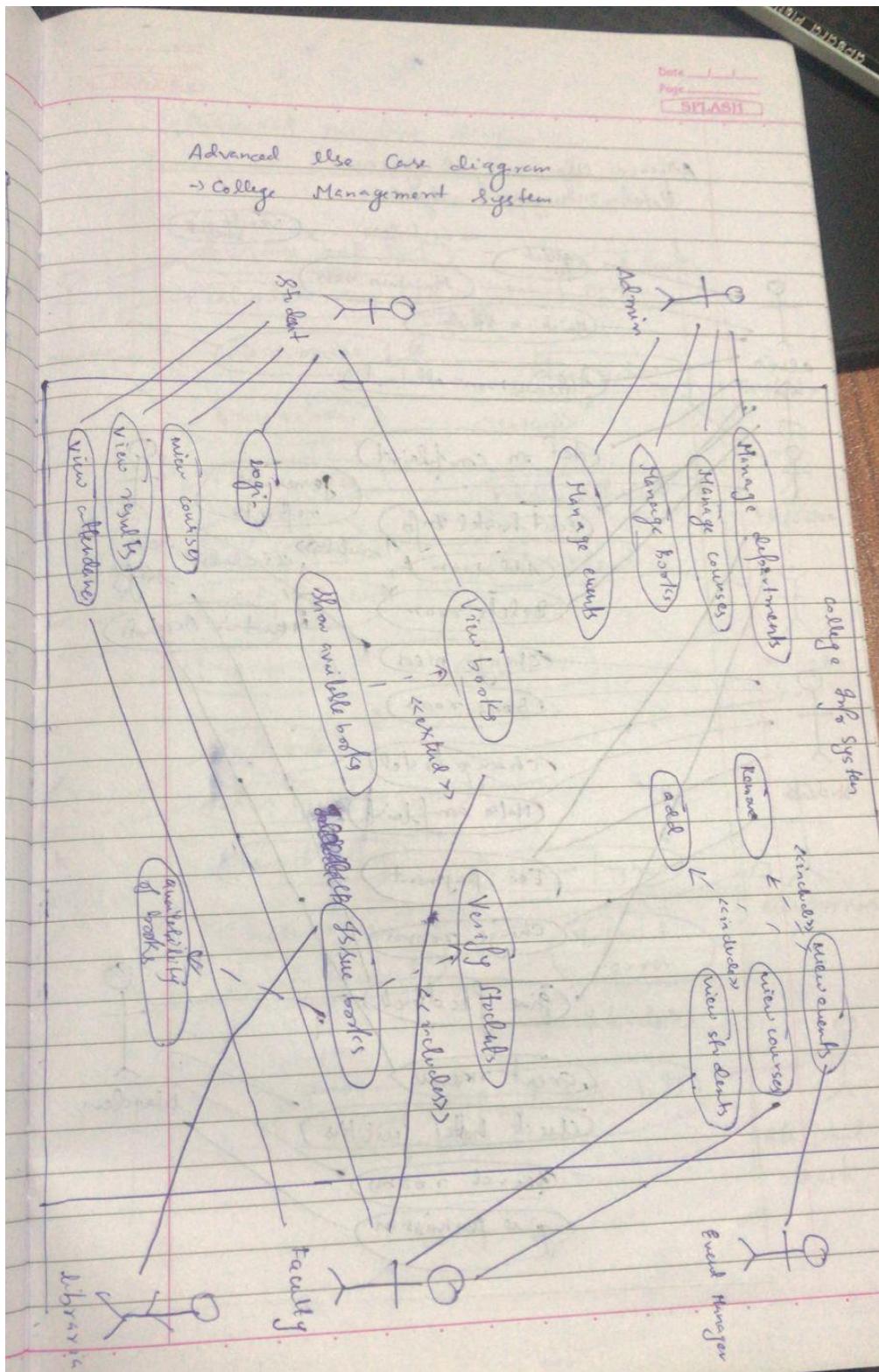


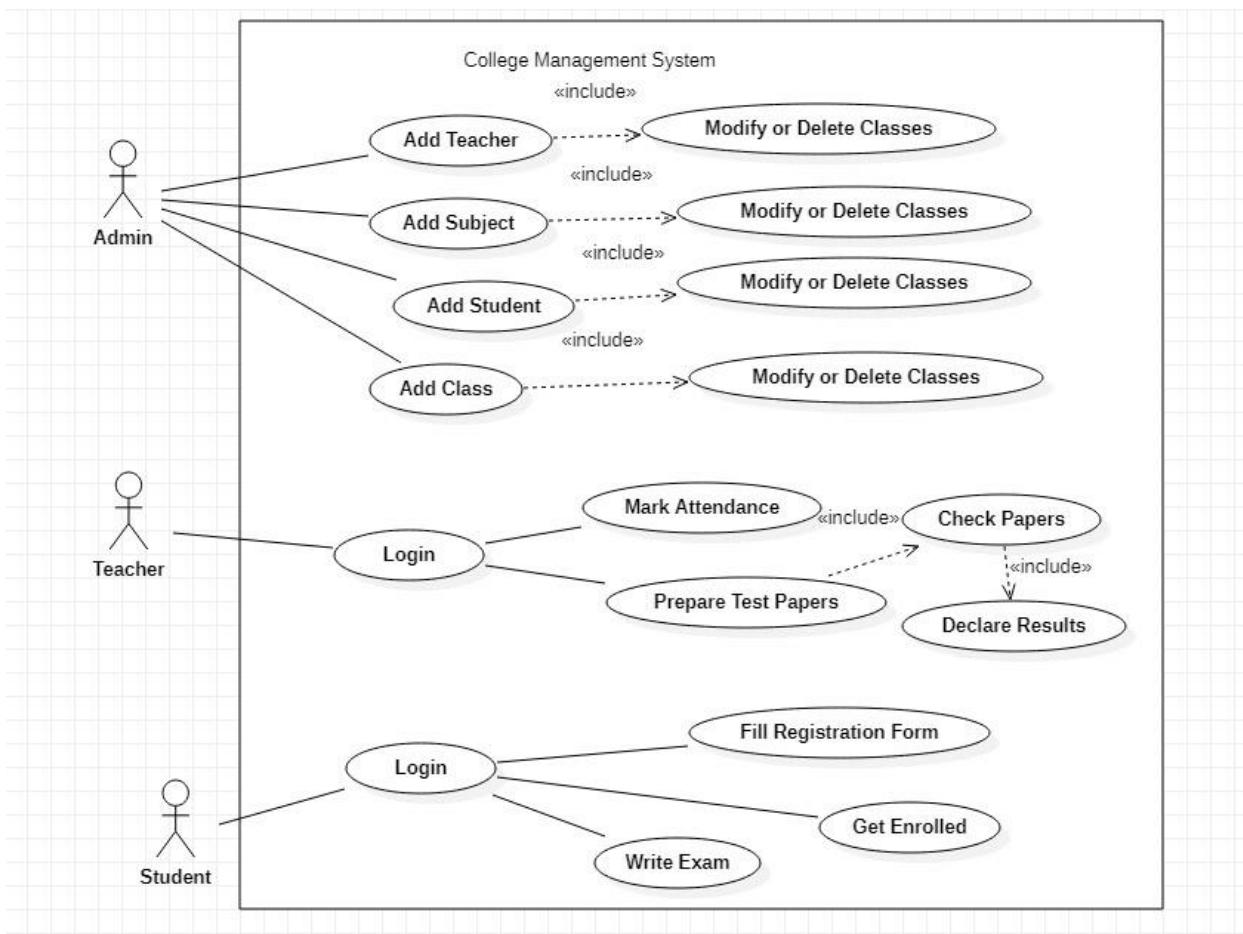
c) Advance State Diagram:



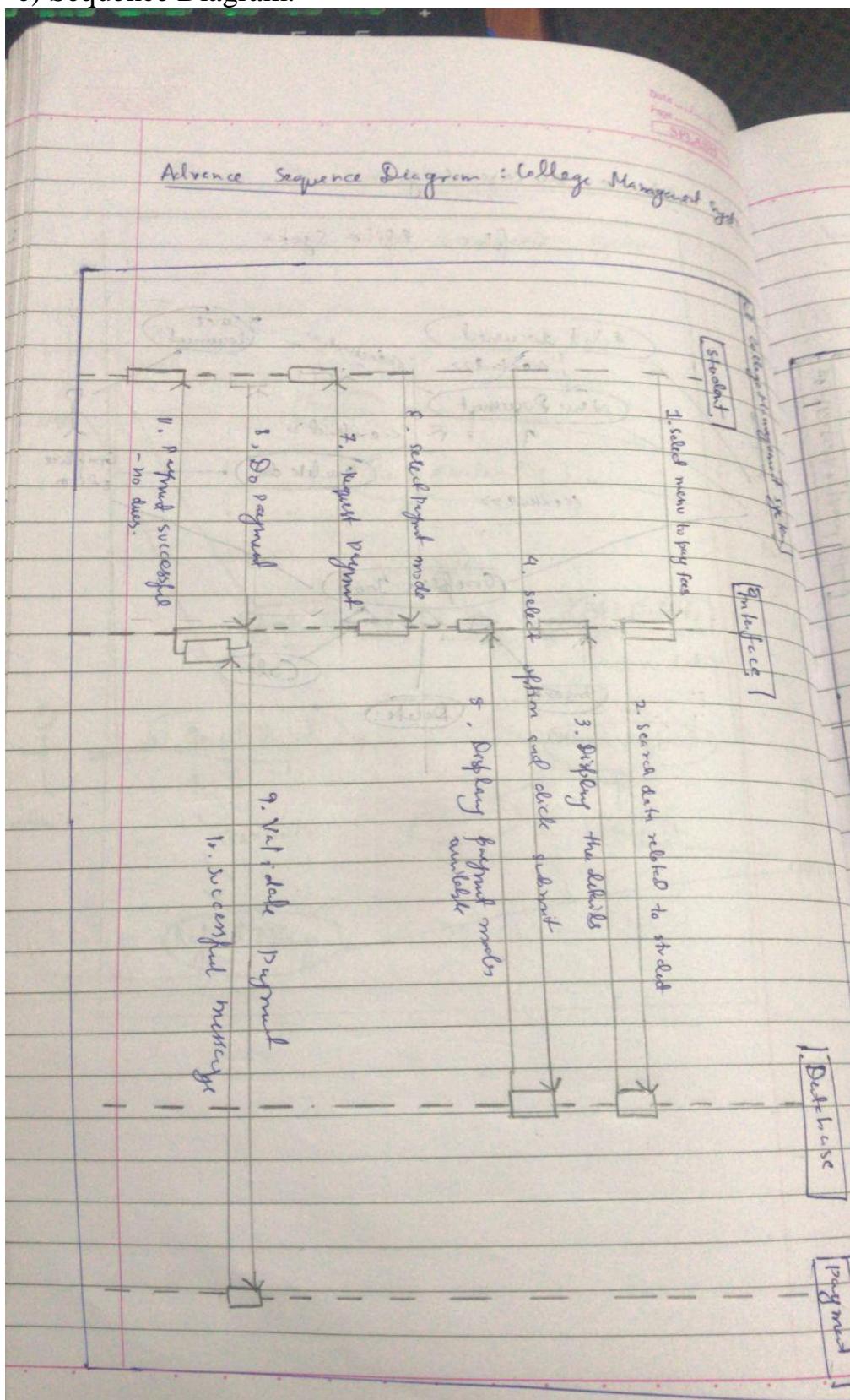


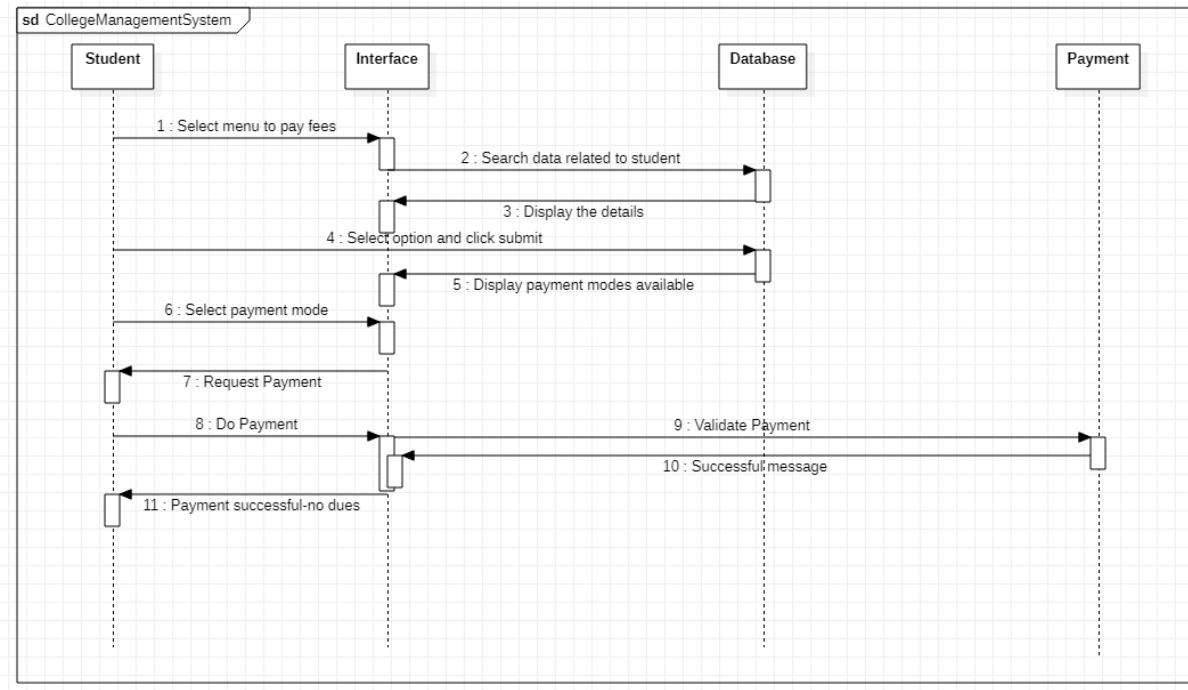
d) Advance Use Case Diagram:



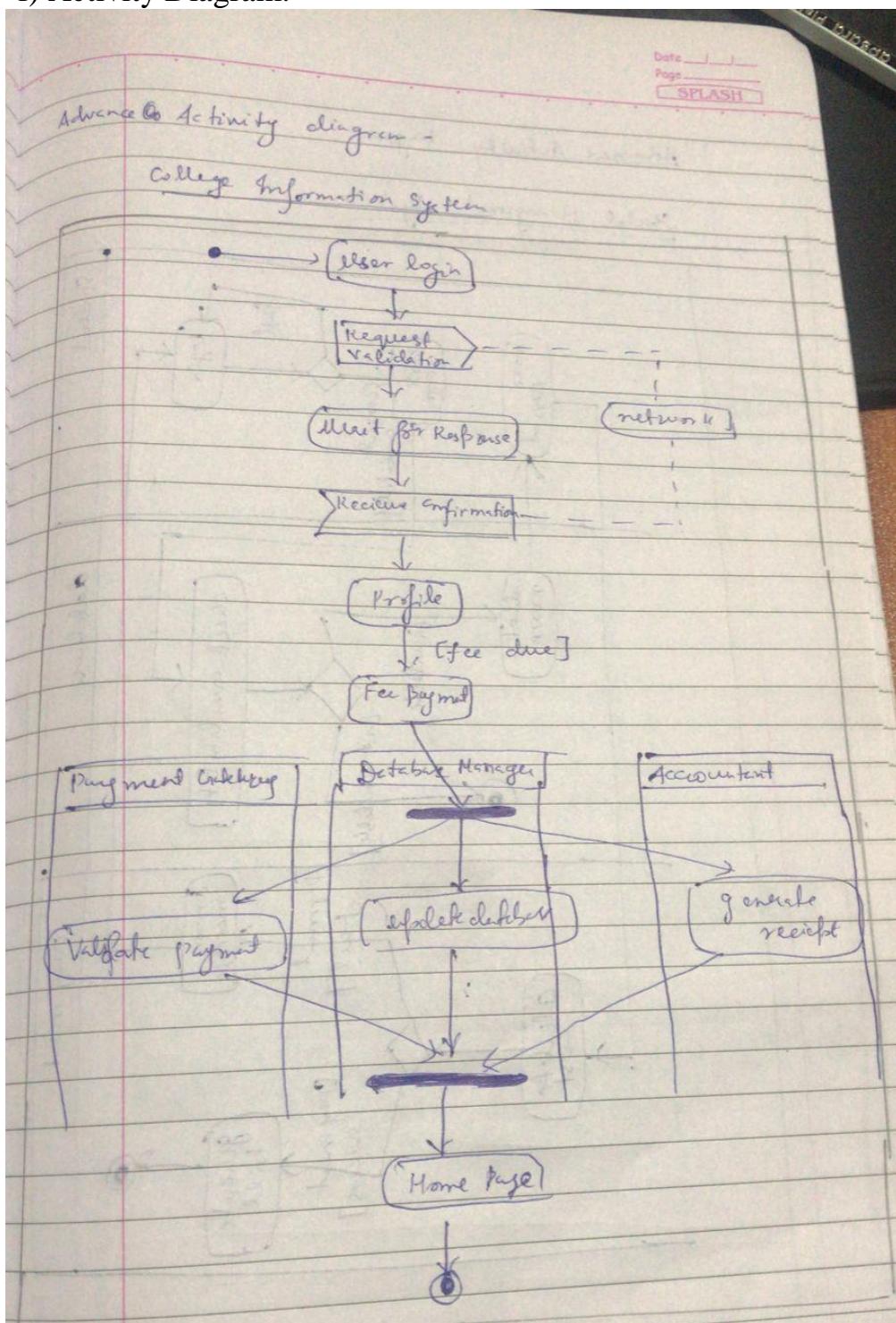


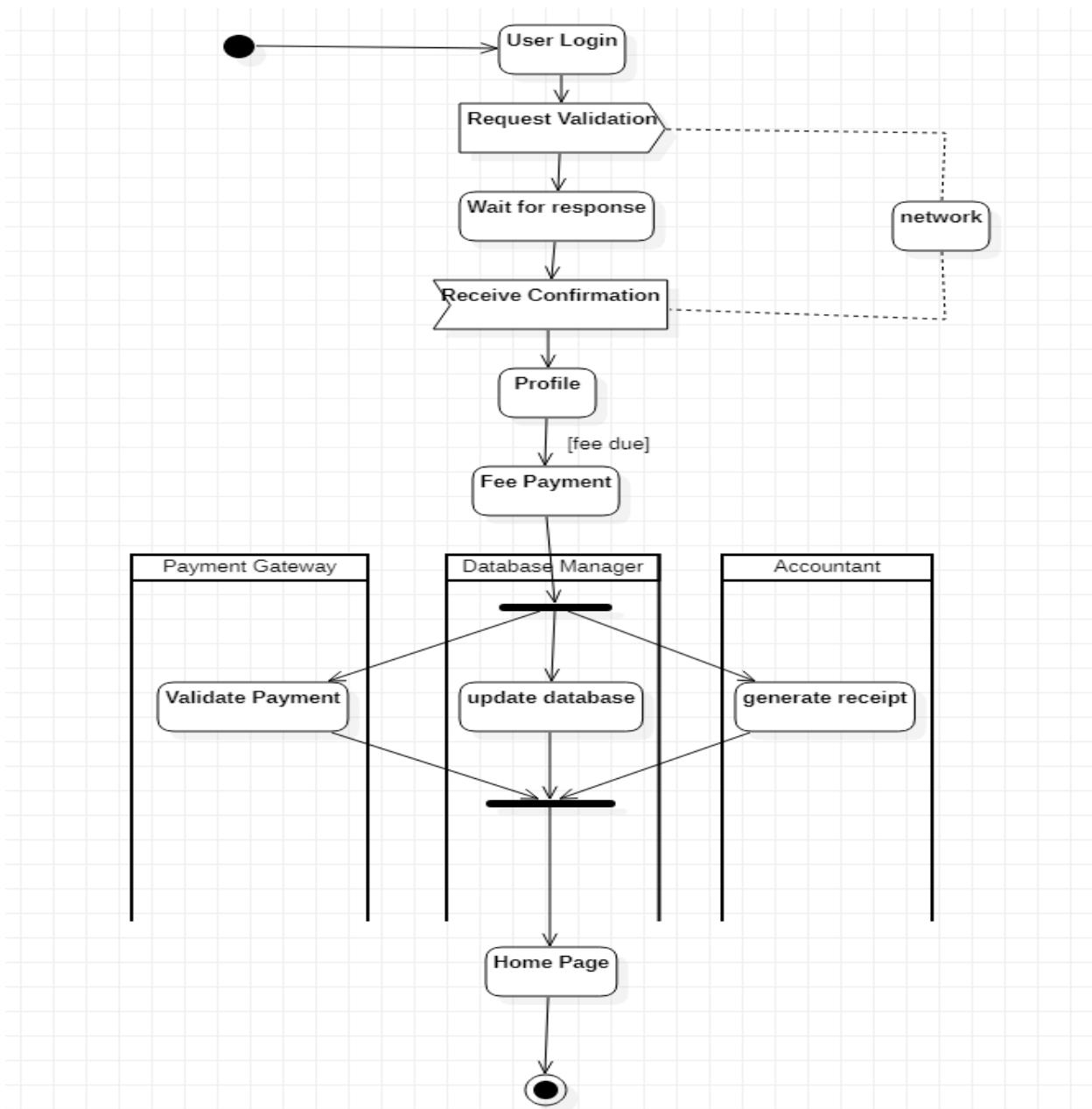
e) Sequence Diagram:





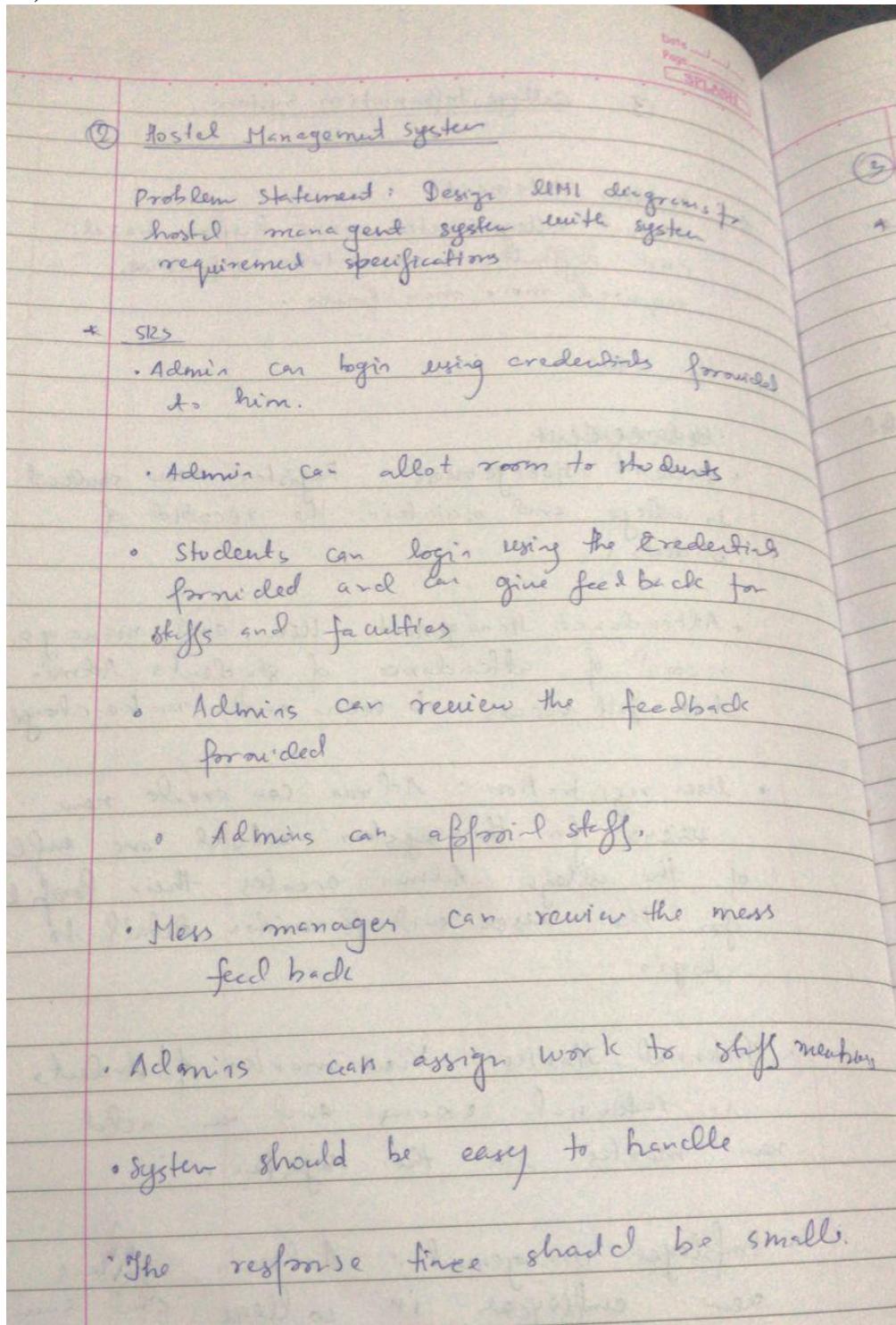
f) Activity Diagram:



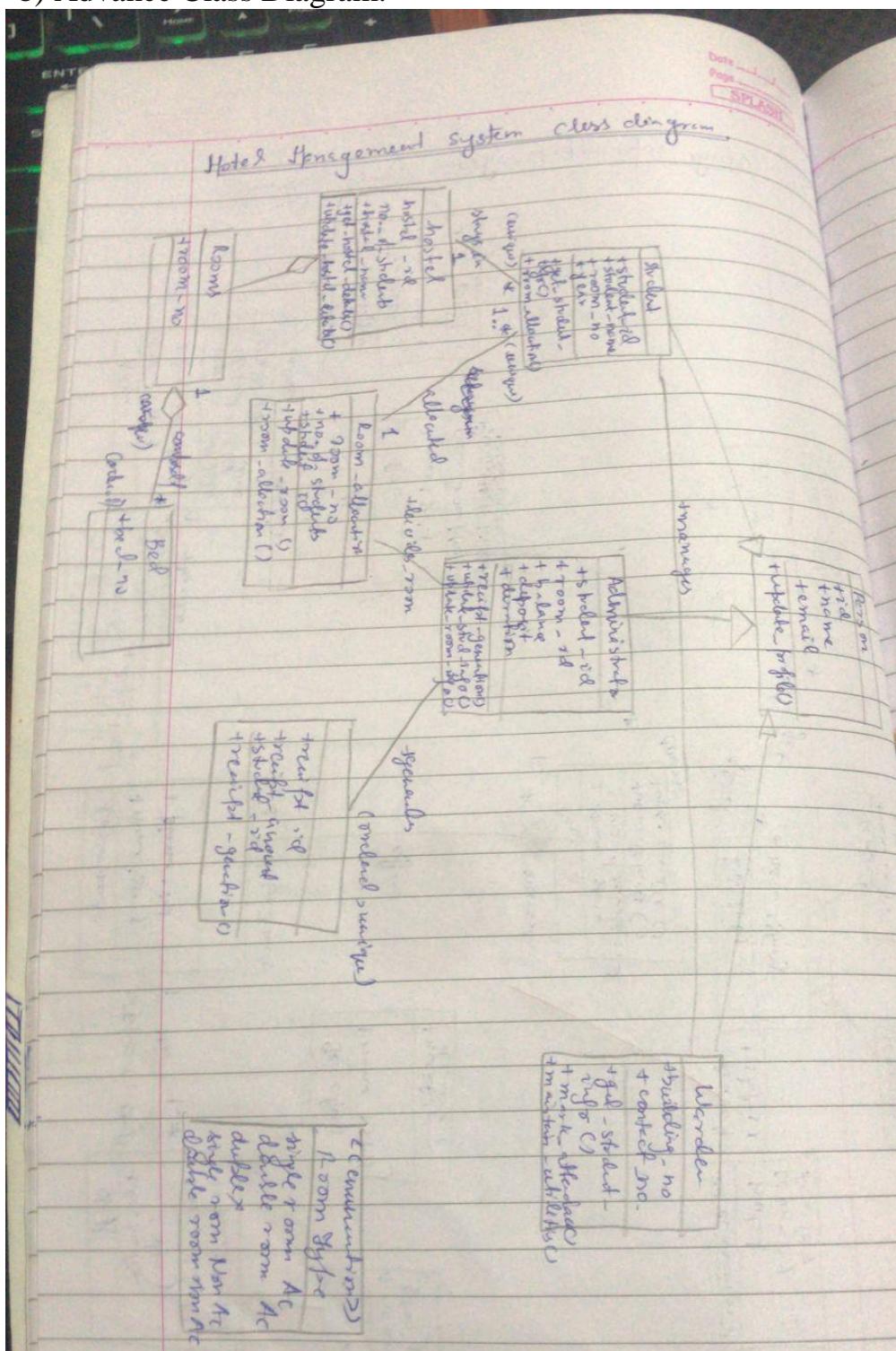


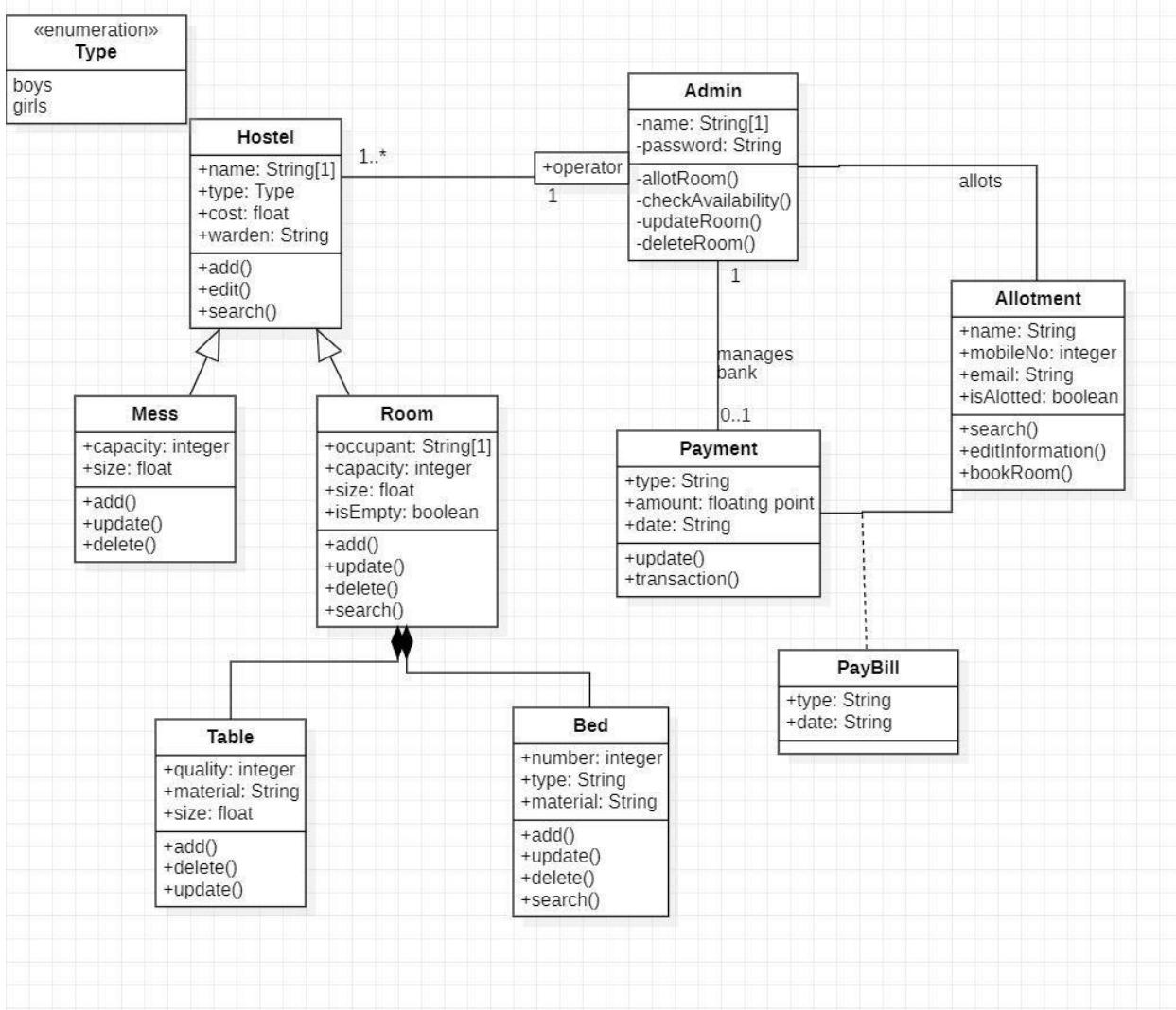
2. Hostel Management System-

a) SRS:

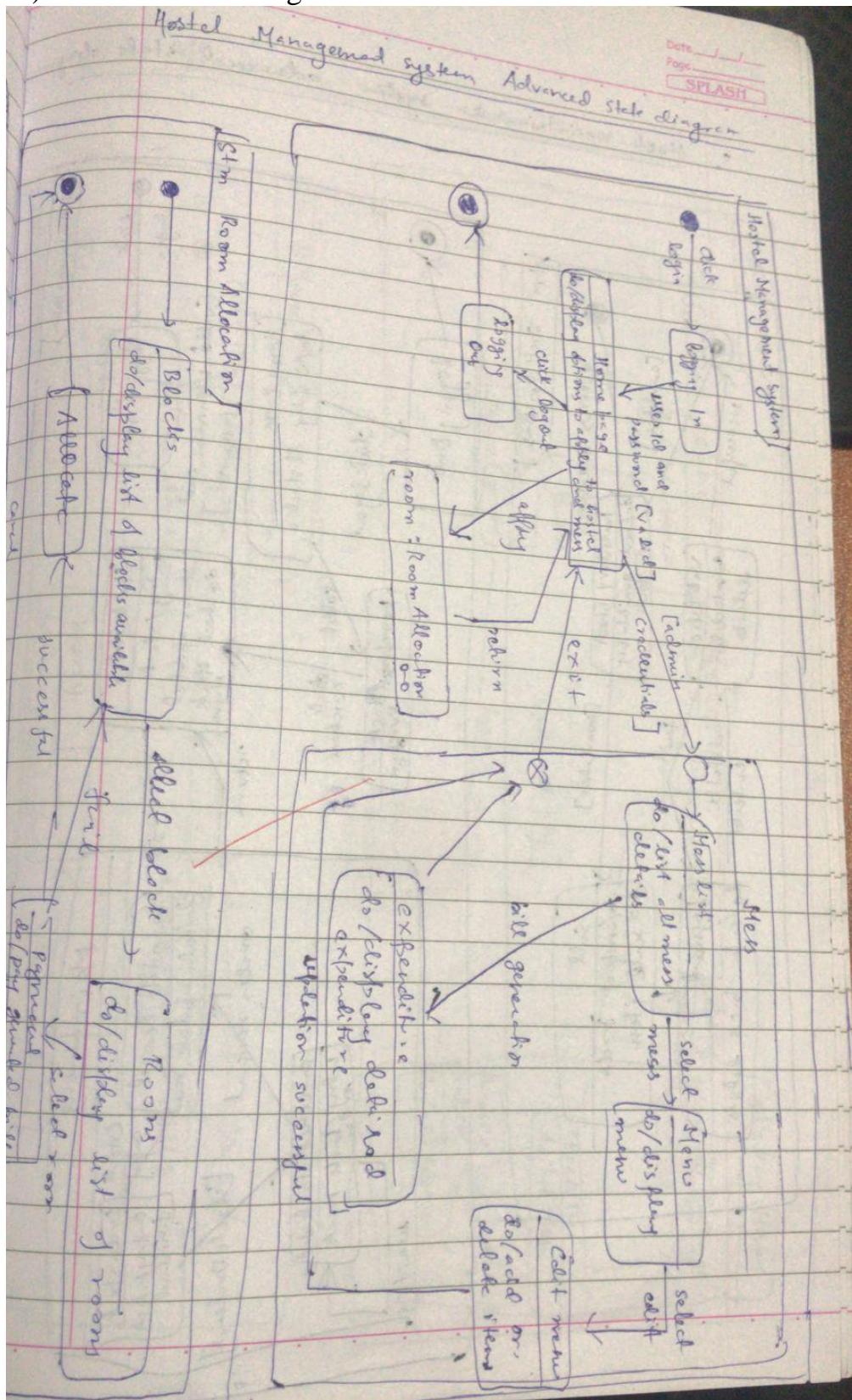


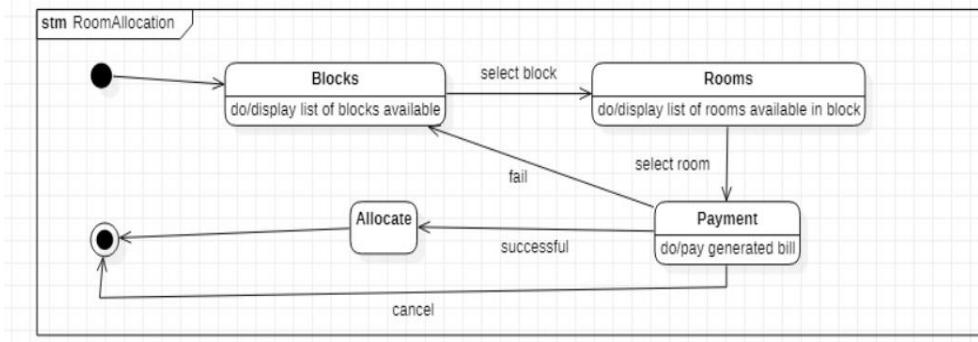
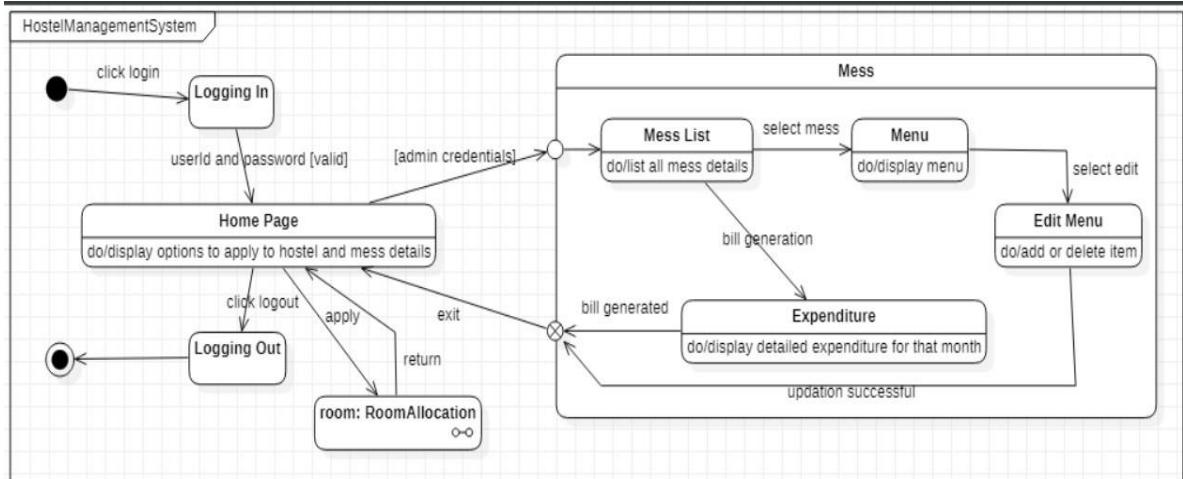
b) Advance Class Diagram:



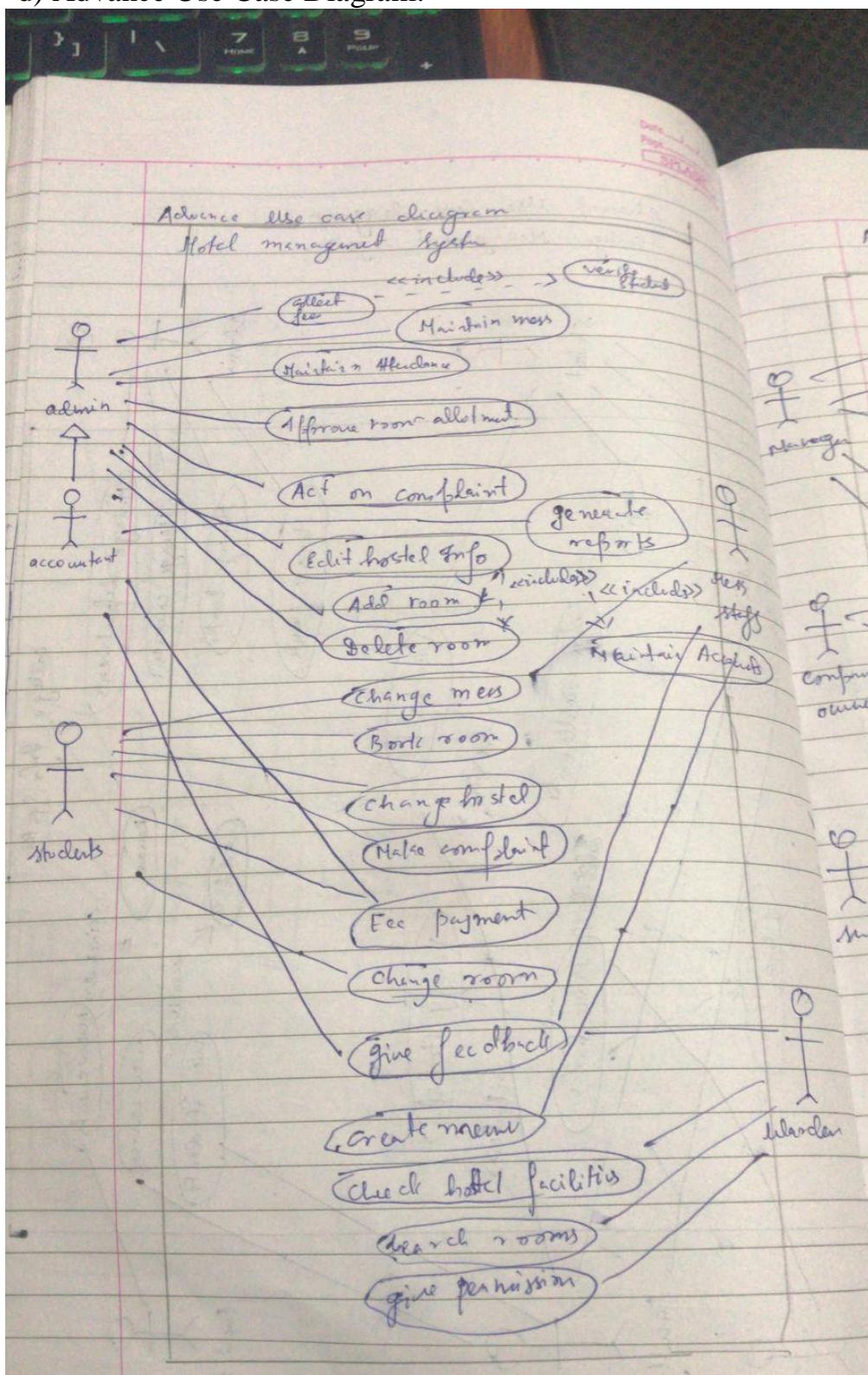


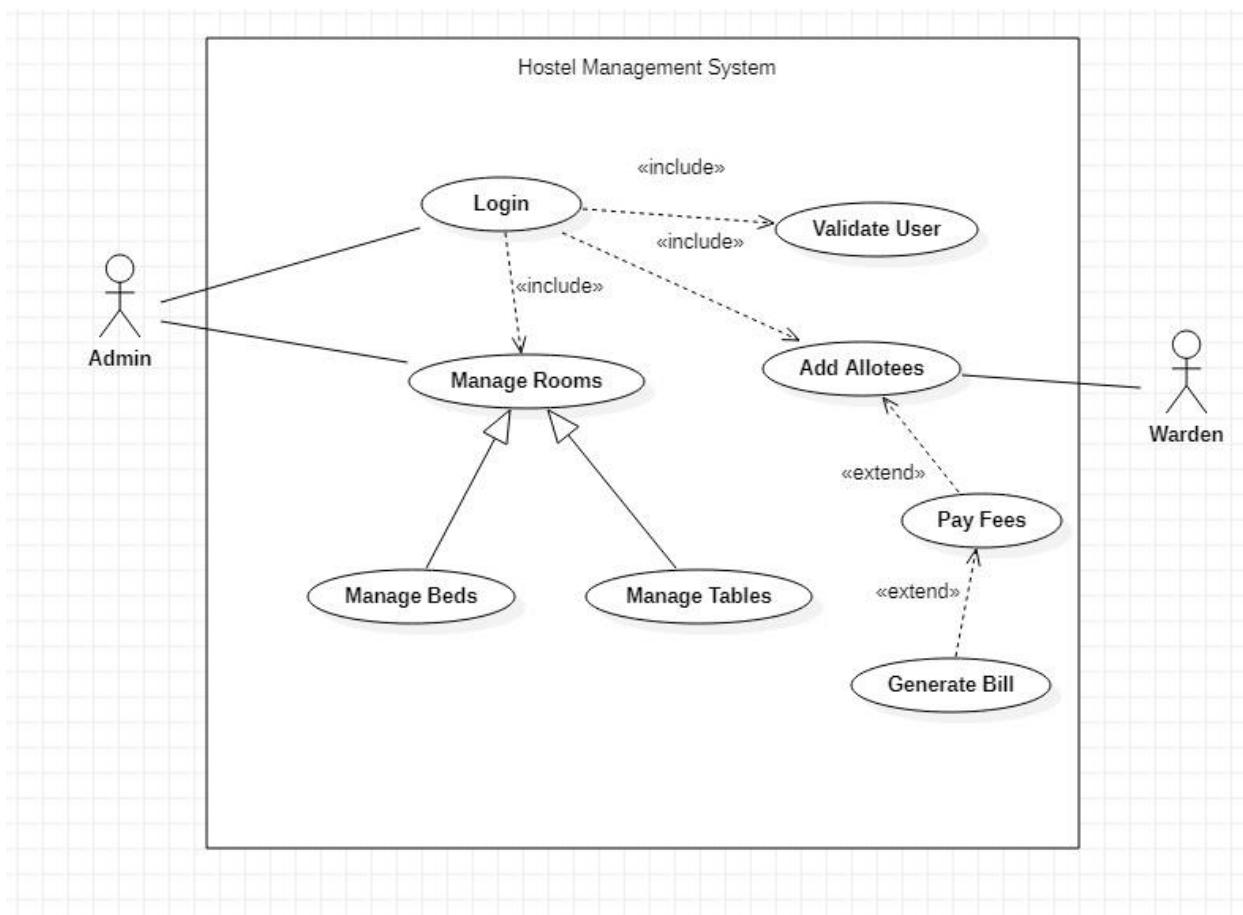
c) Advance State Diagram:



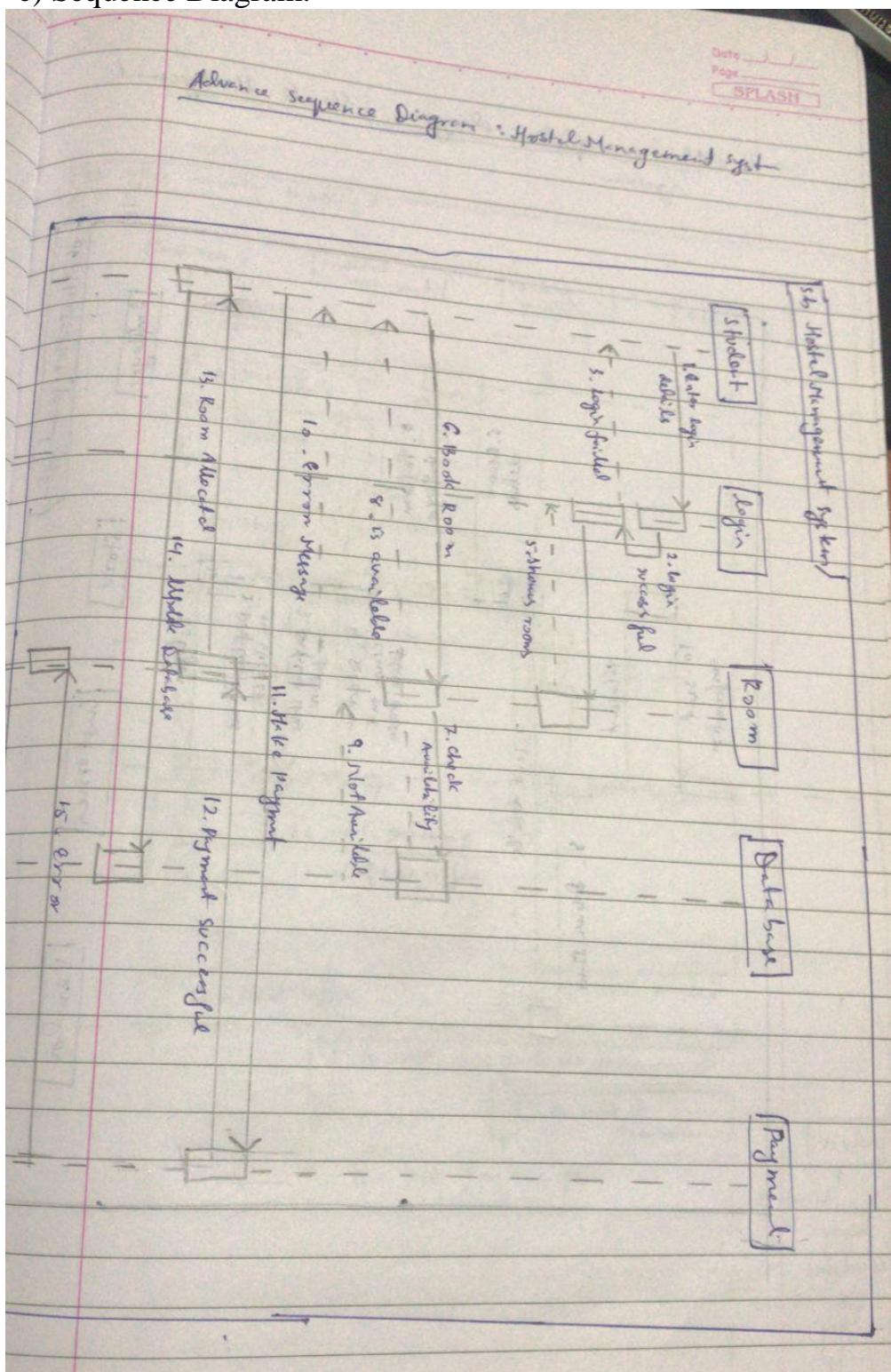


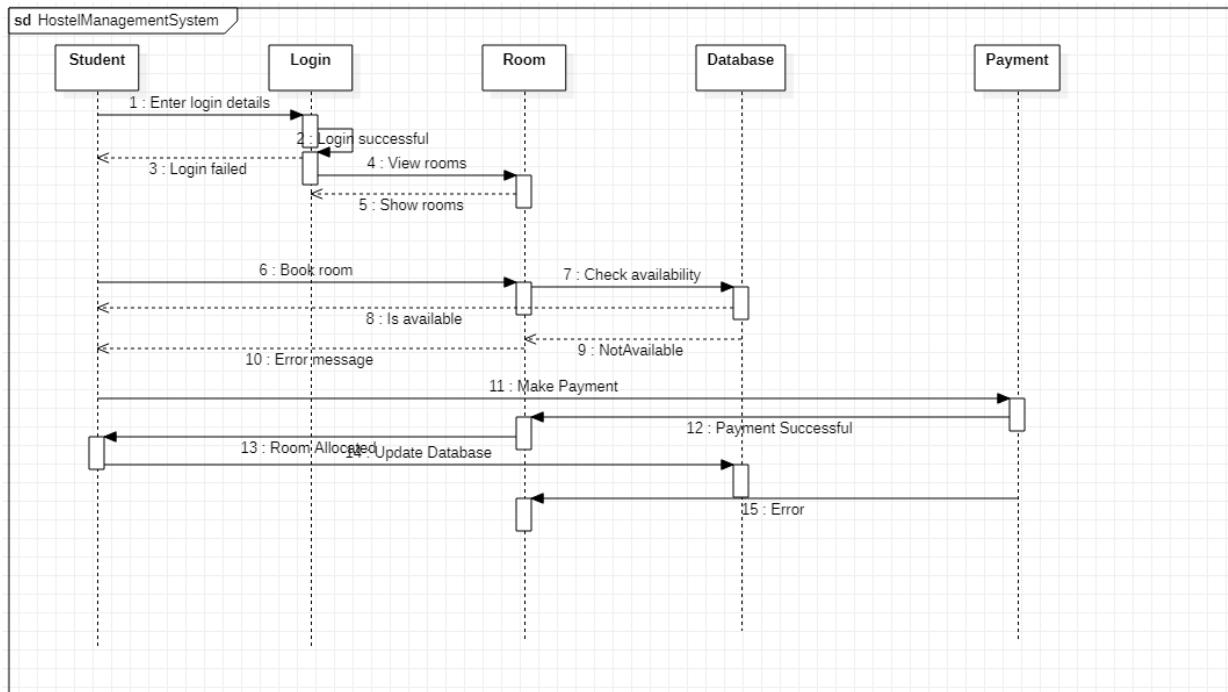
d) Advance Use Case Diagram:





e) Sequence Diagram:

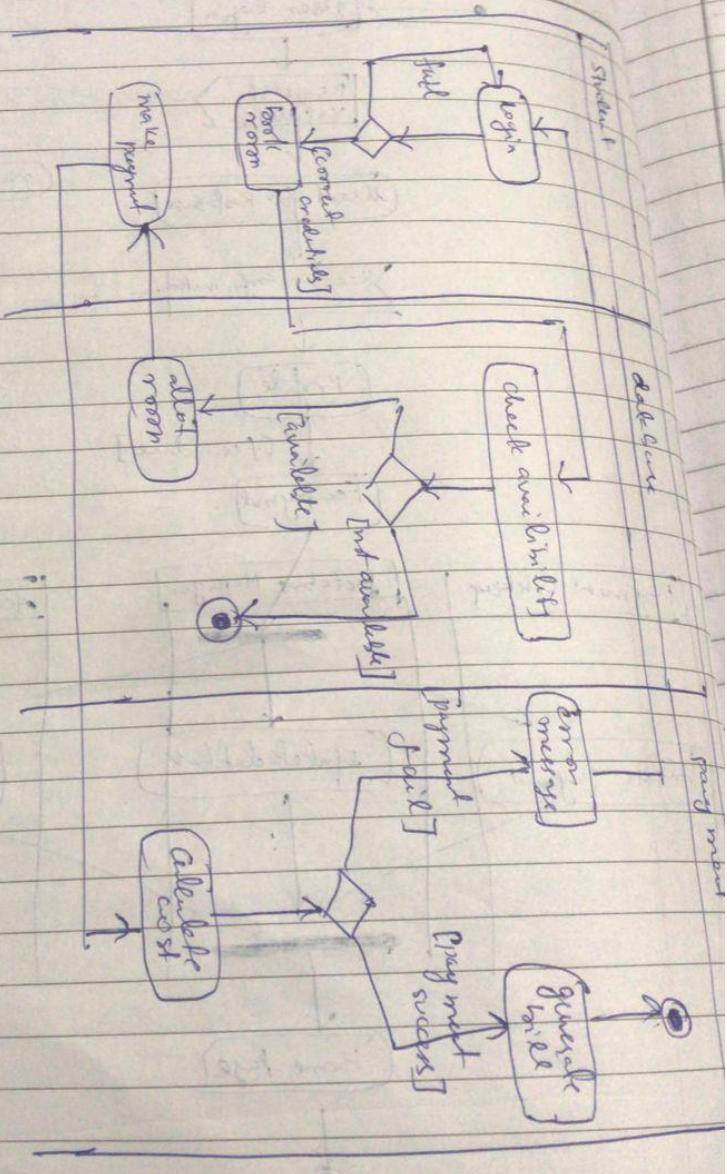


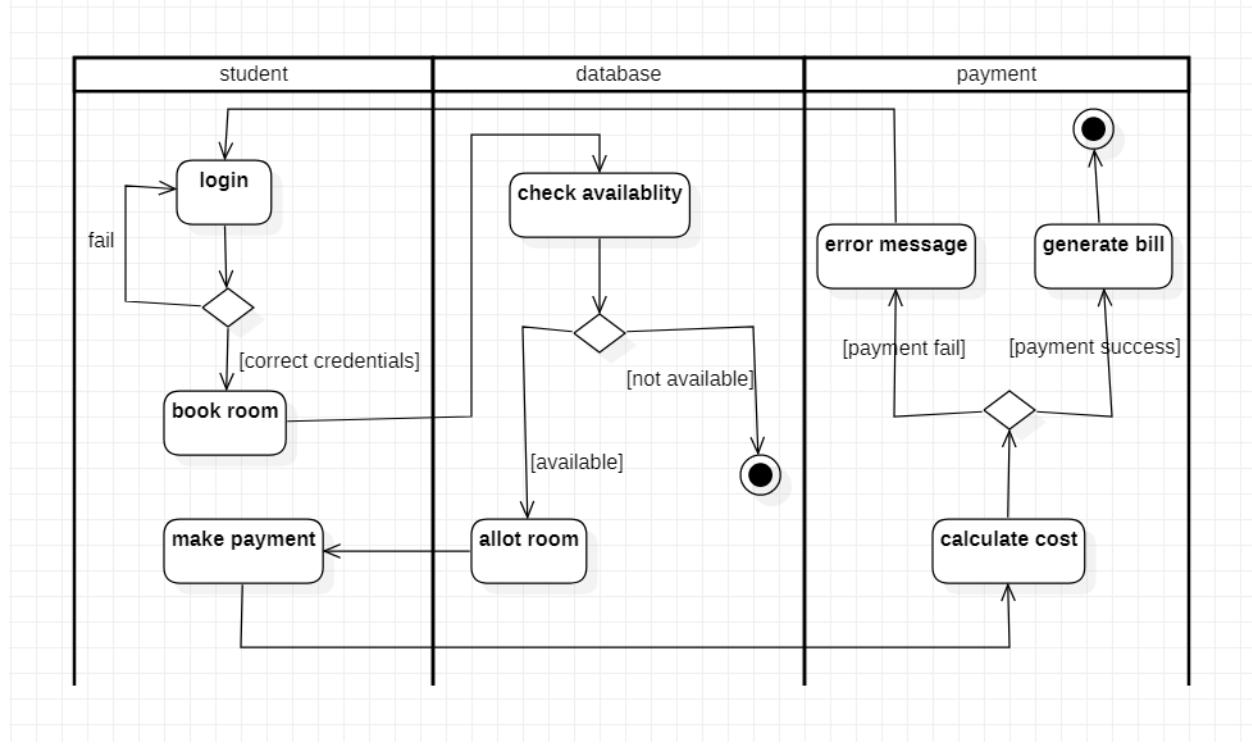


f) Activity Diagram:

Advance Activity diagram

Hostel Management System





3. Stock Maintenance System-

a) SRS:

Date _____
Page _____
SPLASH

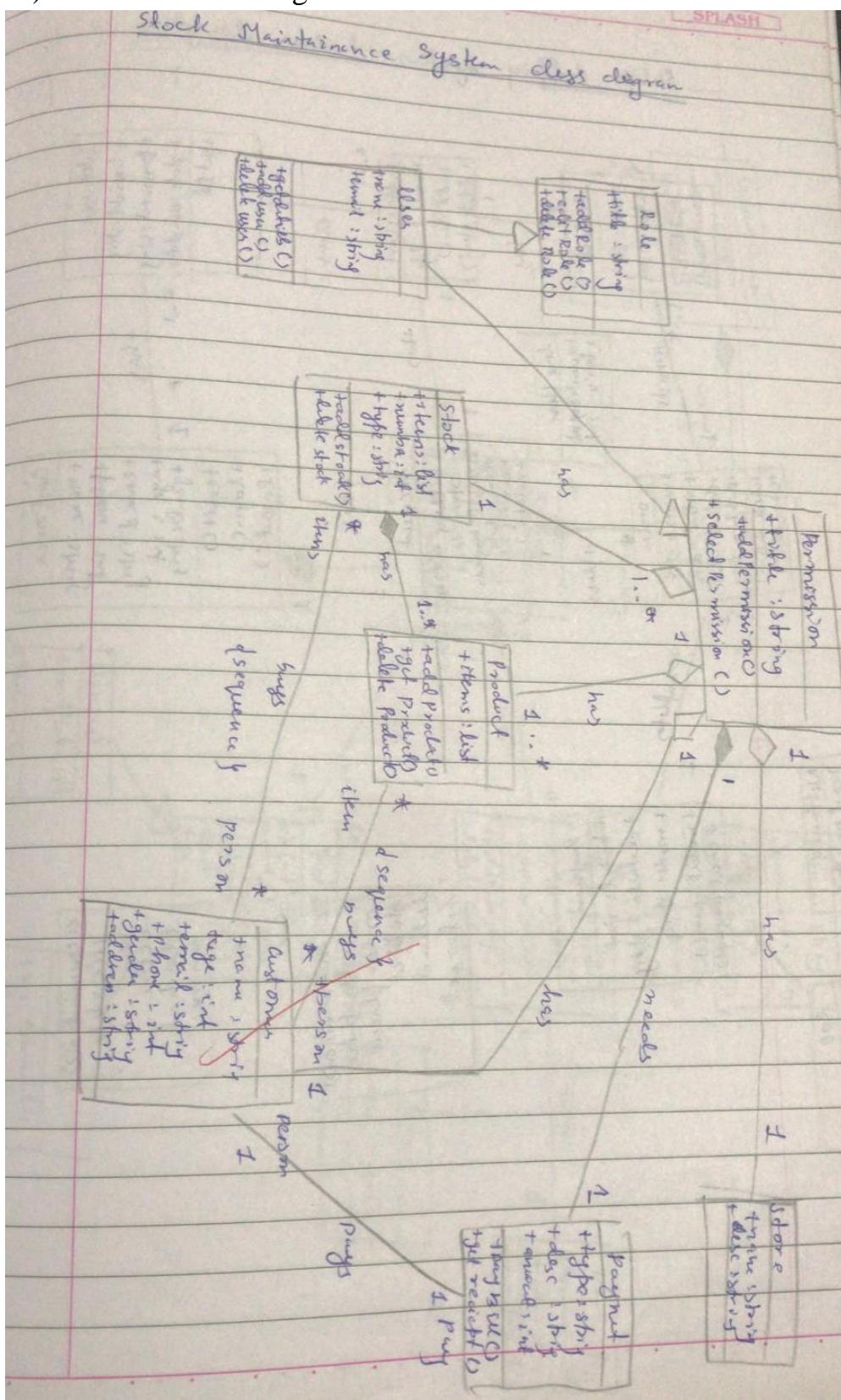
(3) Stock maintenance system

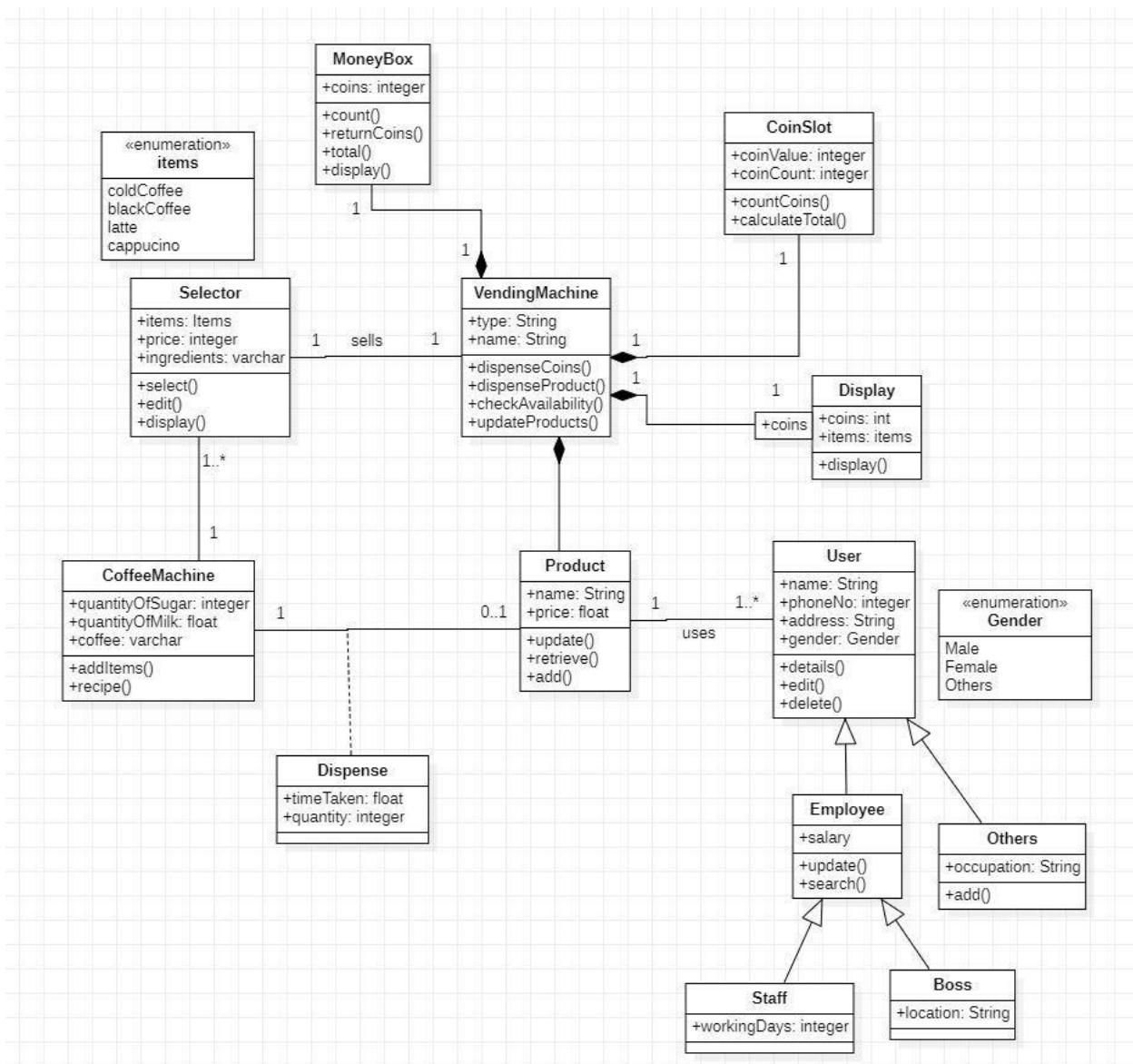
* Problem statement : Design UML diagram for stock management system provided with system requirement.

* SRS

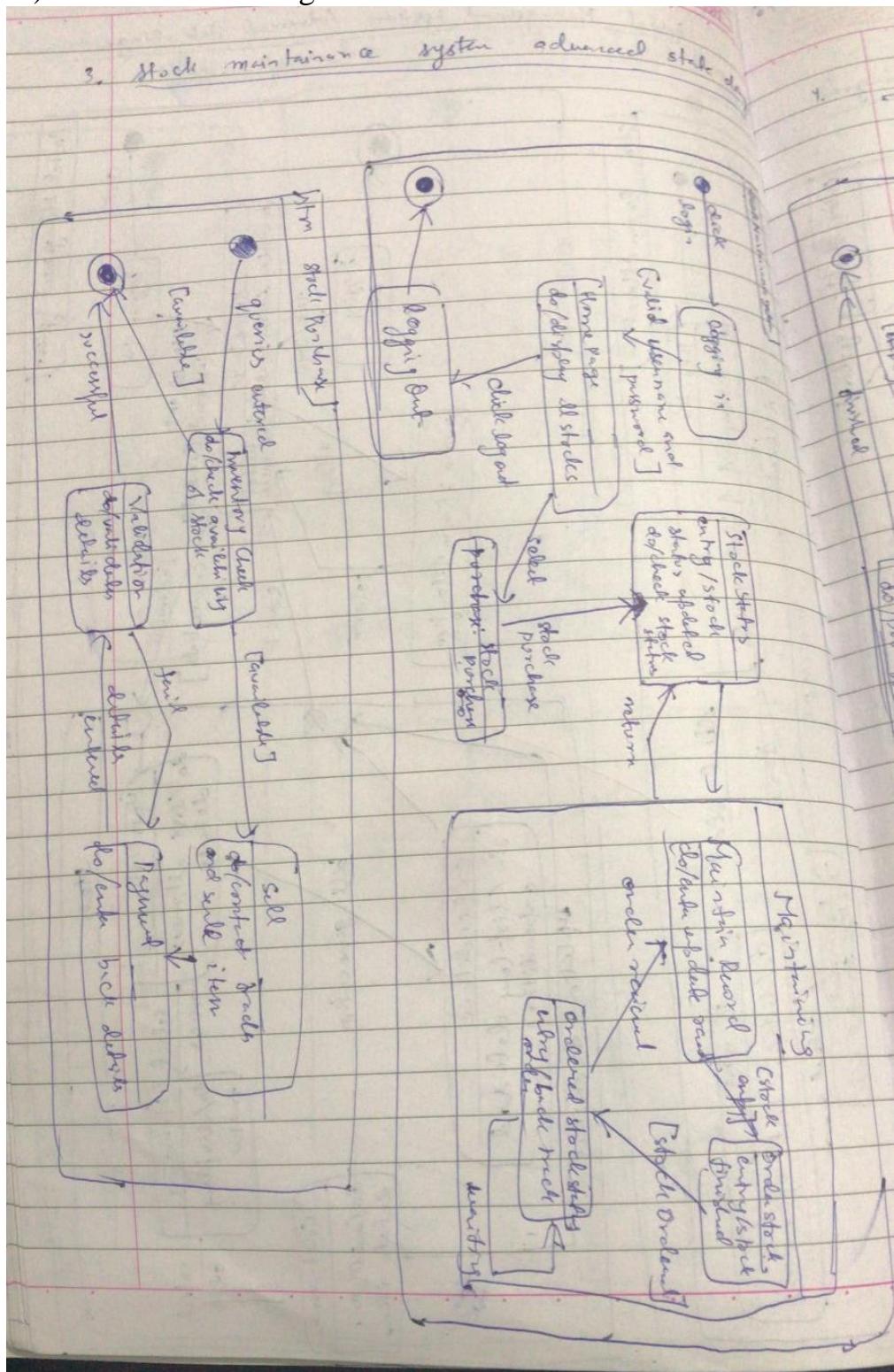
- The stock maintenance system will allow the employees to record information of the items available in the store.
- Create reports based on the total amount of sales.
- The new system will have a windows-based desktop interface to allow employees to enter the information of sales, purchases, orders, change employee preferences, and create reports.
- The system retains information on all the items in the shop.
- The system retains the records of the cost, expiry date, vendor details, discount, quantity.
- The employee maintains the information of the sale of the items.

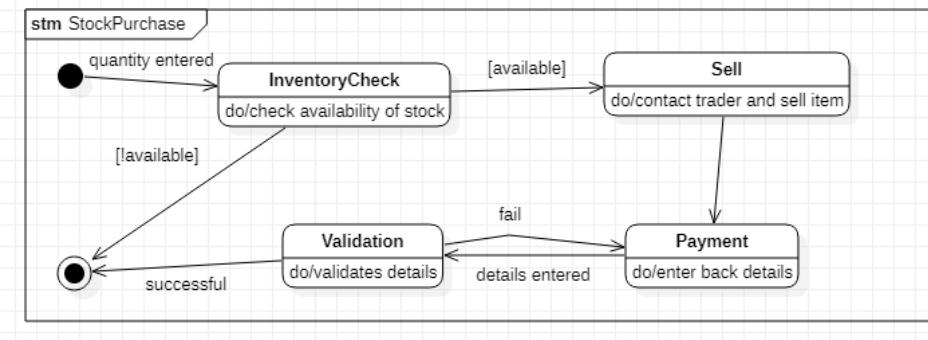
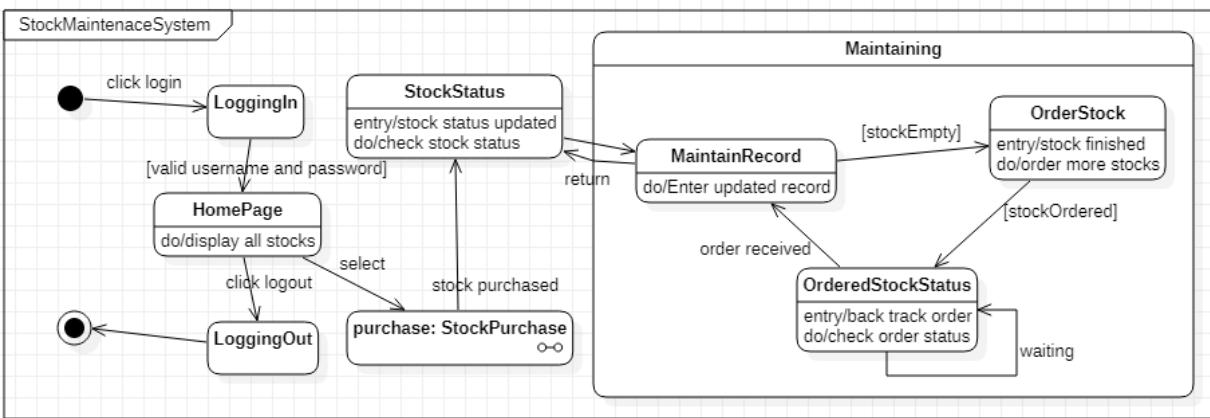
b) Advance Class Diagram:



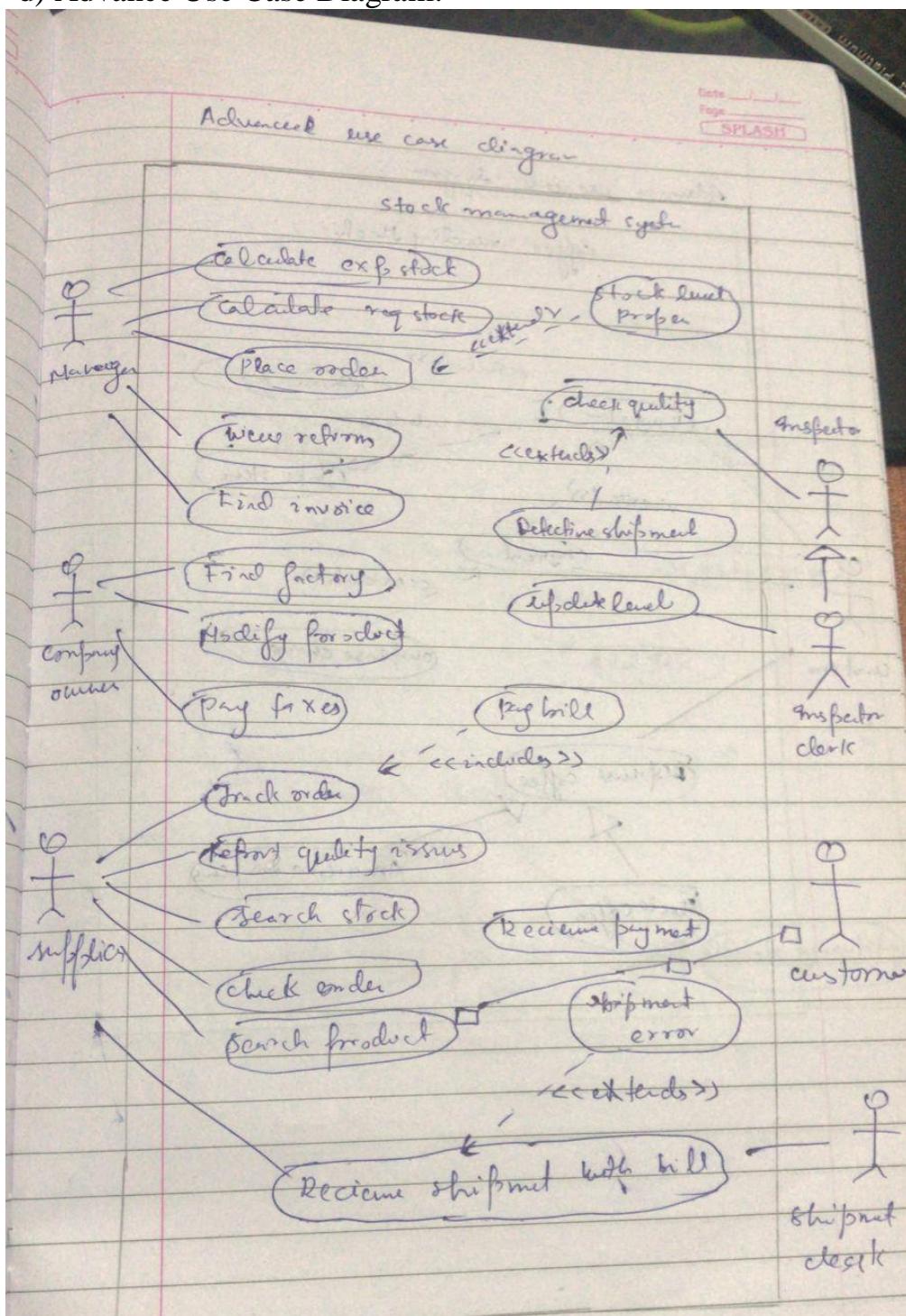


c) Advance State Diagram:

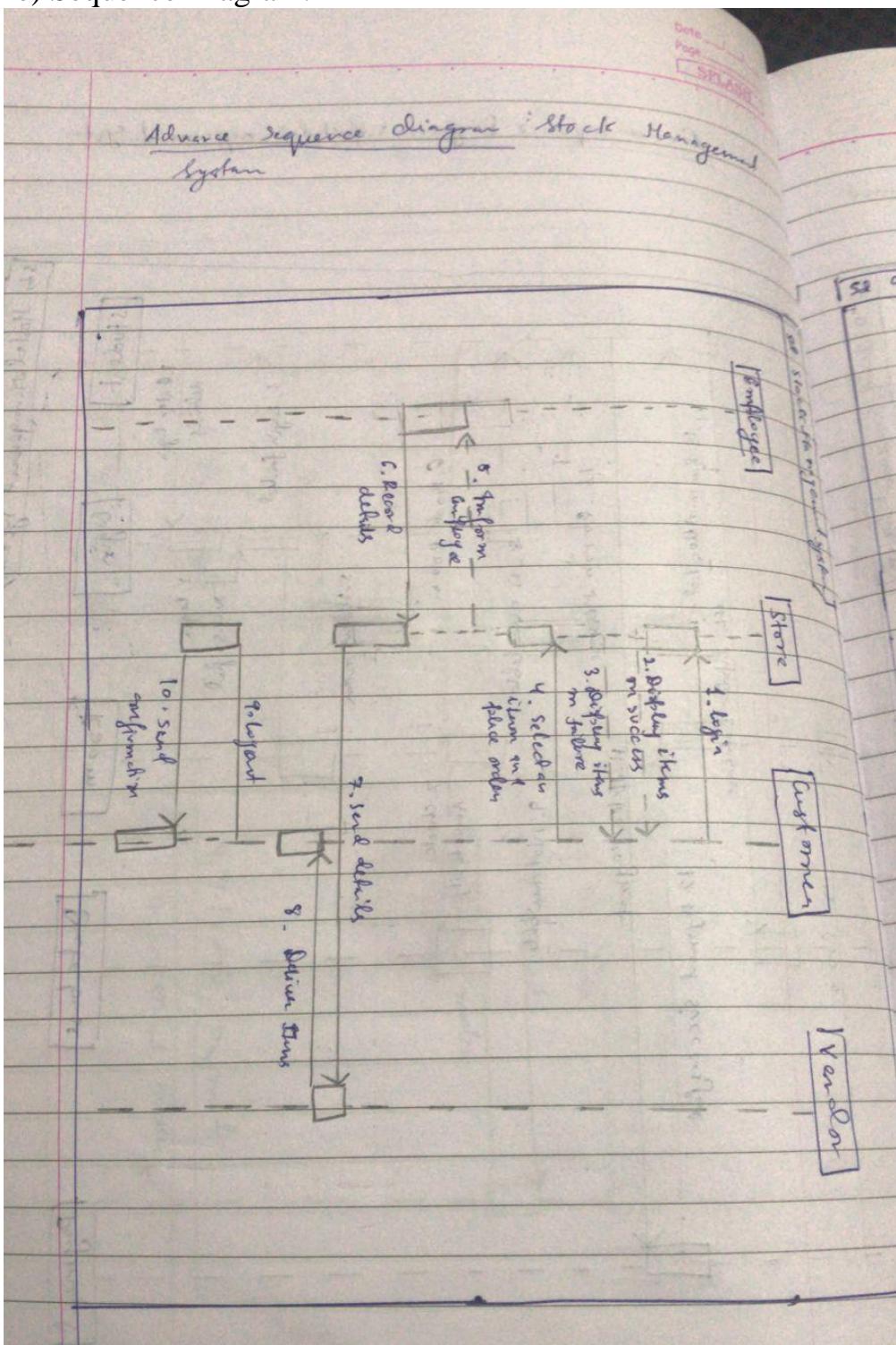




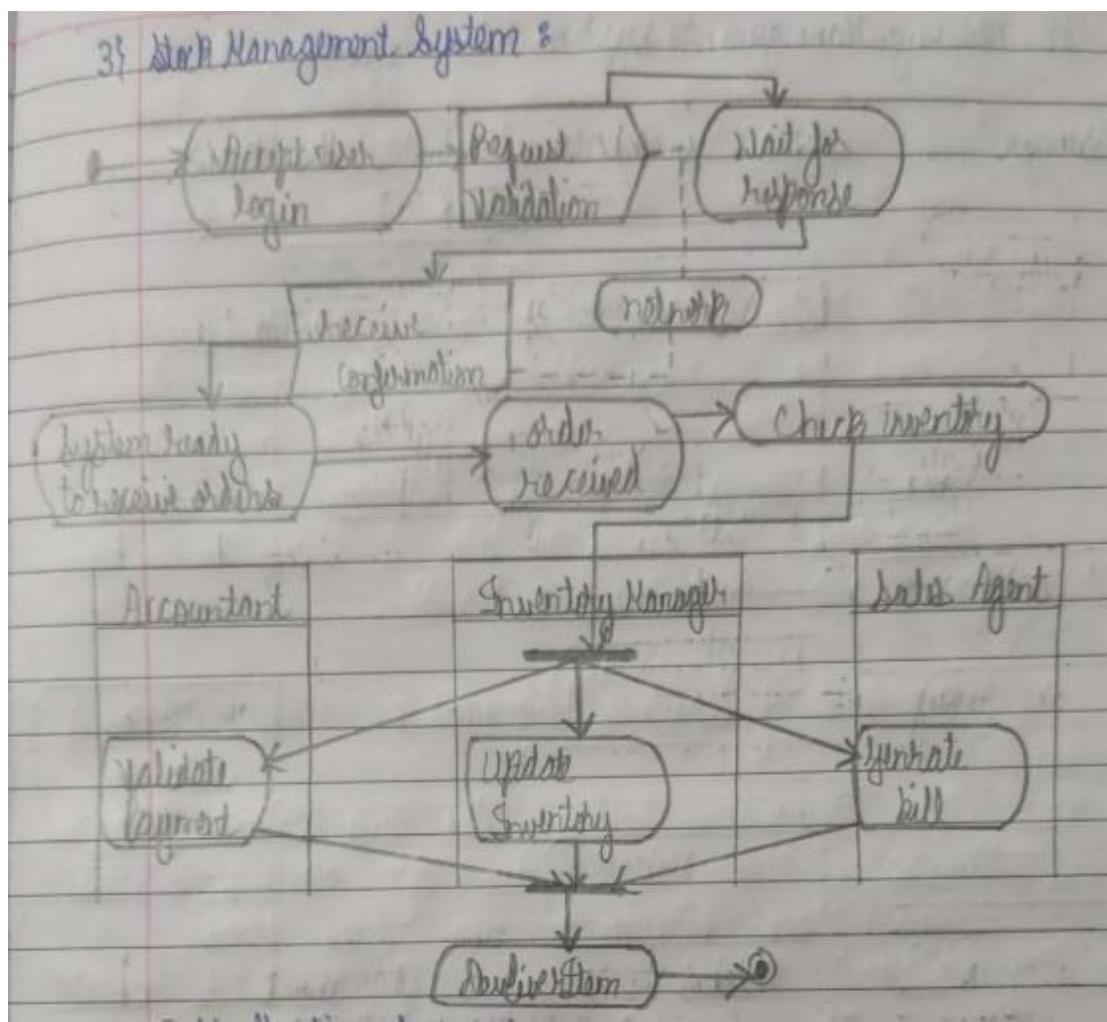
d) Advance Use Case Diagram:

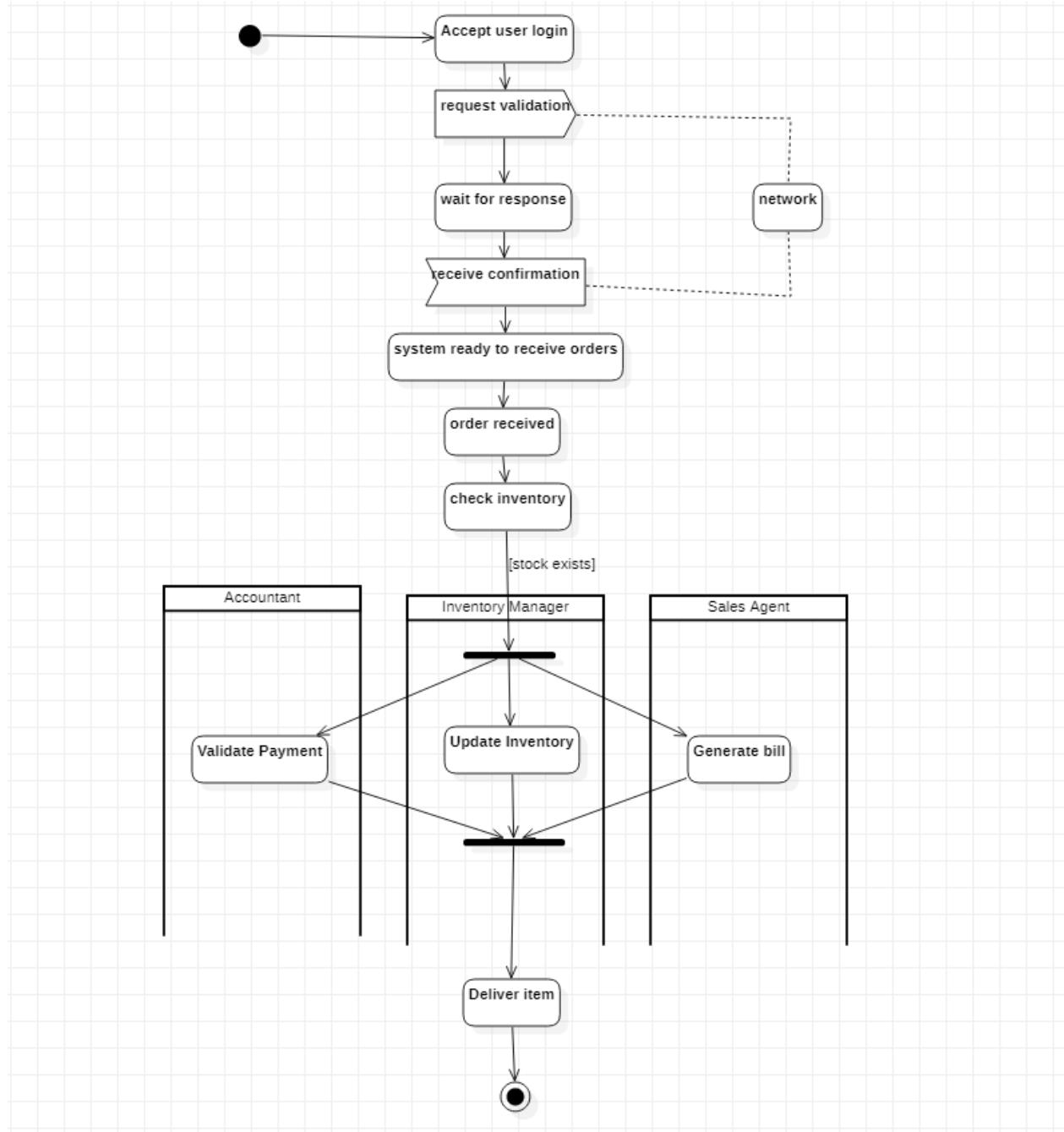


e) Sequence Diagram:



f) Activity Diagram:



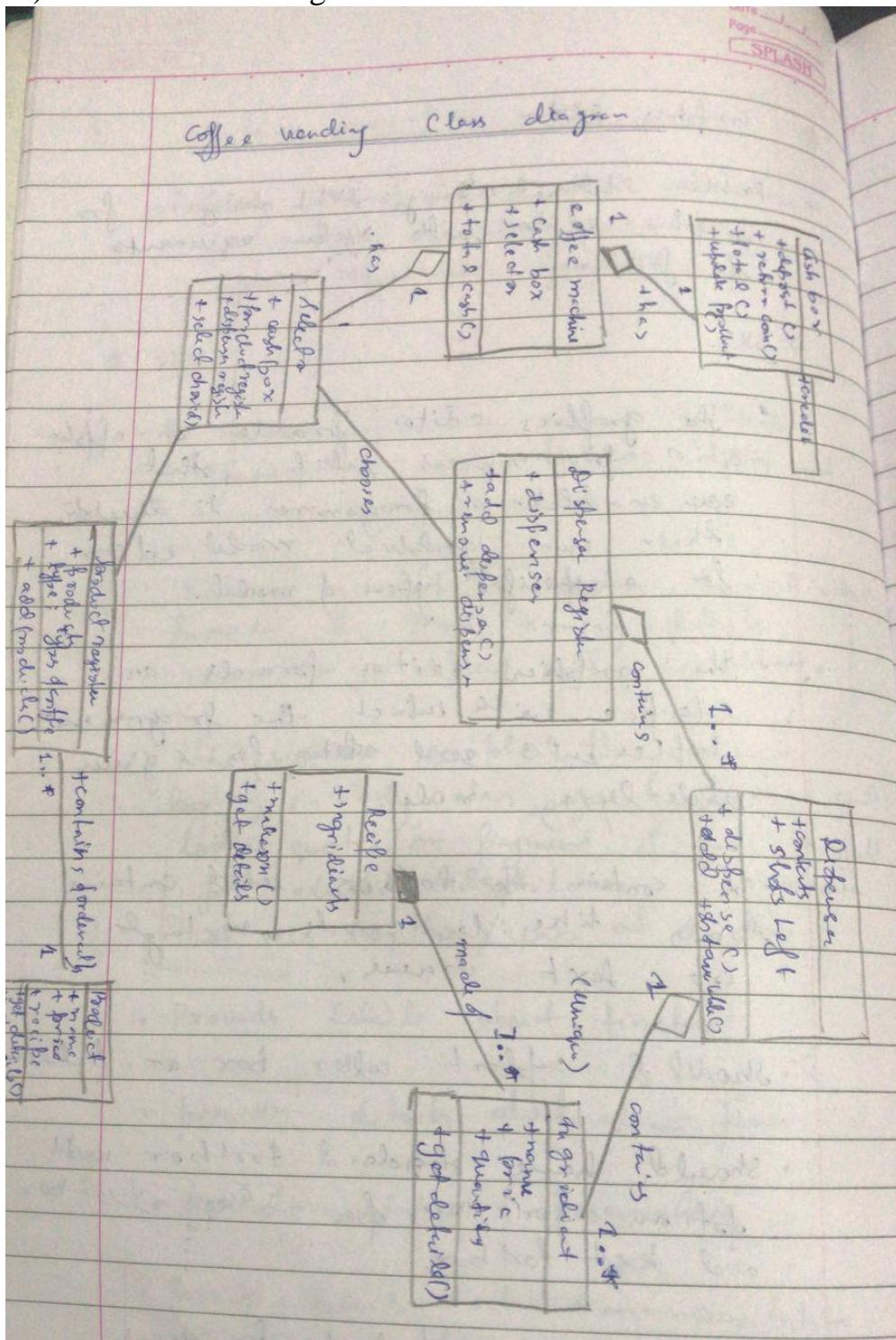


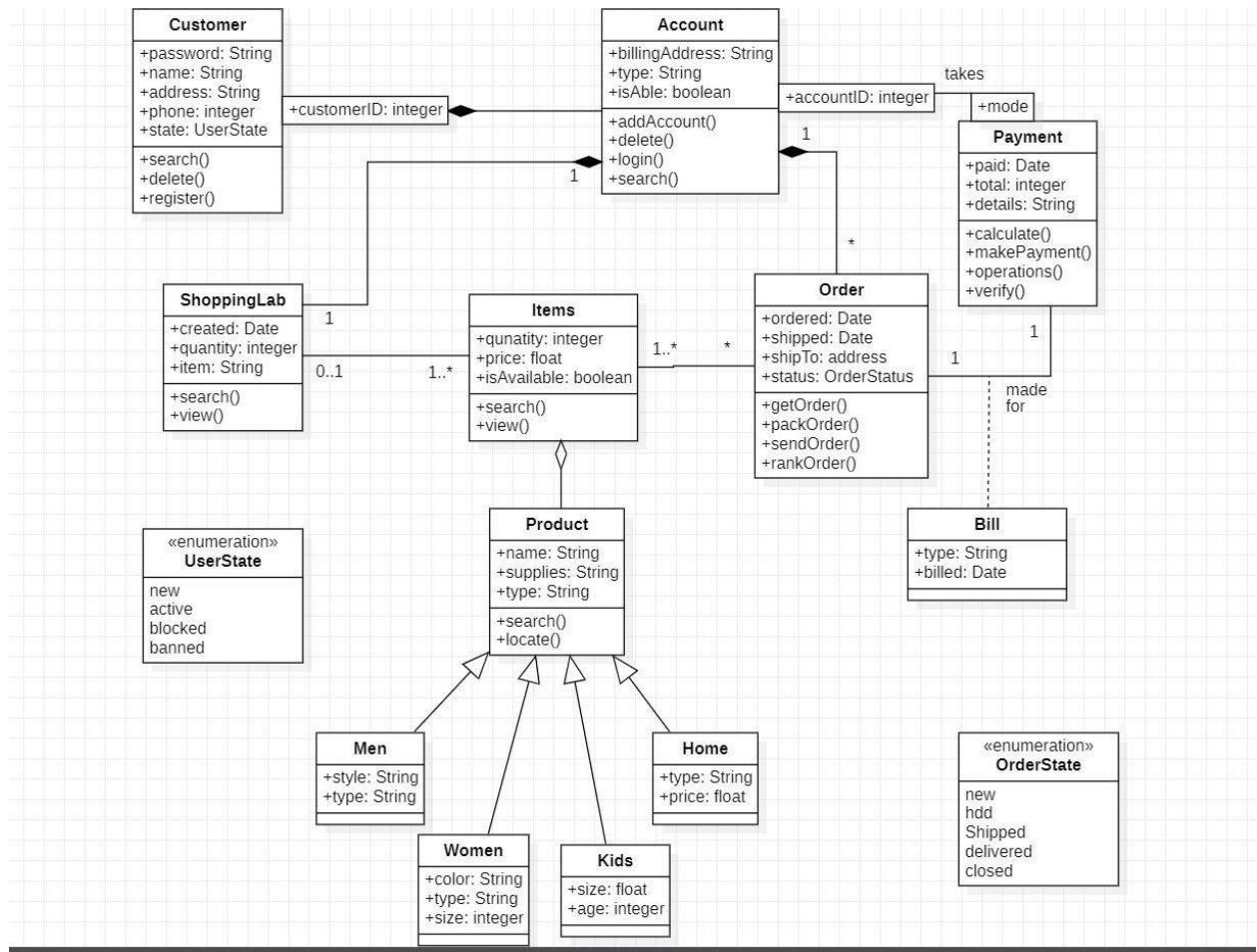
4. Coffee Vending Machine-

a) SRS:

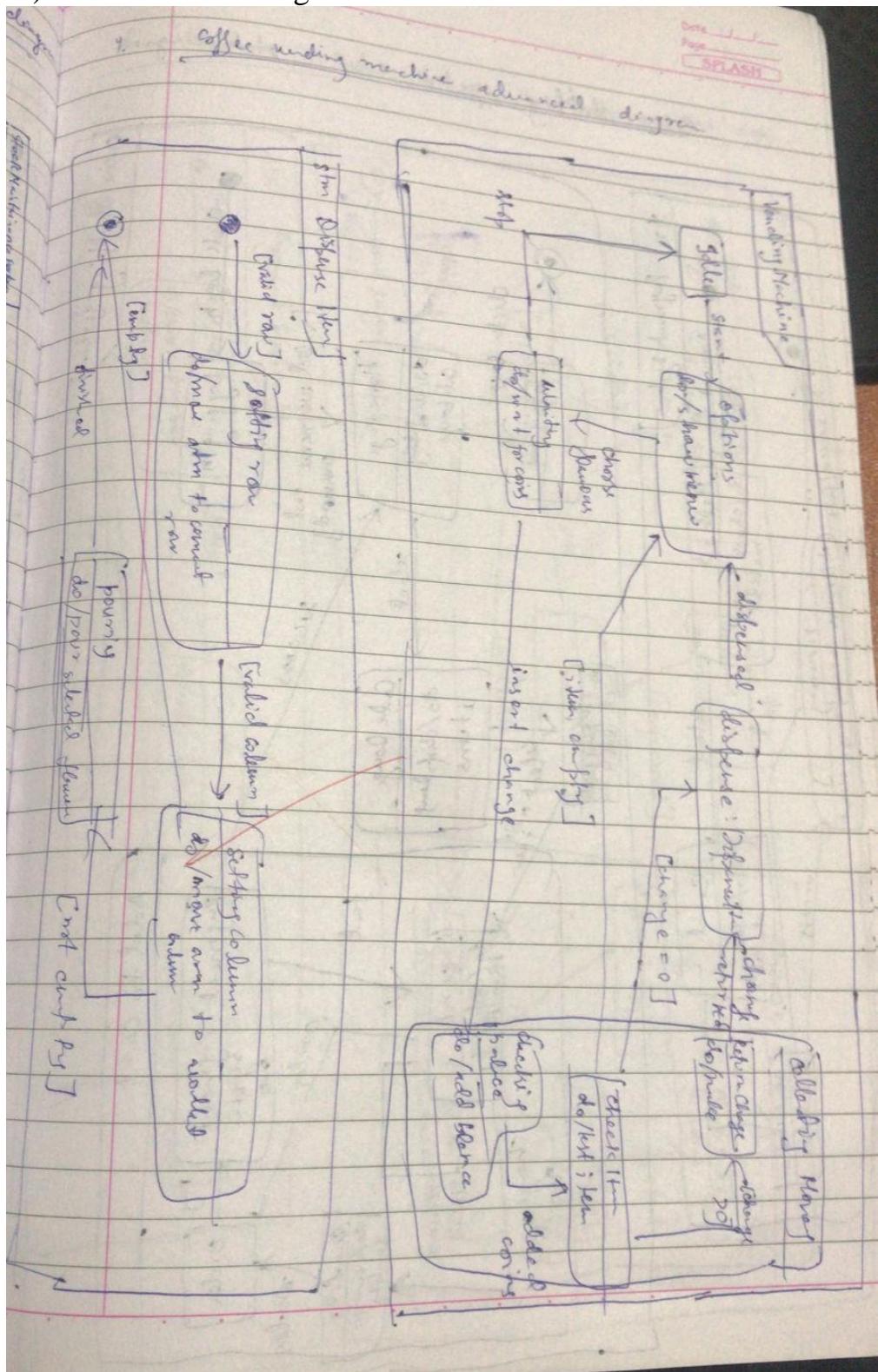
- ④ Coffee Vending Machine
- * Problem statement : Design UML diagrams for coffee vending machine with system requirements specification -
 - * SRS
 - User will be provided with sophisticated and easy to use user interface
 - Cash box : knows amount of money put in ; give change ; knows price of coffee ; turns front panel on and off.
 - Front panel : captures selection ; knows what to mix in each ; instruct mixer when to use mix
 - Mixer : knows how to communicate to dispenser
 - Dispenser : knows how to dispense a fixed amount , knows when its on
 - Have small carbon footprint.
 - Energy saving
 - Comprehensive drink range.

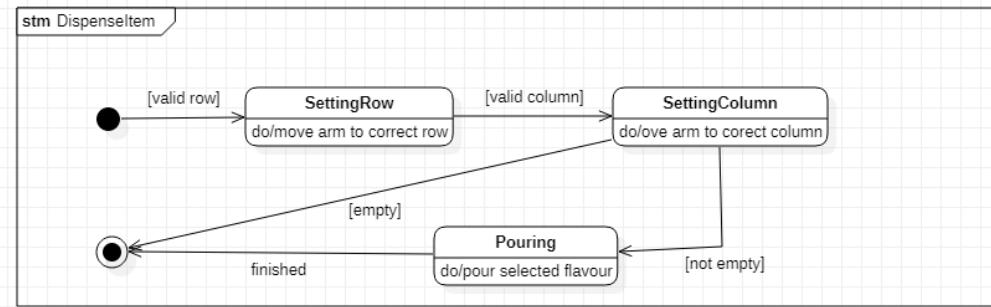
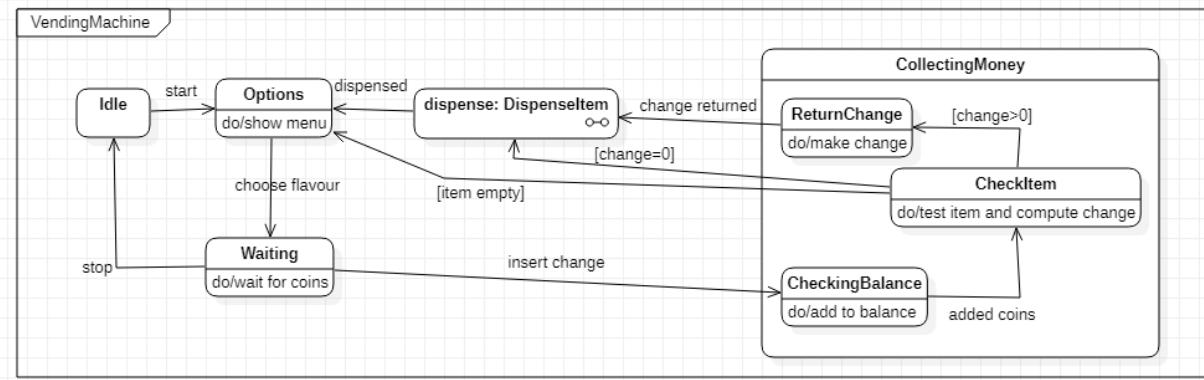
a) Advance Class Diagram:



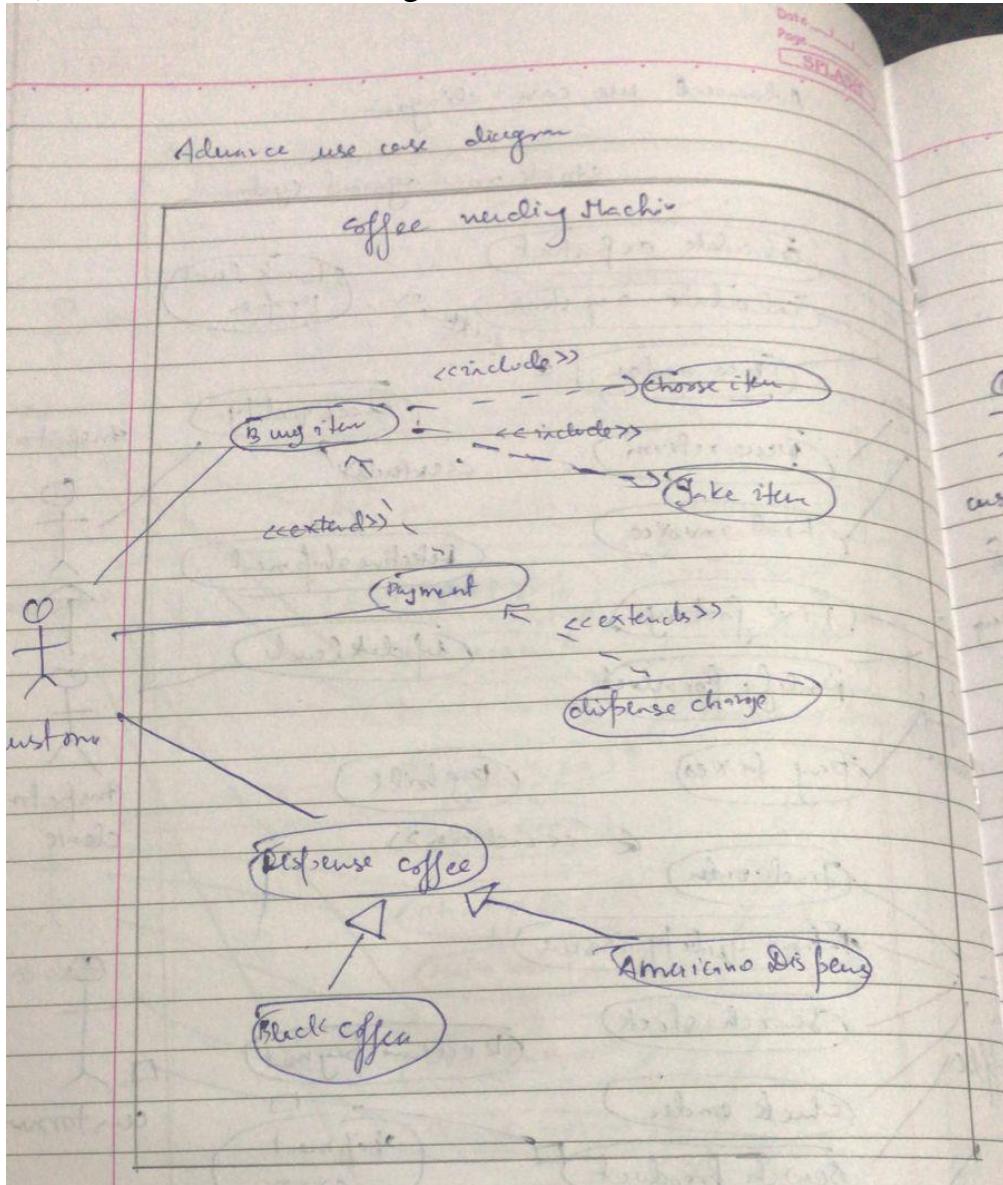


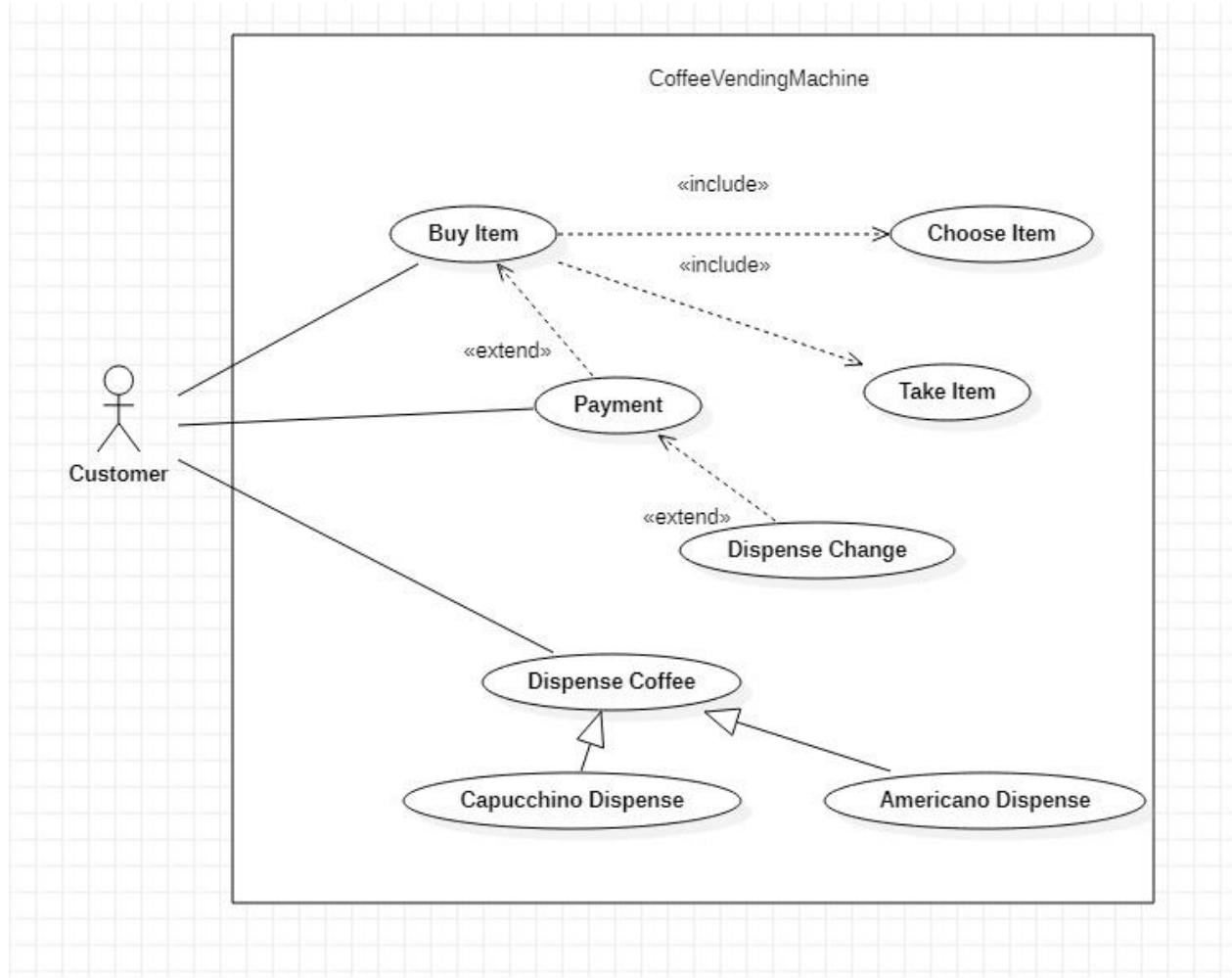
a) Advance State Diagram:



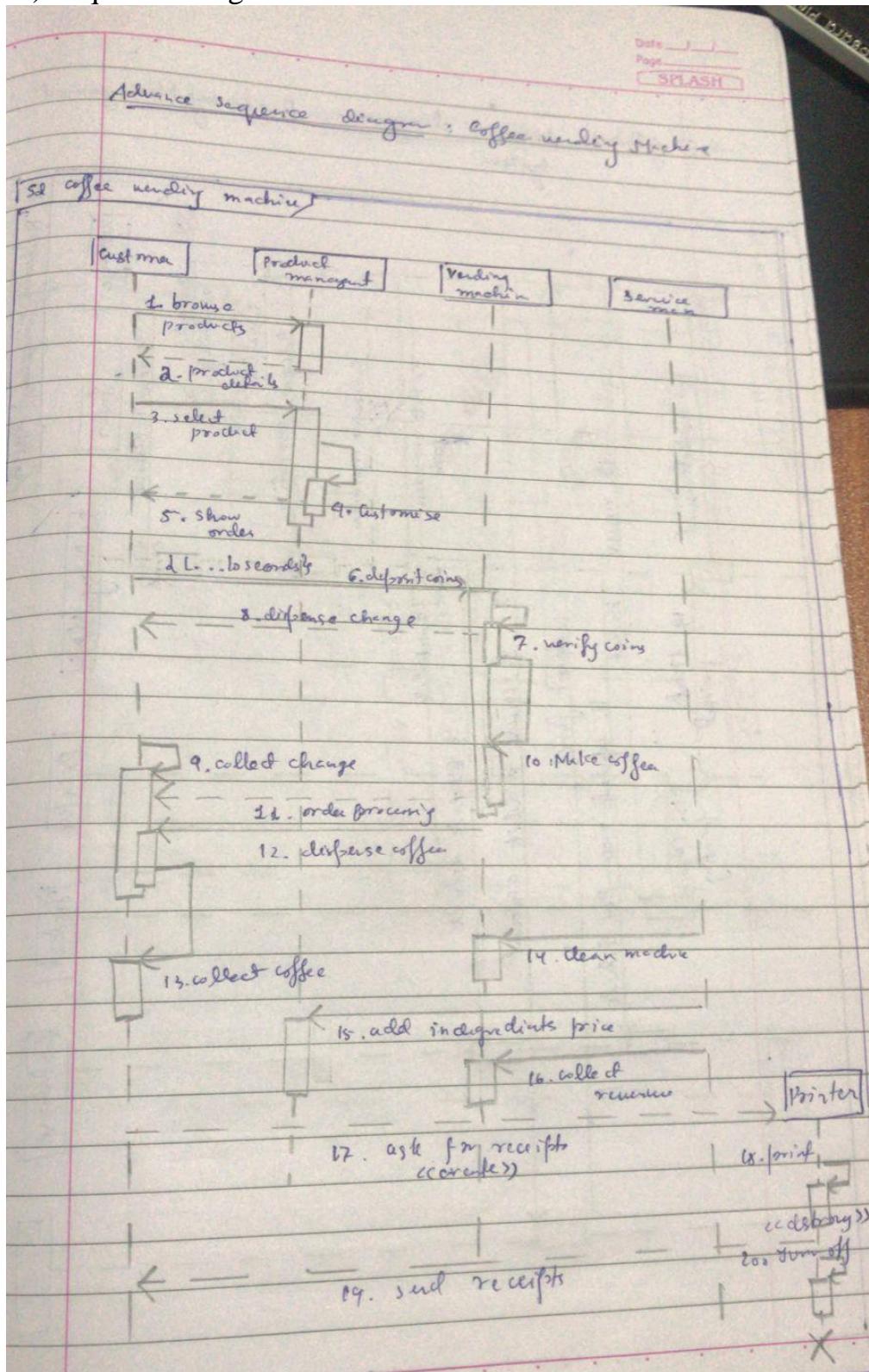


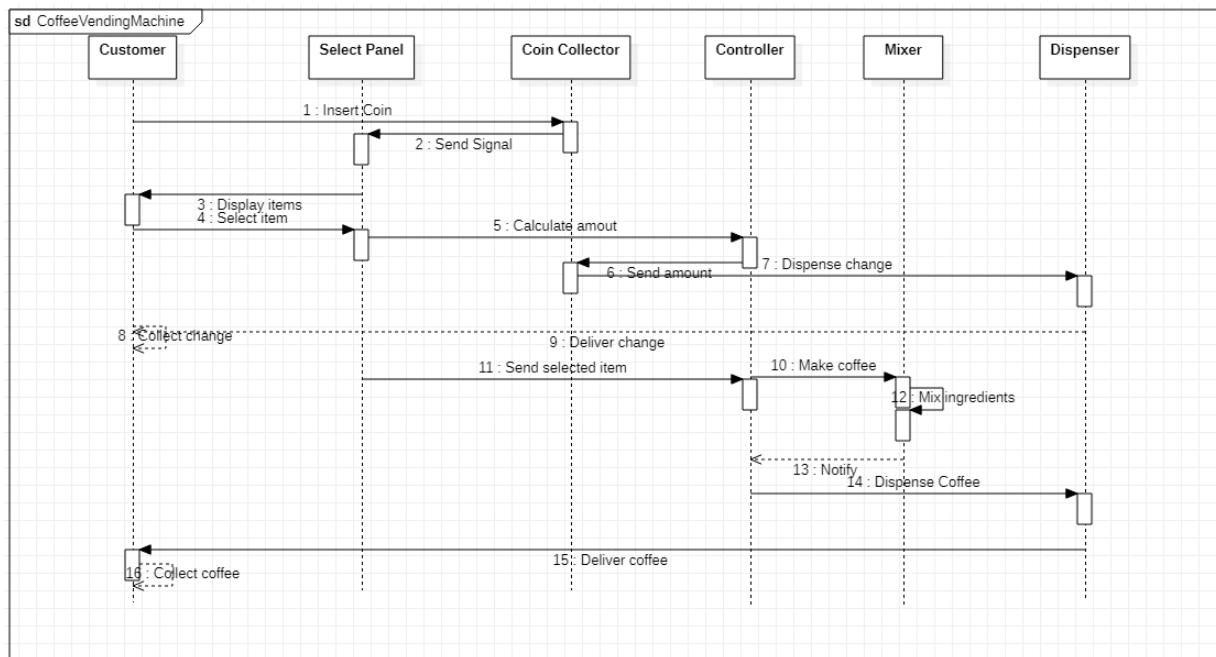
a) Advance Use Case Diagram:



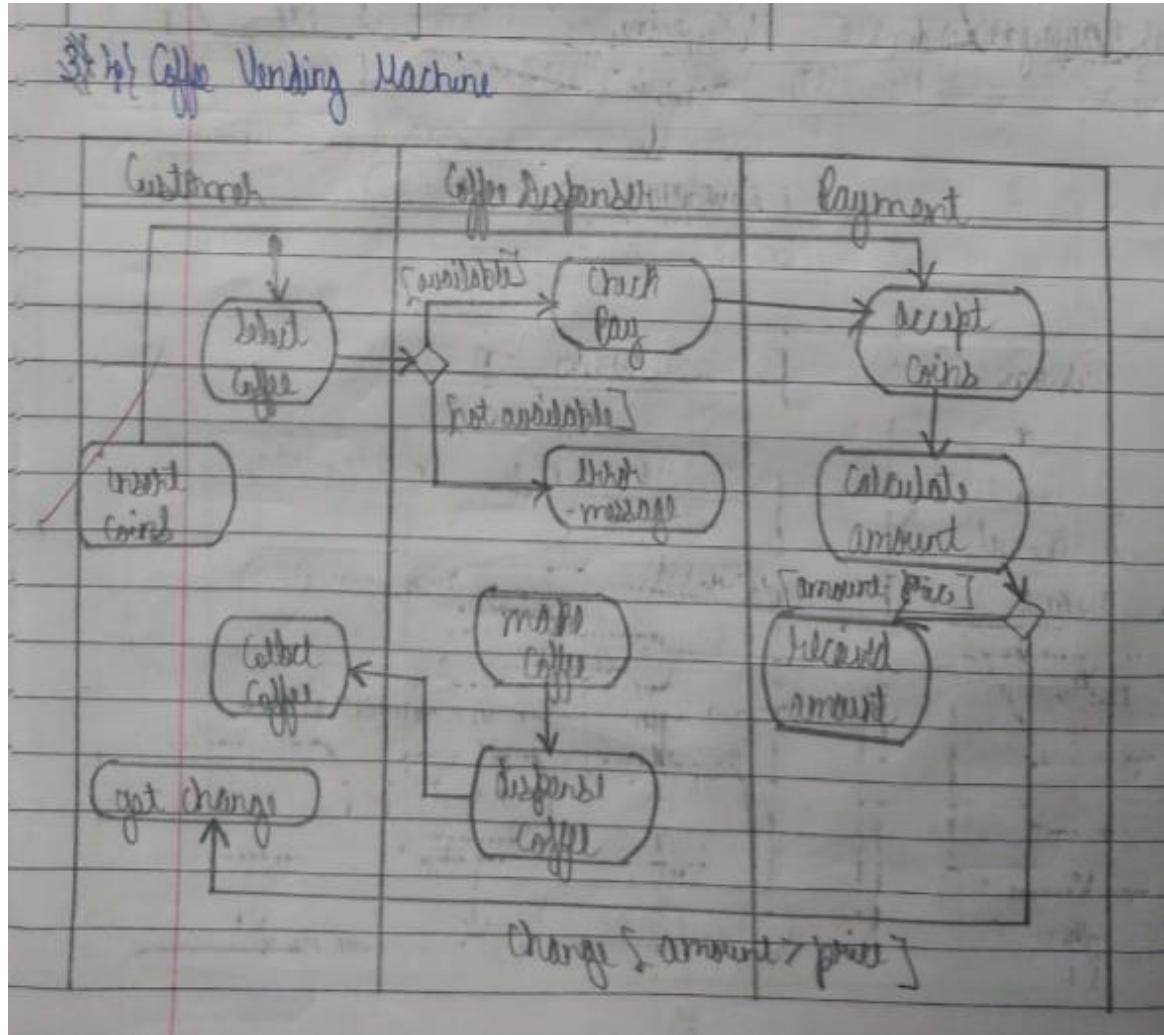


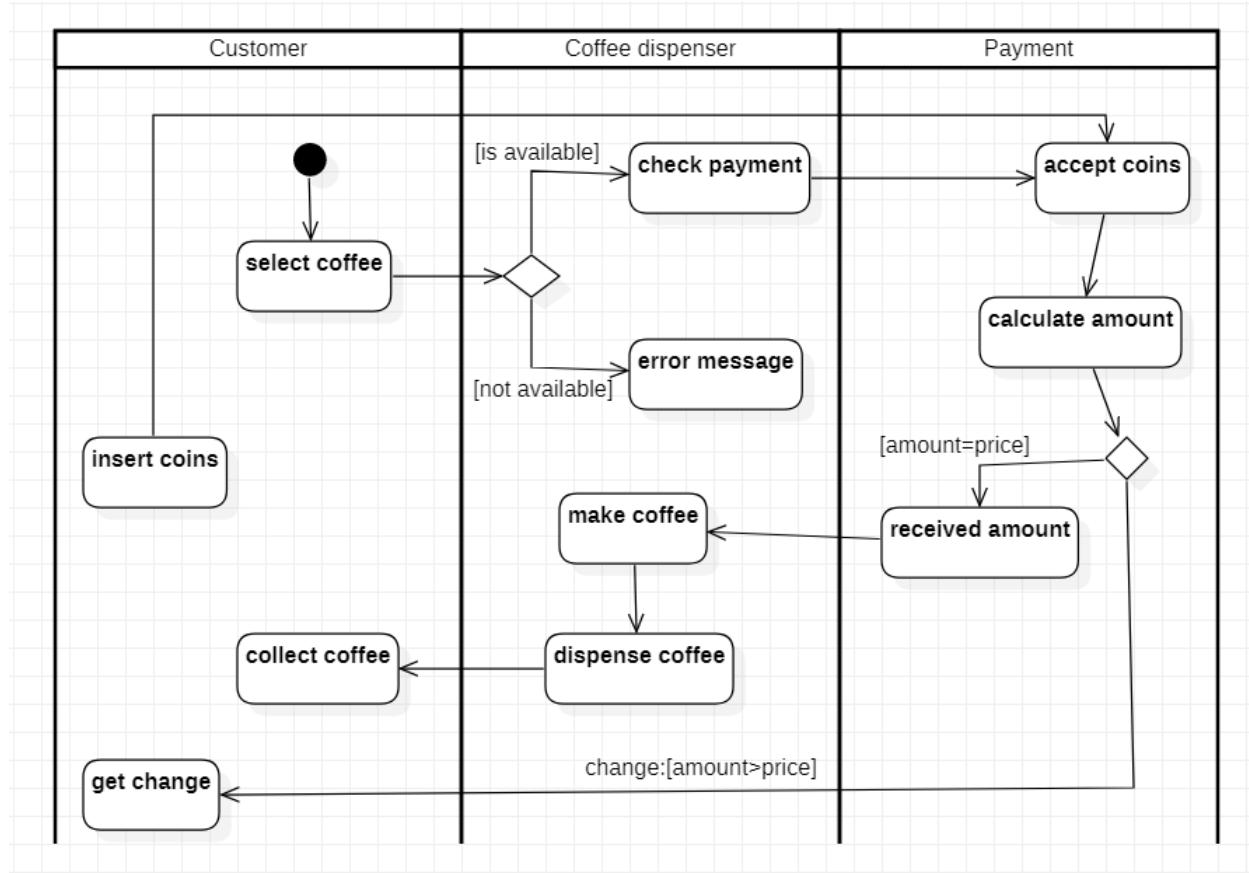
a) Sequence Diagram:





a) Activity Diagram:



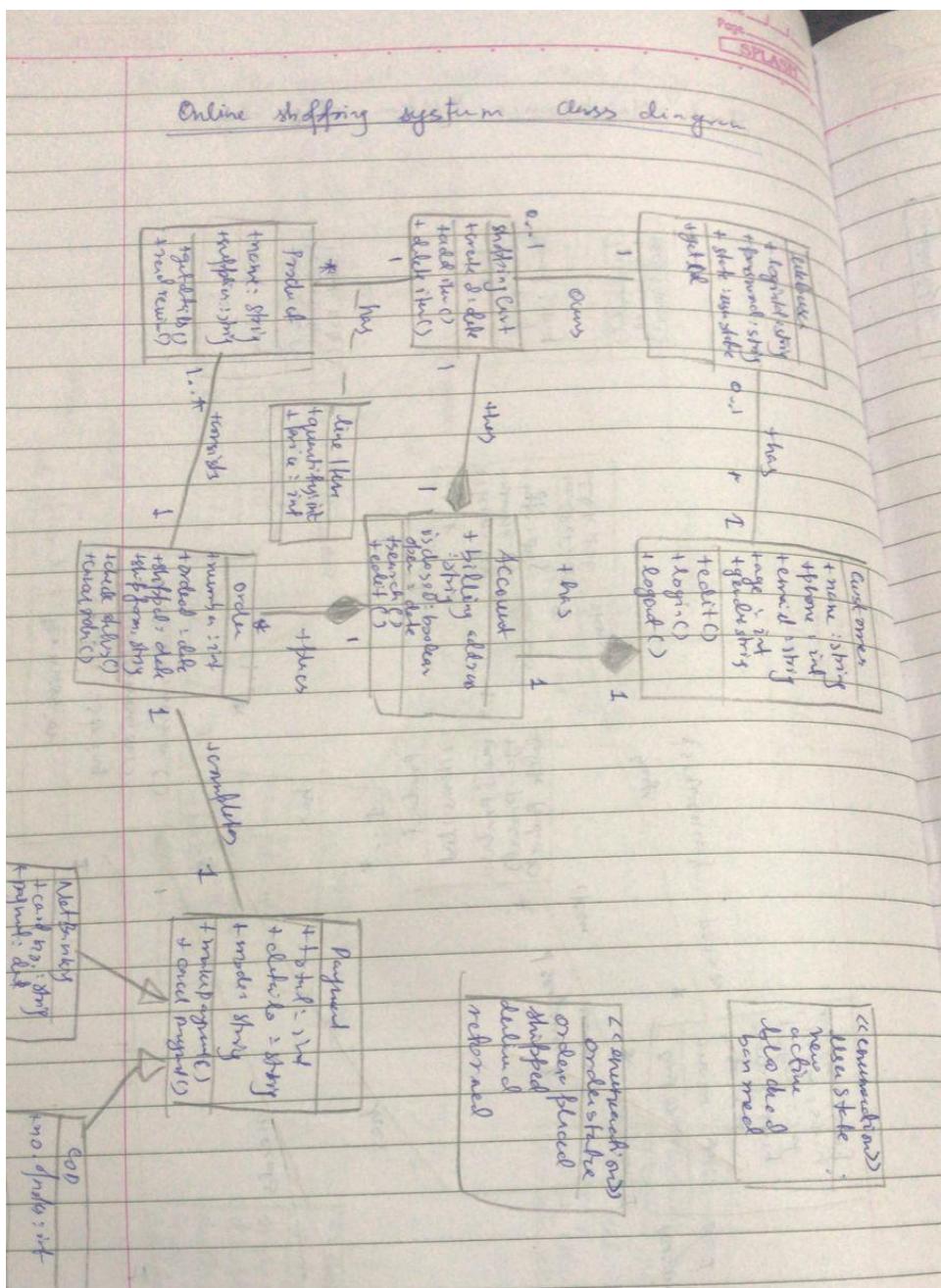


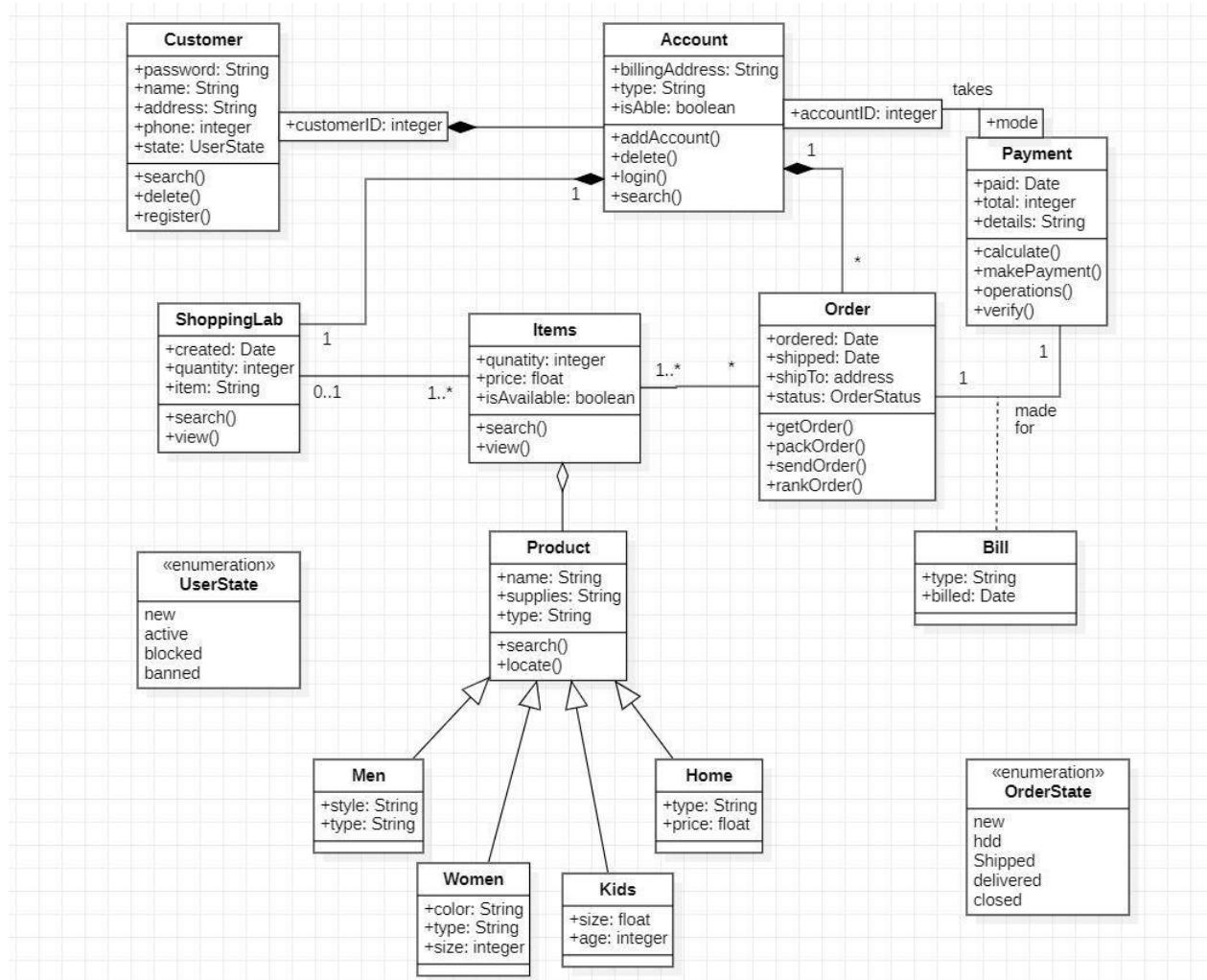
5. Online Shopping System-

- ⑤ Online shopping system
- Problem statement for Online shopping system : Design UML diagrams
 - SRS
 - ⇒ Facilitates easy shopping online anywhere with free shipping
 - ⇒ provides information about products in categories
 - ⇒ Can avail the facility of purchasing second hand product
 - ⇒ Can reserve if the product is not available
 - ⇒ Customers are provided with up to date information on products available
 - ⇒ provide email facilities for future correspondence
 - ⇒ provides backup facility
 - ⇒ Can add upto 10 products at one time.
 - ⇒ Software can not provide responsibility of damage.

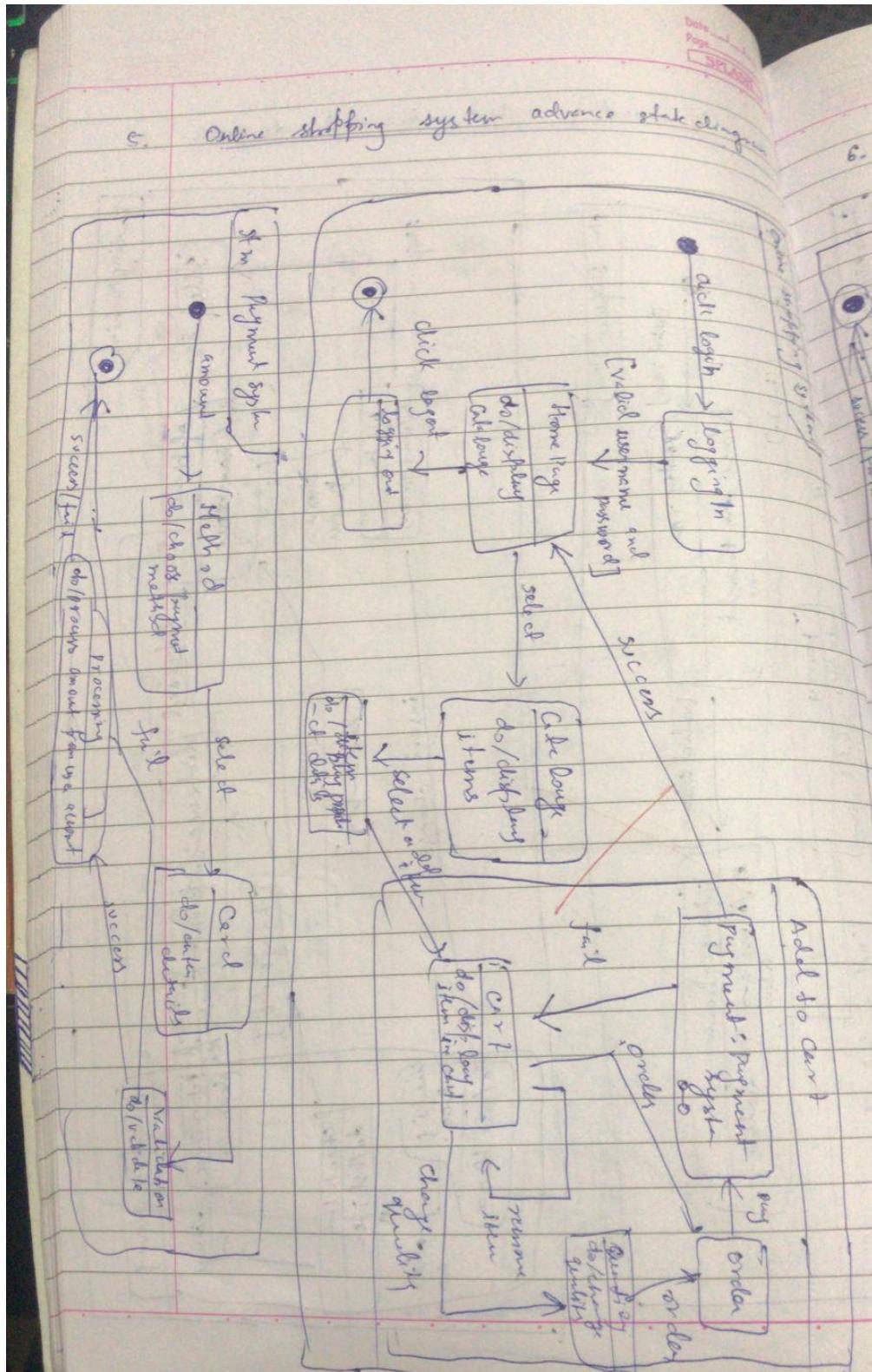
a) SRS:

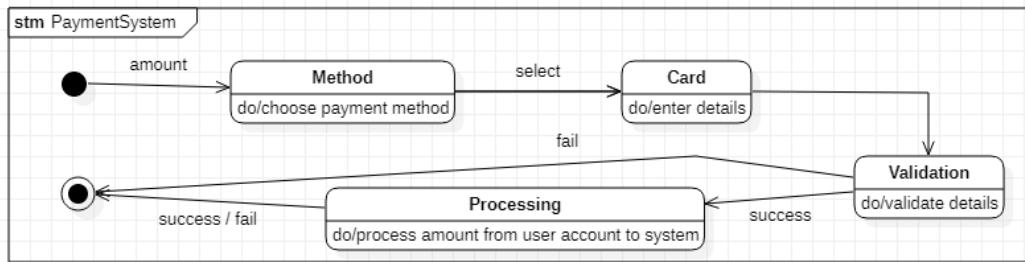
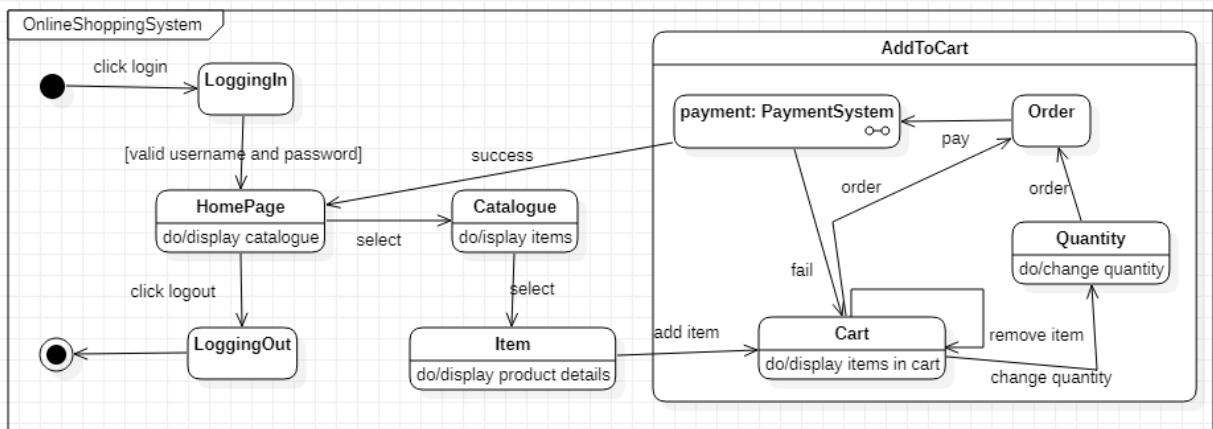
b) Advance Class Diagram:



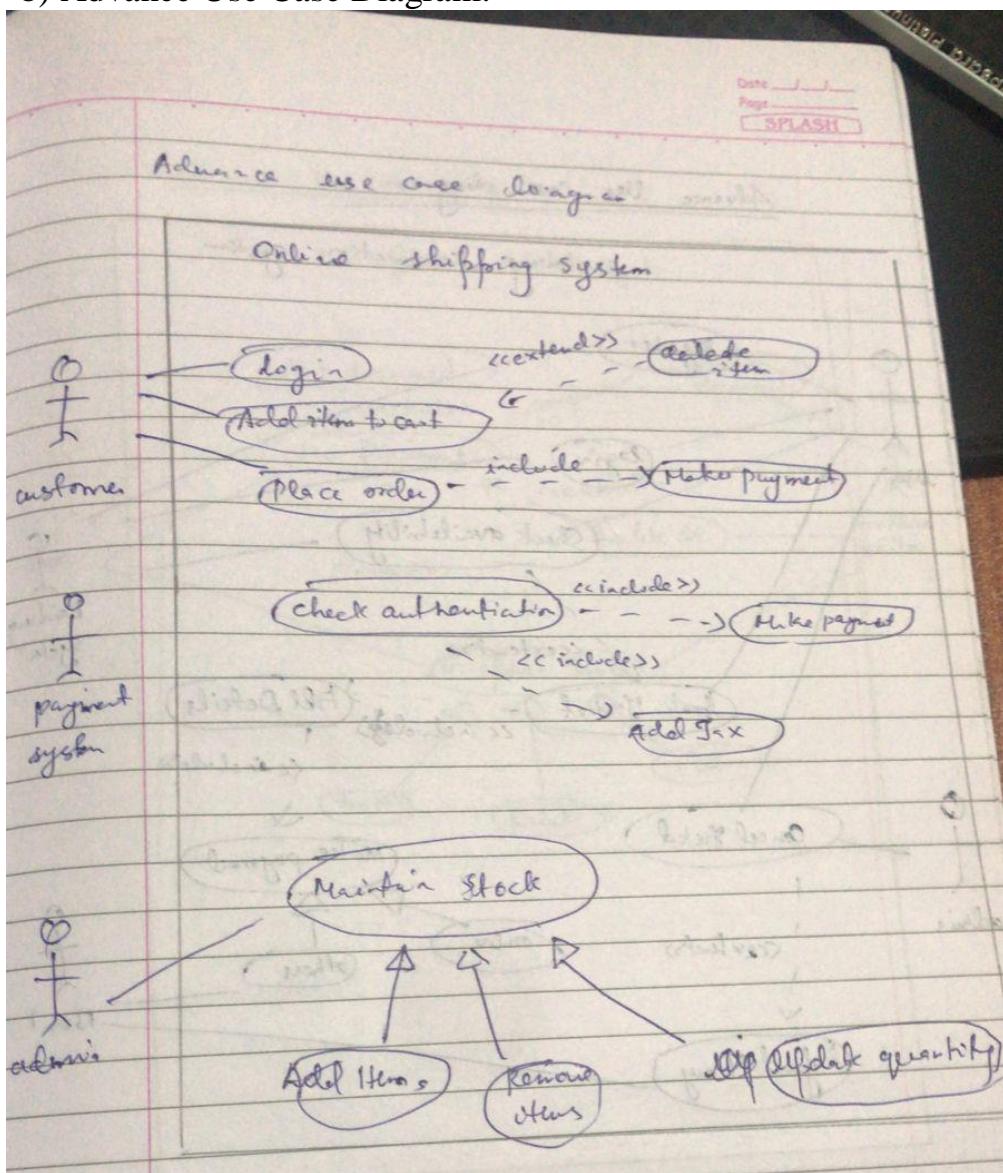


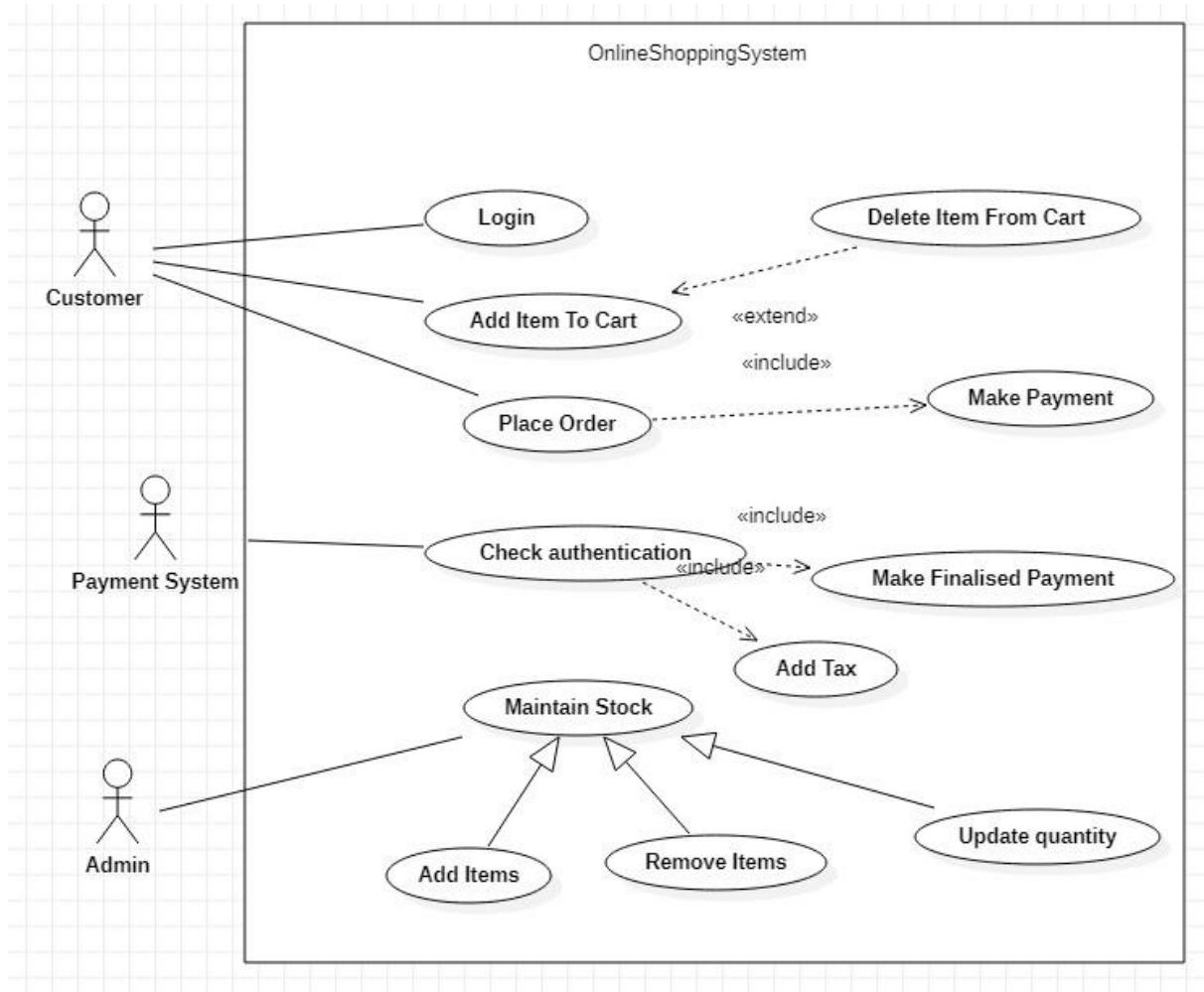
a) Advance State Diagram:



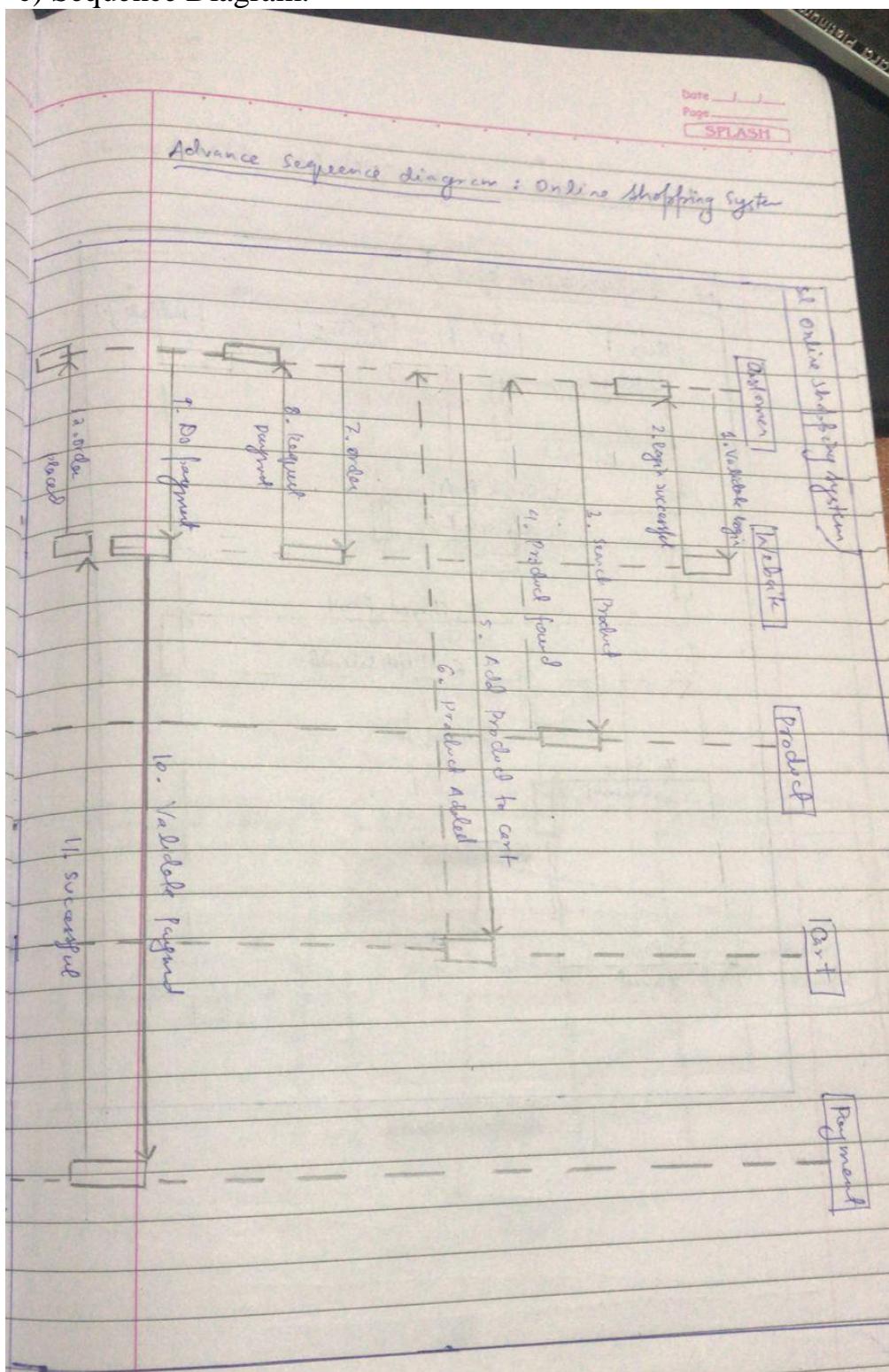


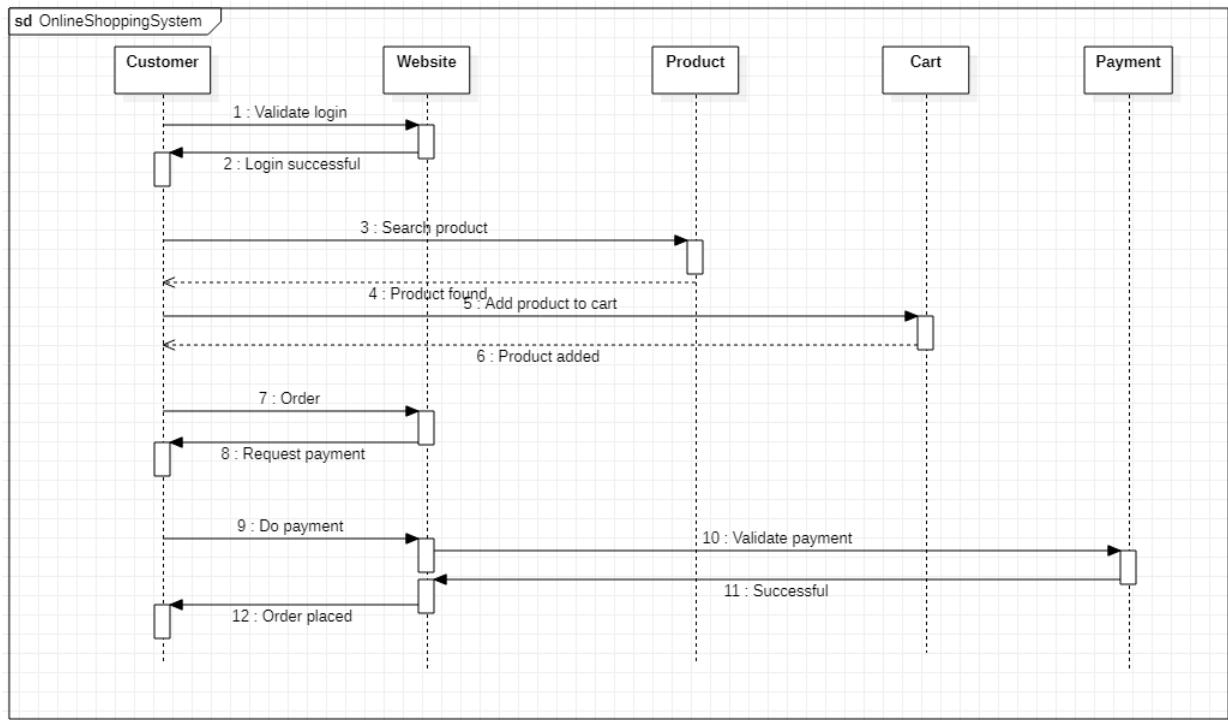
b) Advance Use Case Diagram:



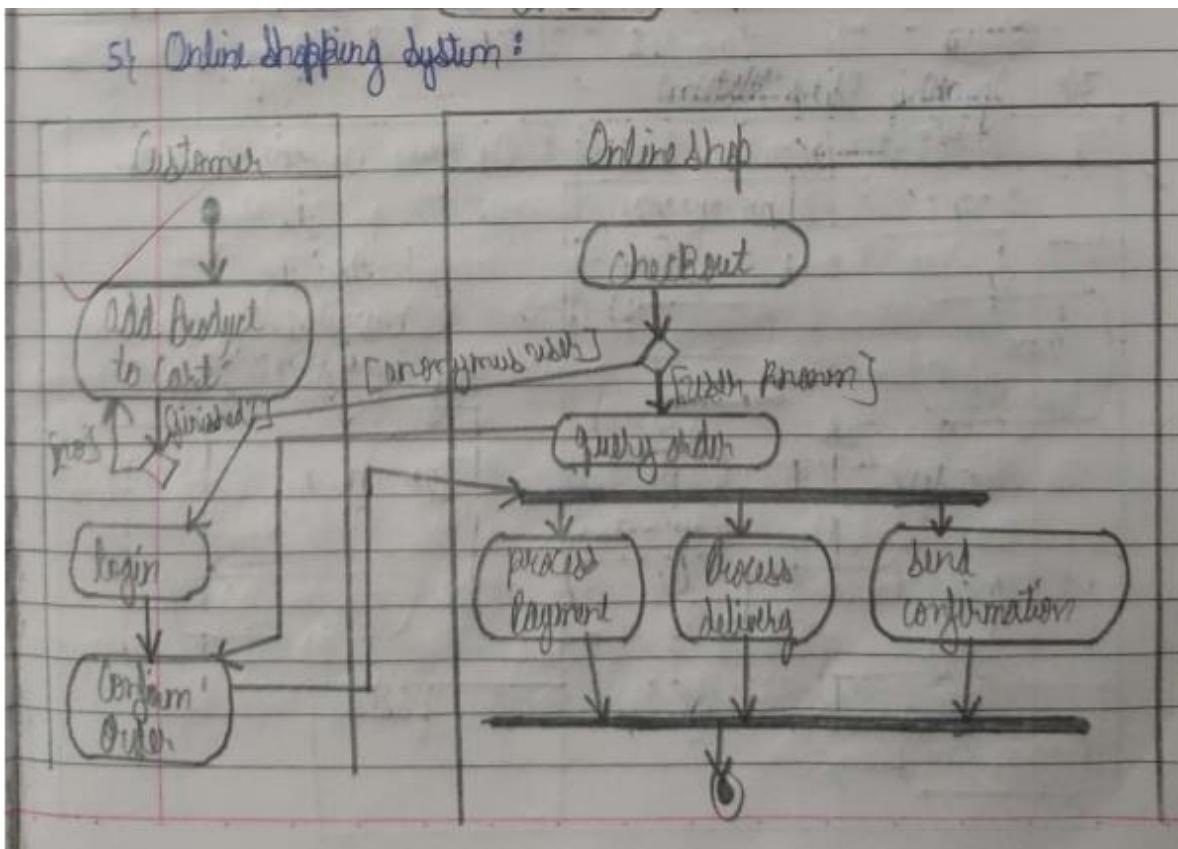


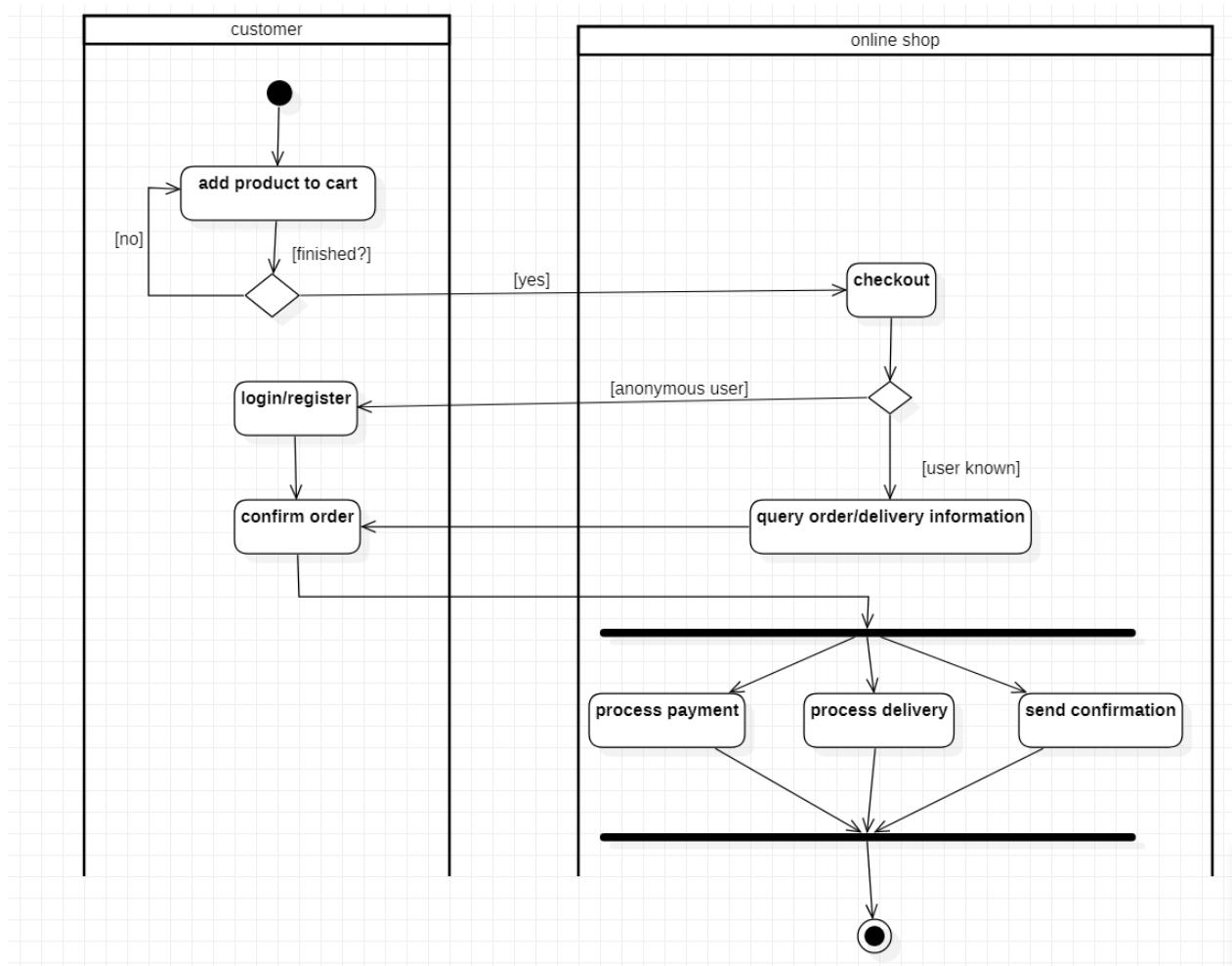
c) Sequence Diagram:





d) Activity Diagram:





6. Railway reservation system-

a) SRS:

Date _____
Page _____ SPLASH

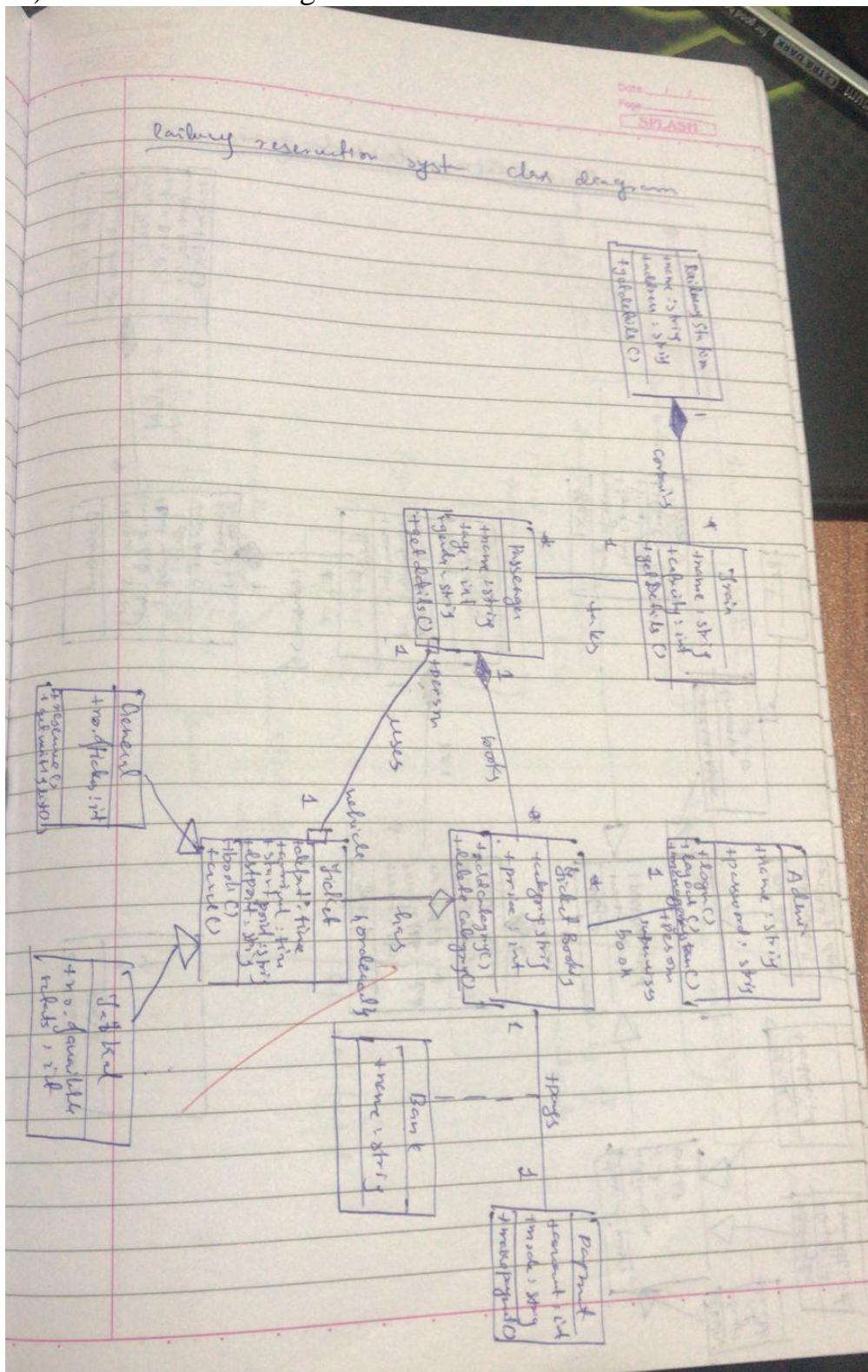
⑥ Railway reservation system

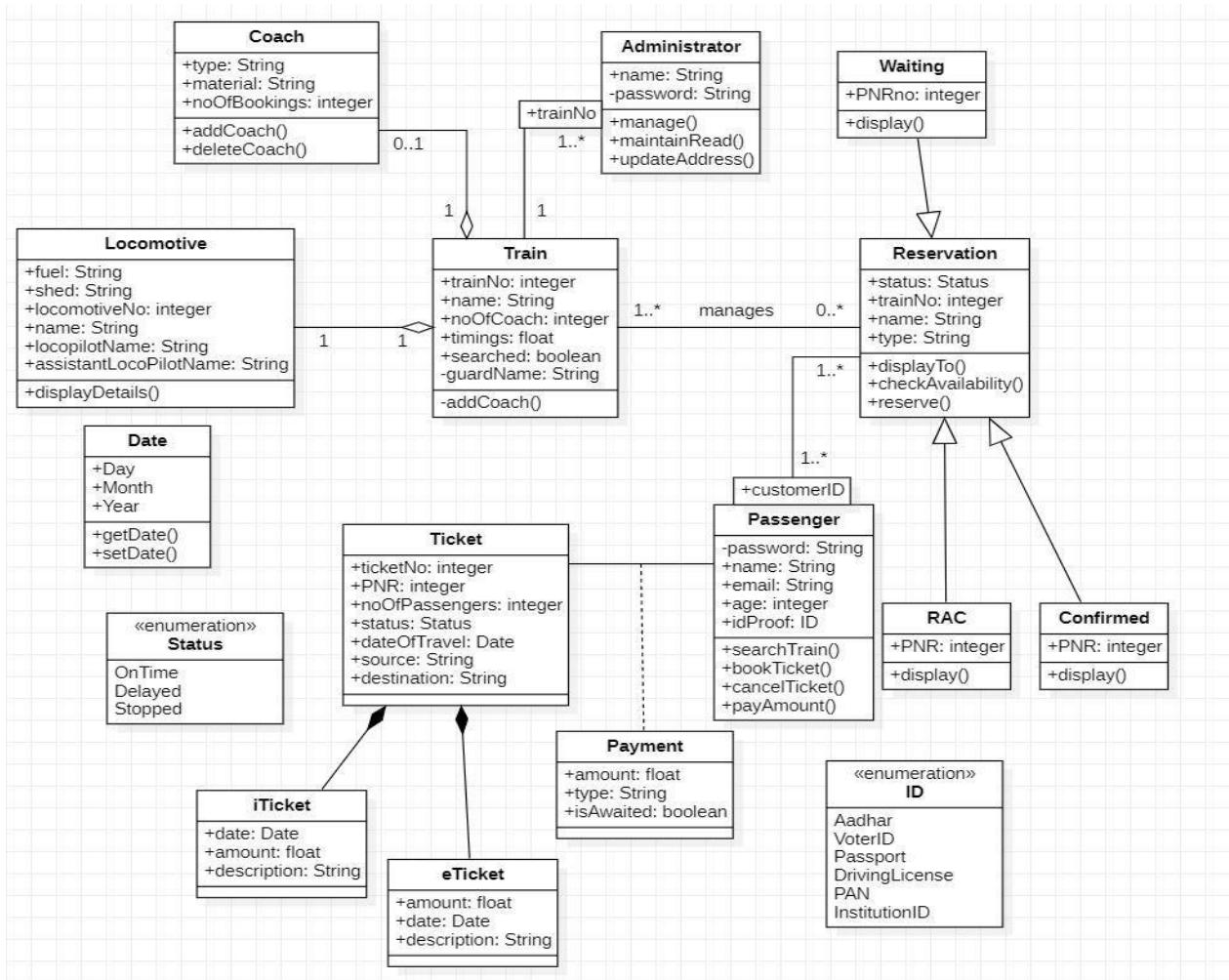
Problem statement : Design ISML diagrams for railway reservation system with system requirements specification

* SRS

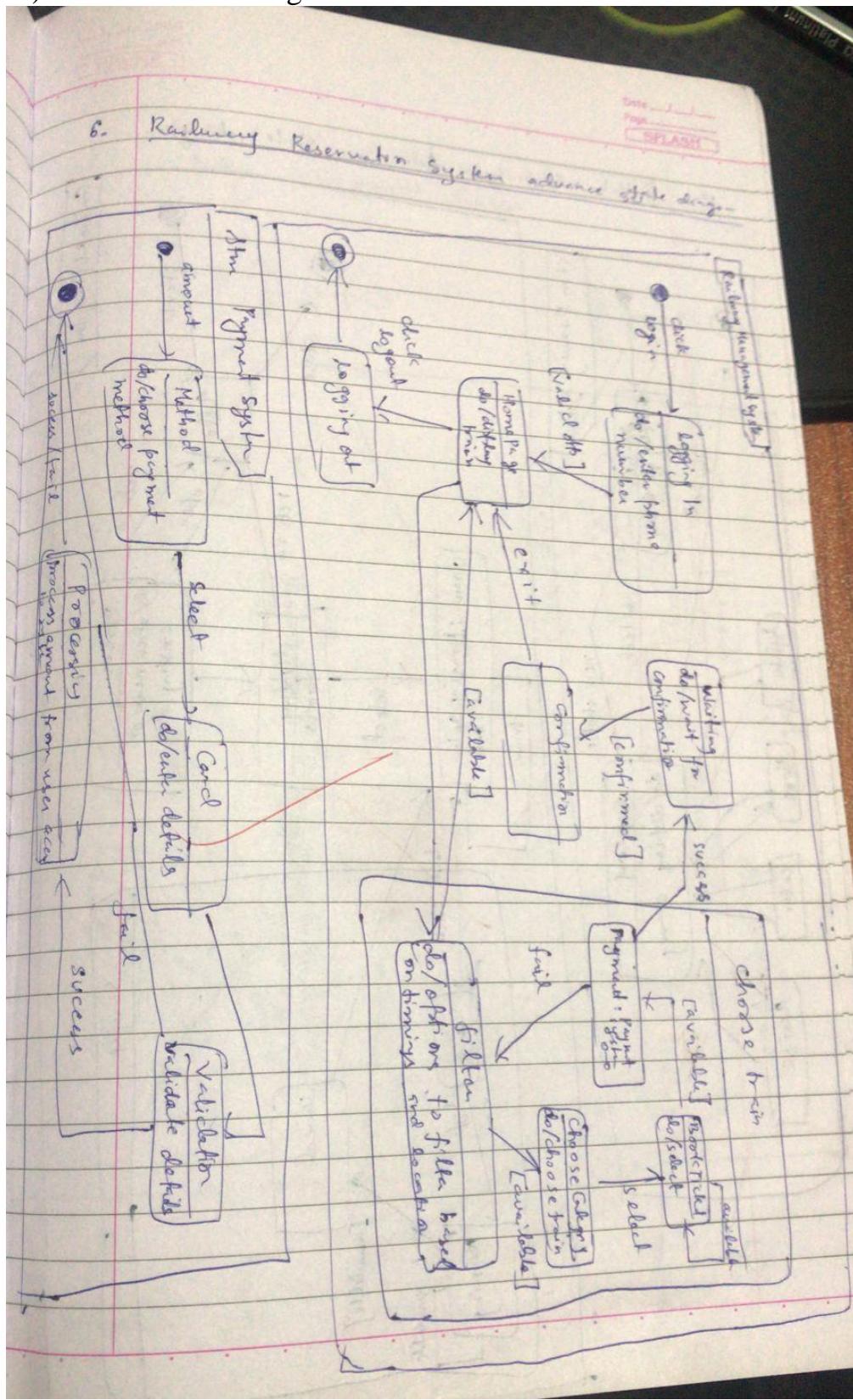
- The railway reservation system to enable passengers to book tickets online and make payment online.
- Railway reservation system provides the train timing details, reservation, booking and cancellation.
- The system enables the advance booking in any class, against general and ladies quota. on payment of fare in full for adults and children, a maximum of six berths /seats at a time
- Provides details about timetable
- provides details about train fares
- provides status of reservation
- provide details about train available b/w a pair of stations.

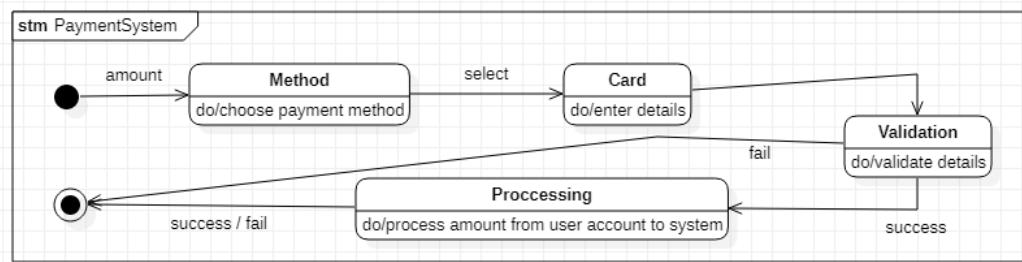
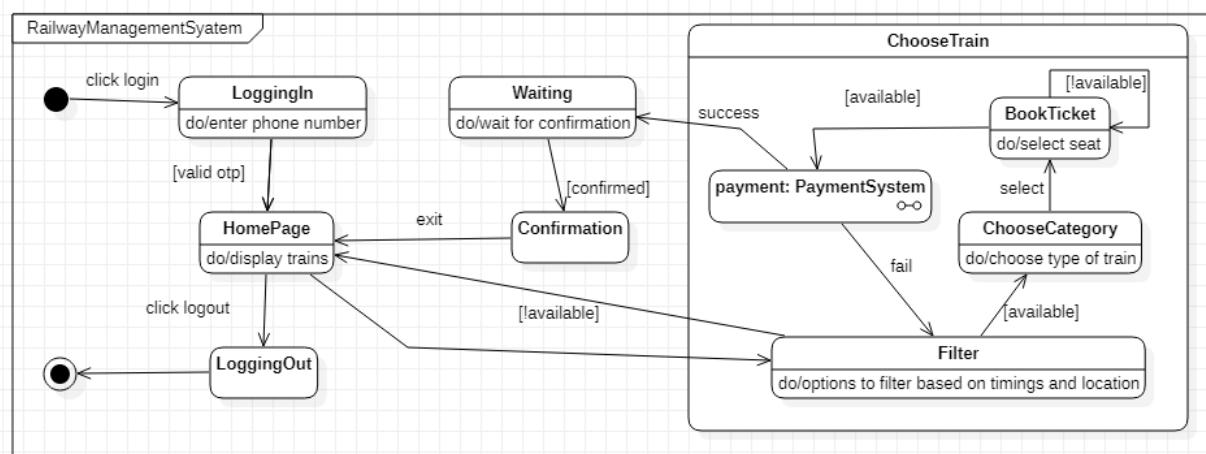
b) Advance Class Diagram:



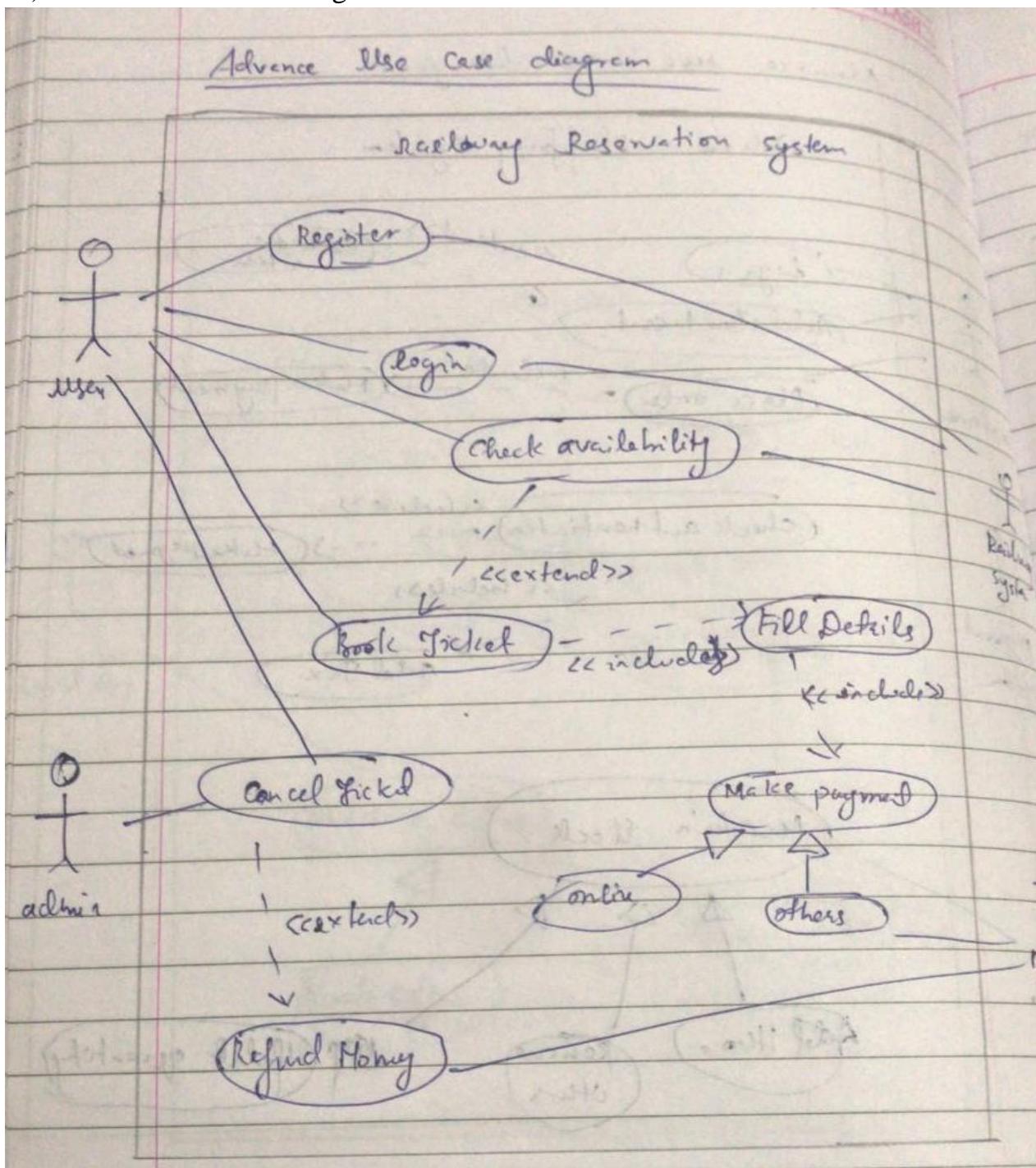


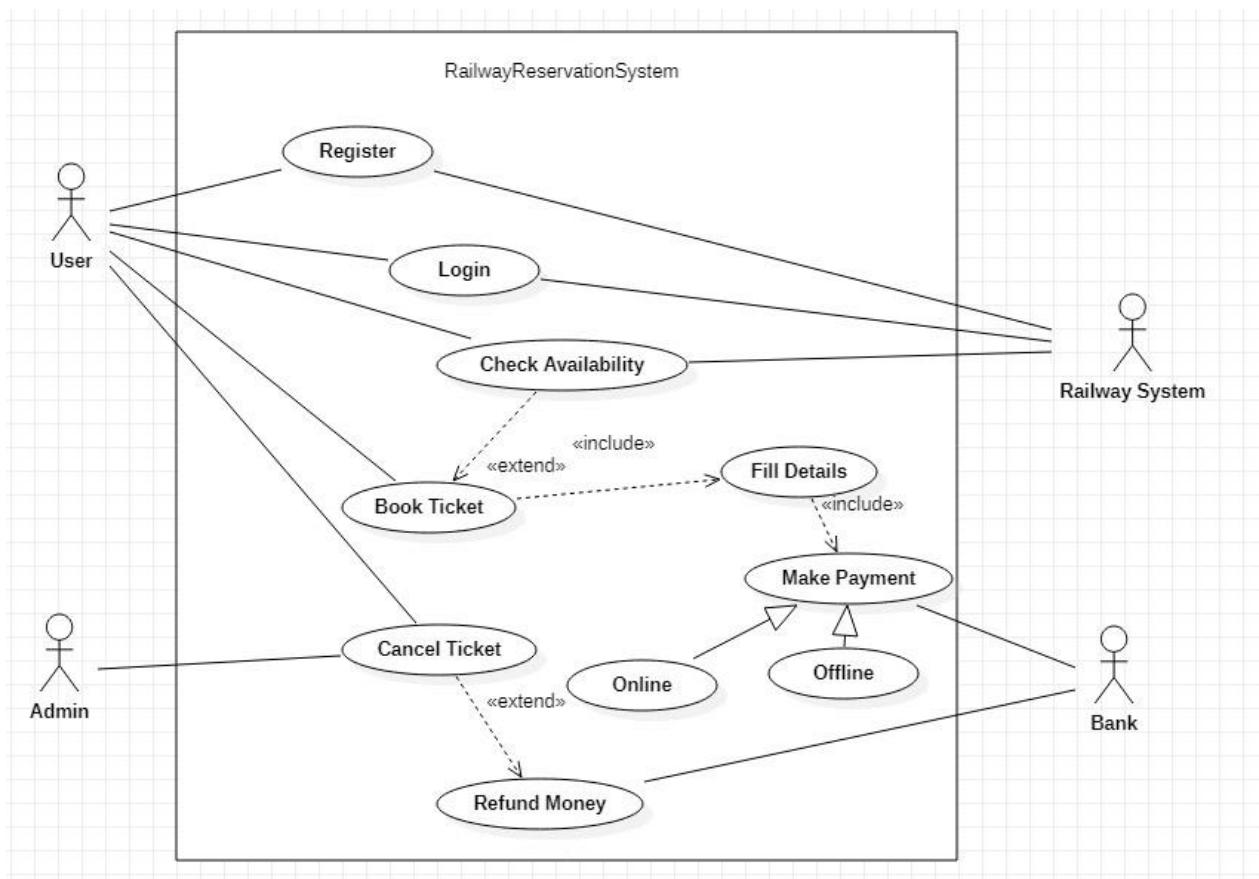
c) Advance State Diagram:



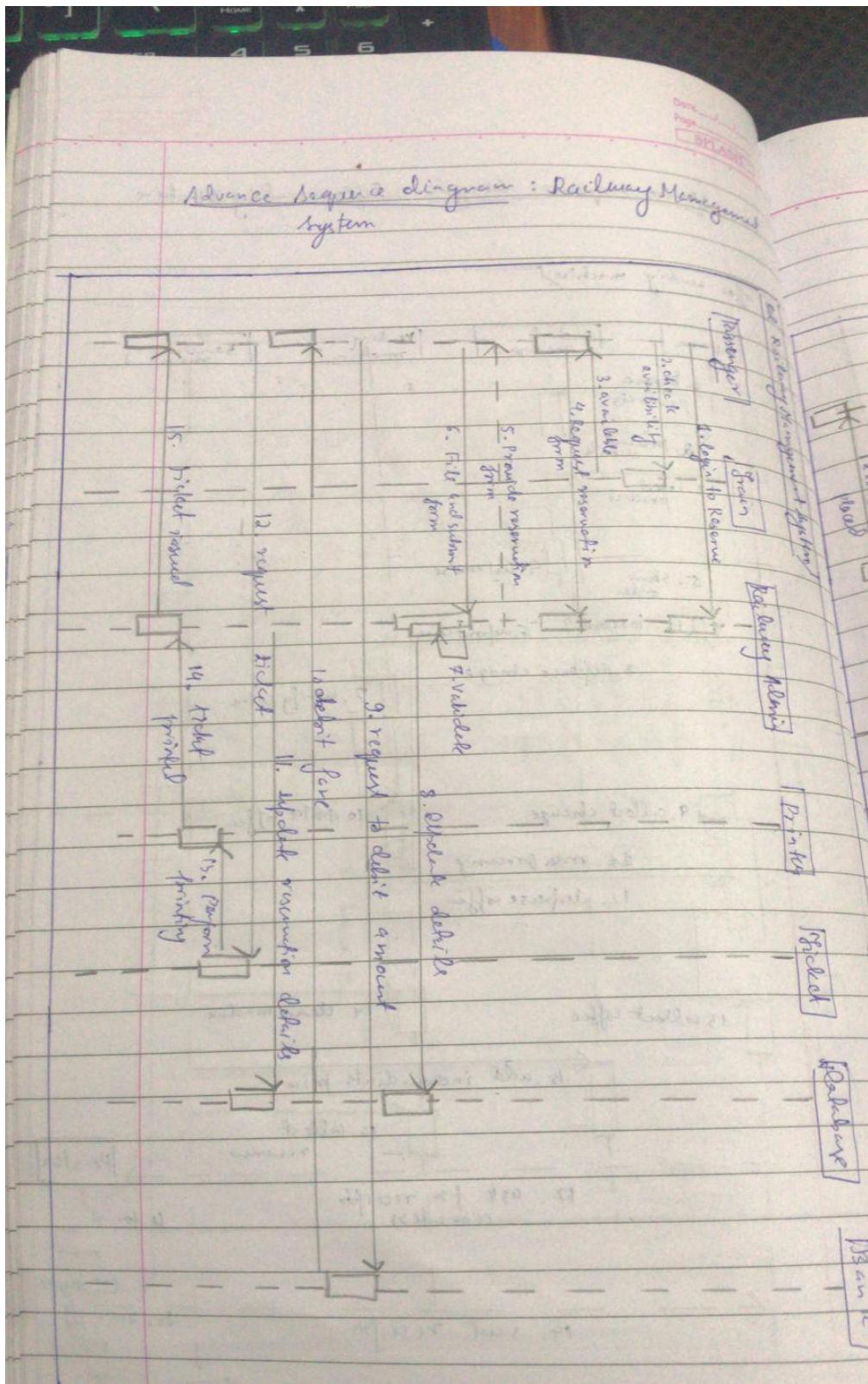


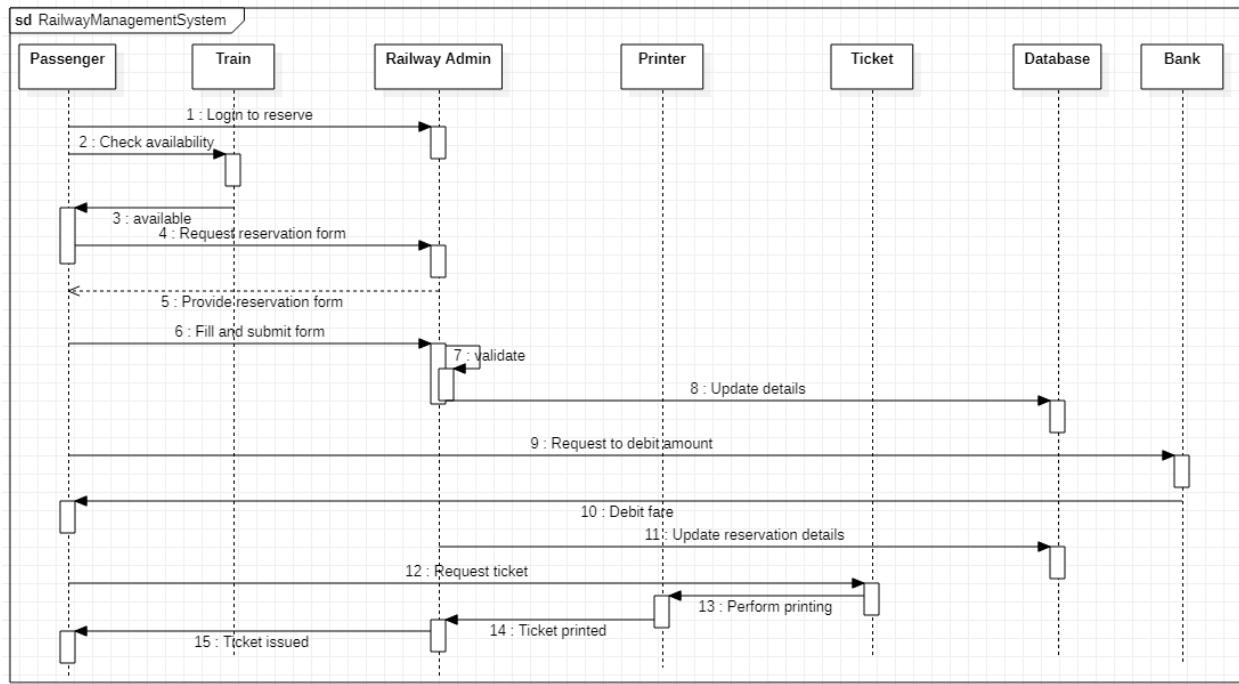
d) Advance Use Case Diagram:



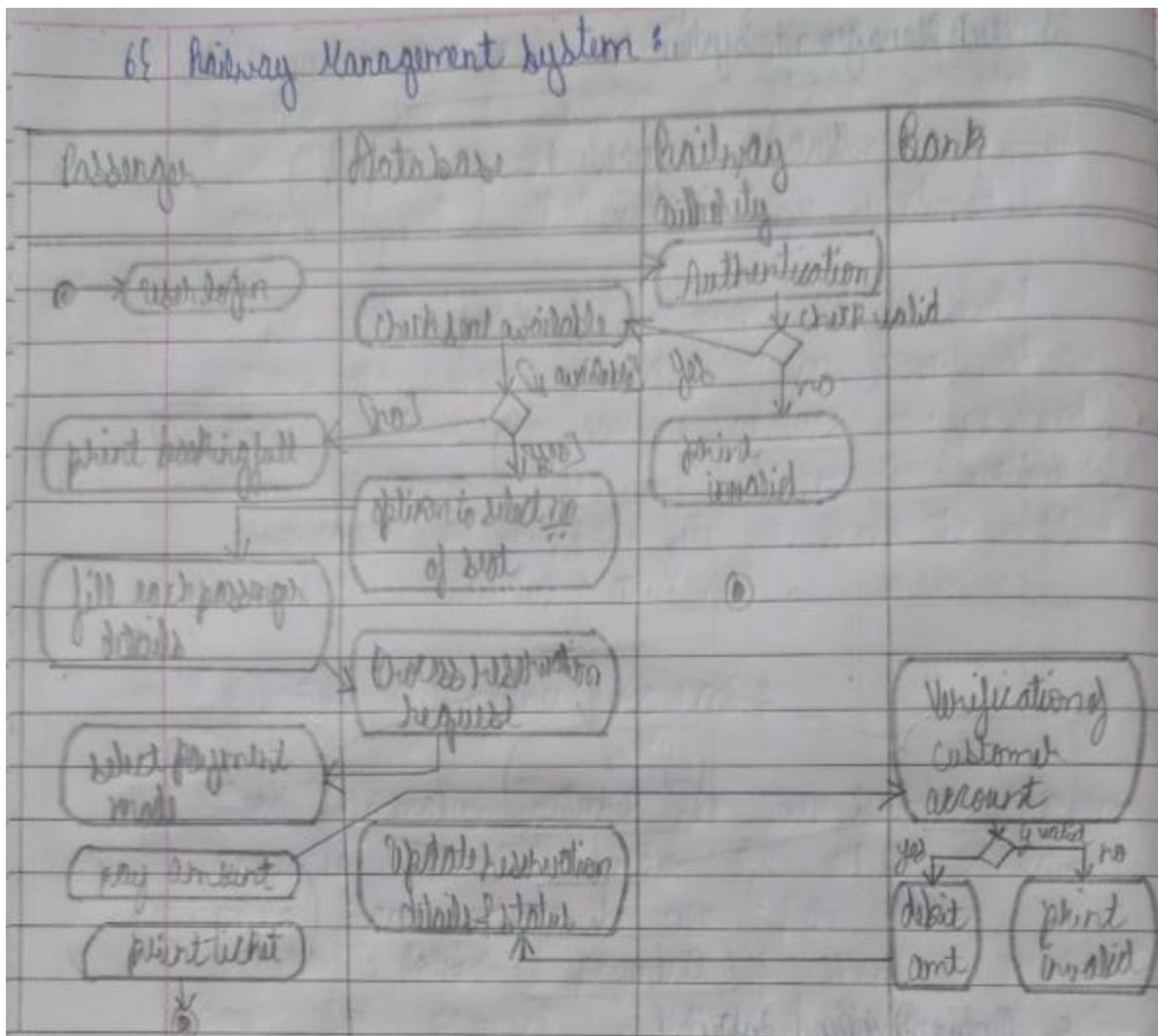


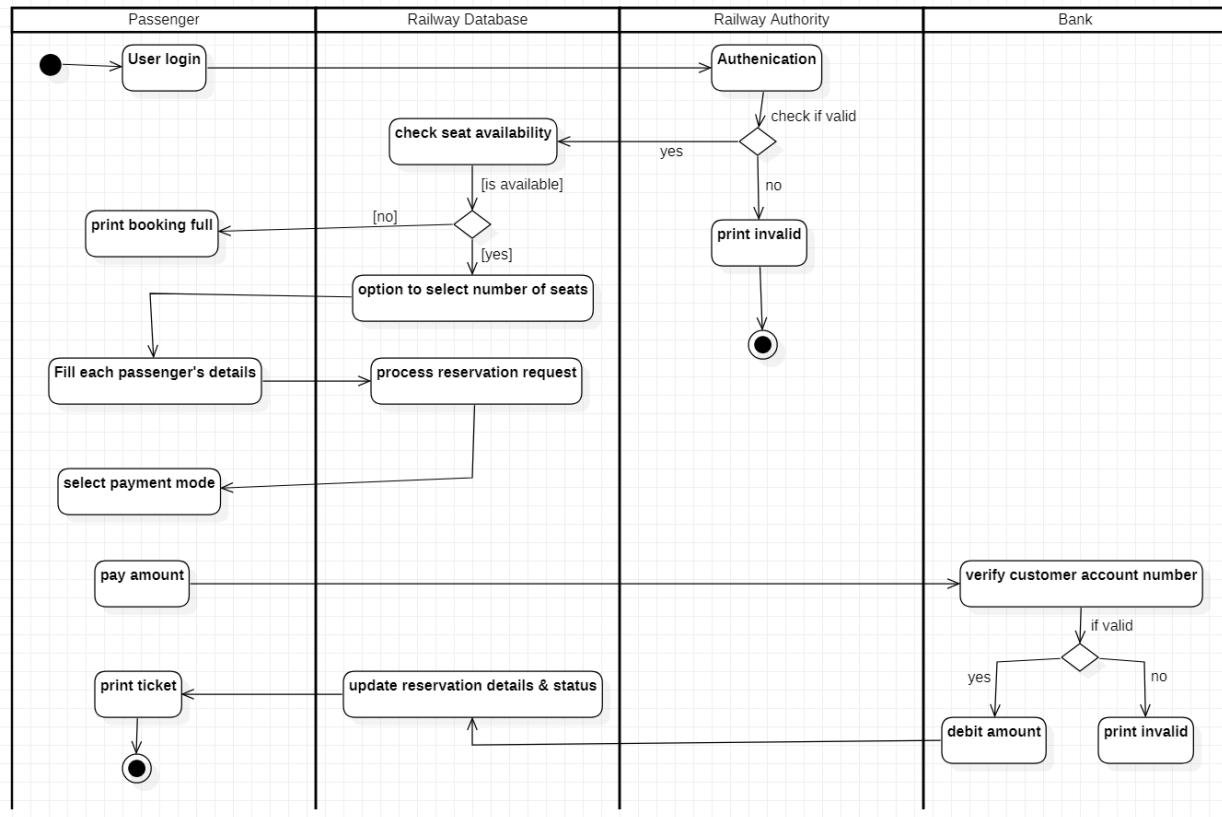
e) Sequence Diagram:





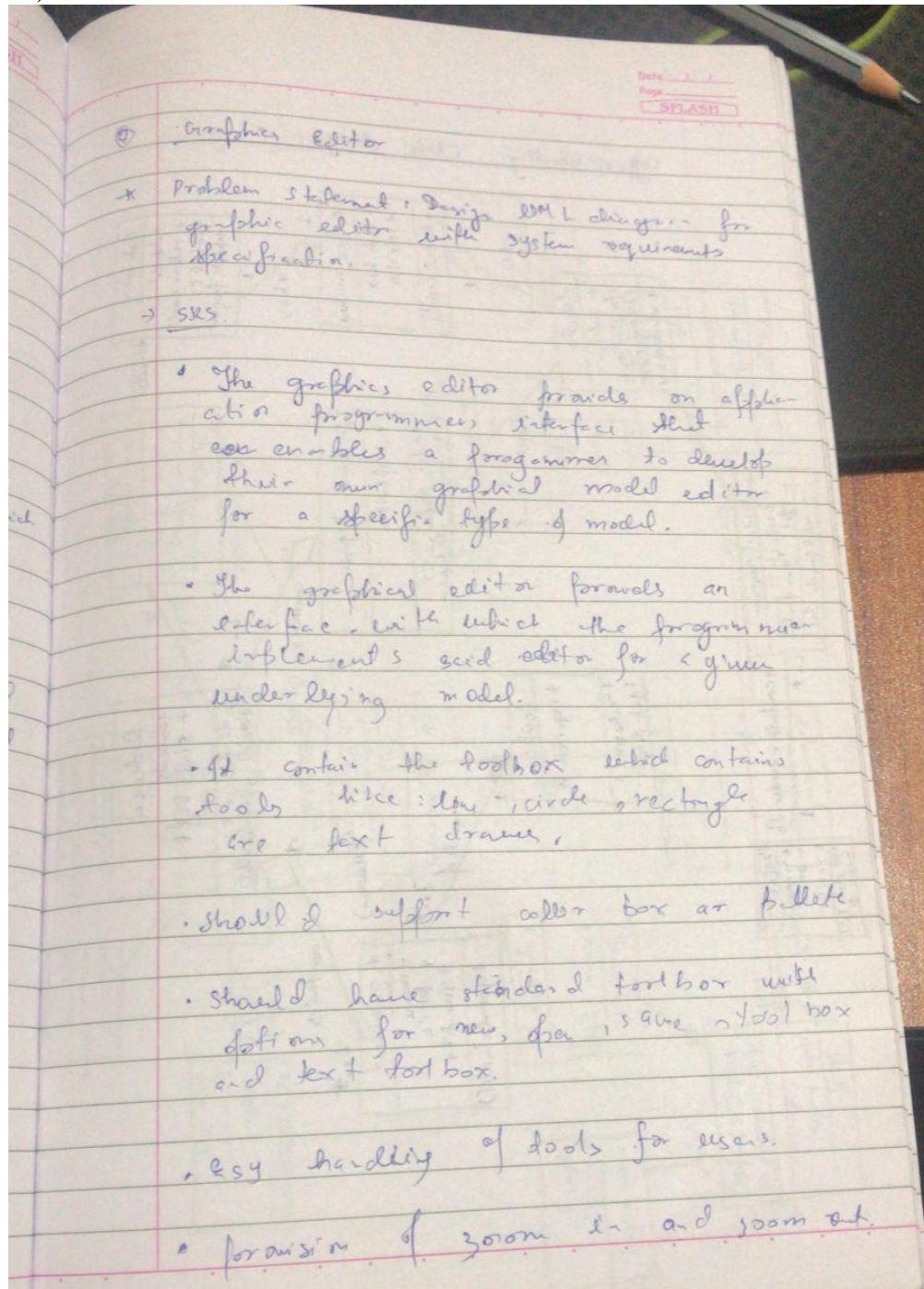
f) Activity Diagram:



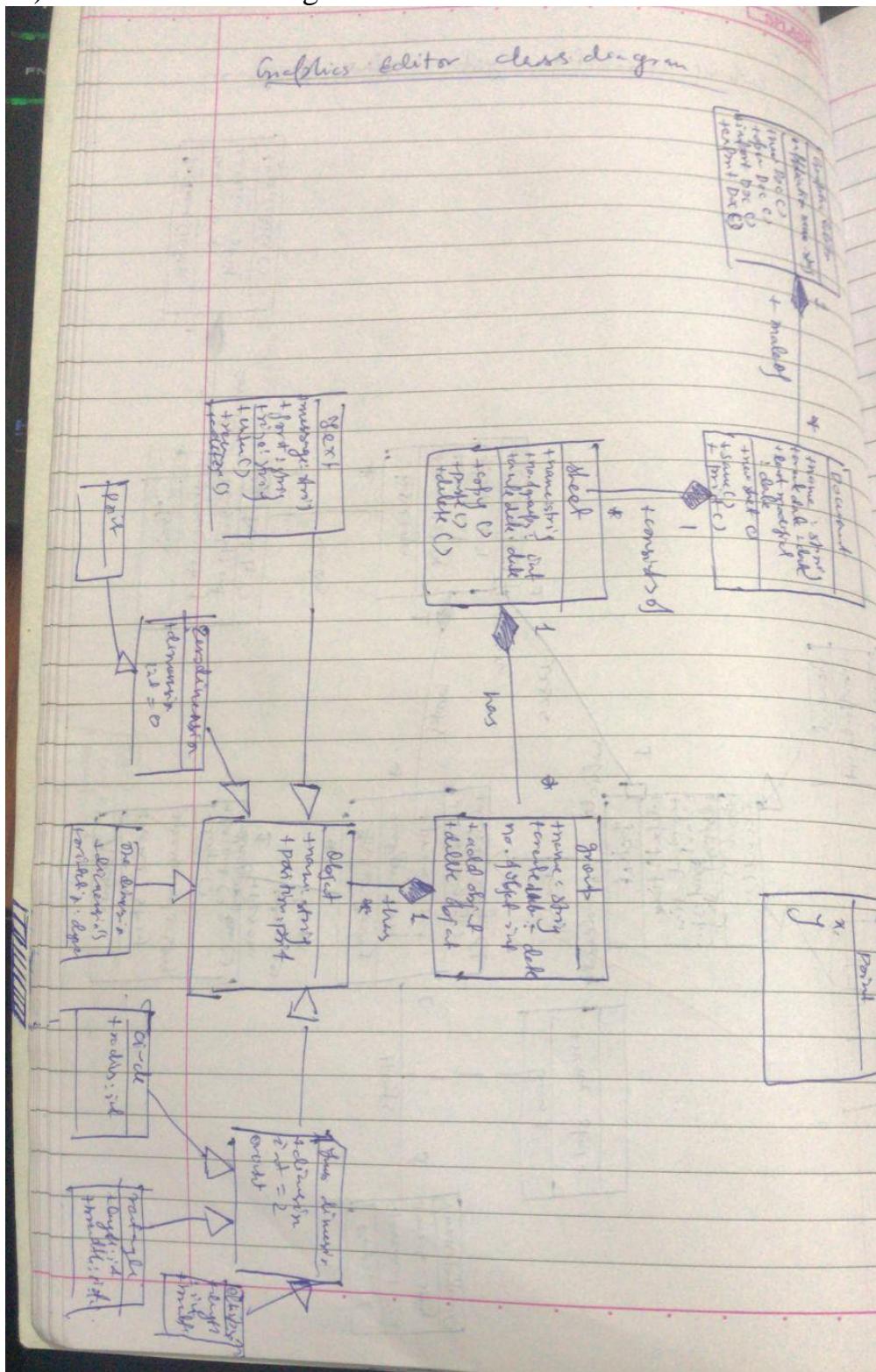


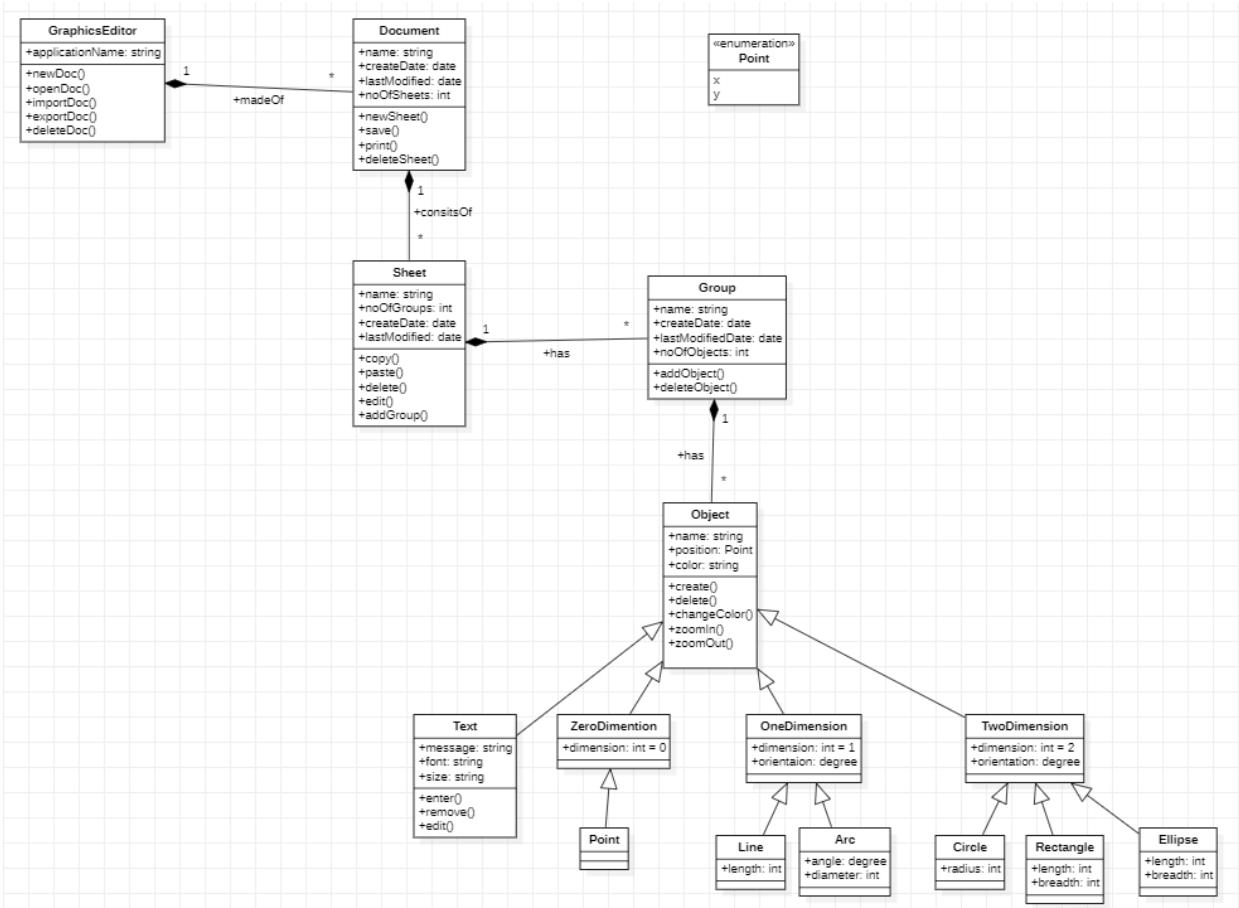
7. Graphics Editor-

a) SRS:

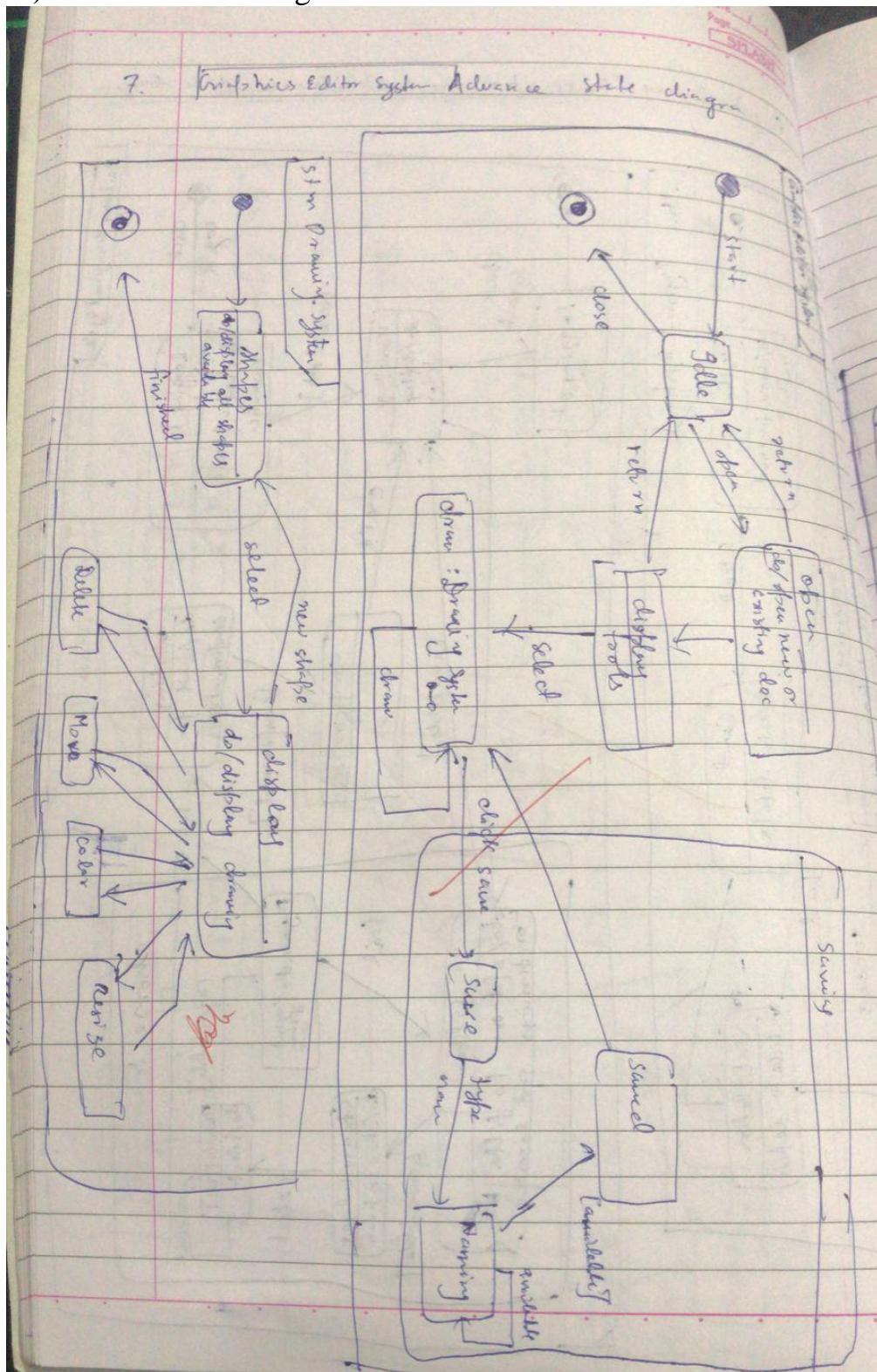


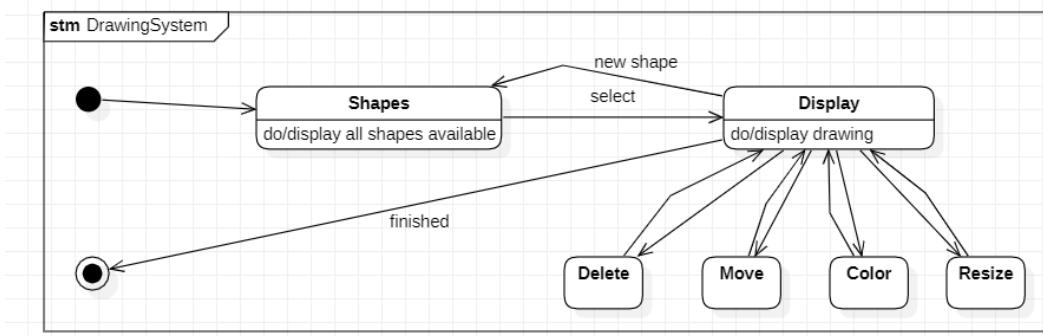
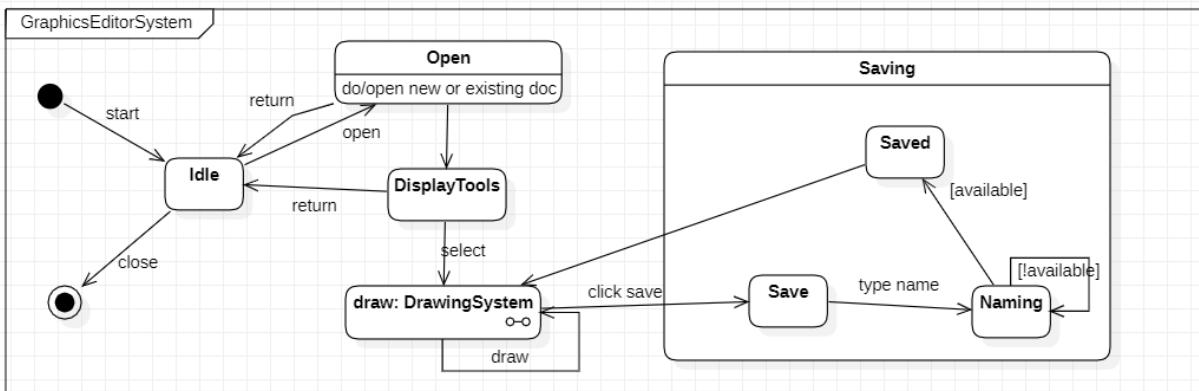
b) Advance Class Diagram:



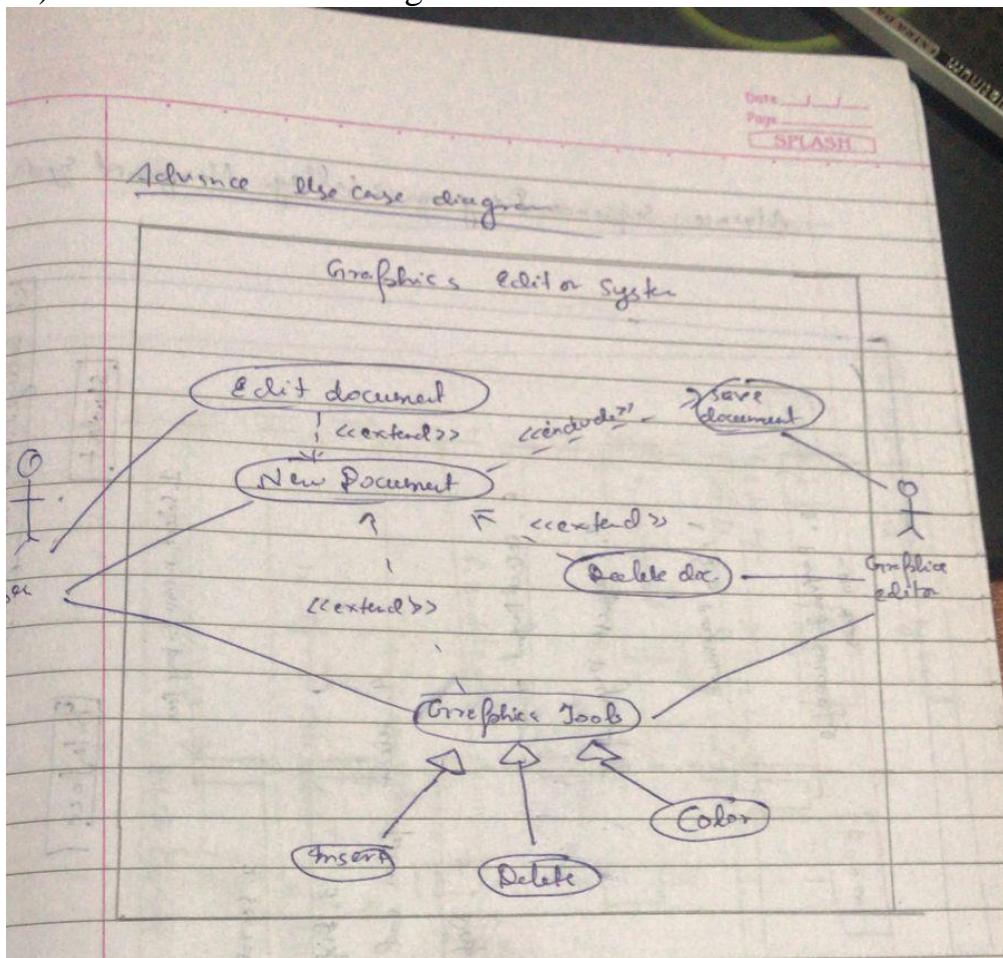


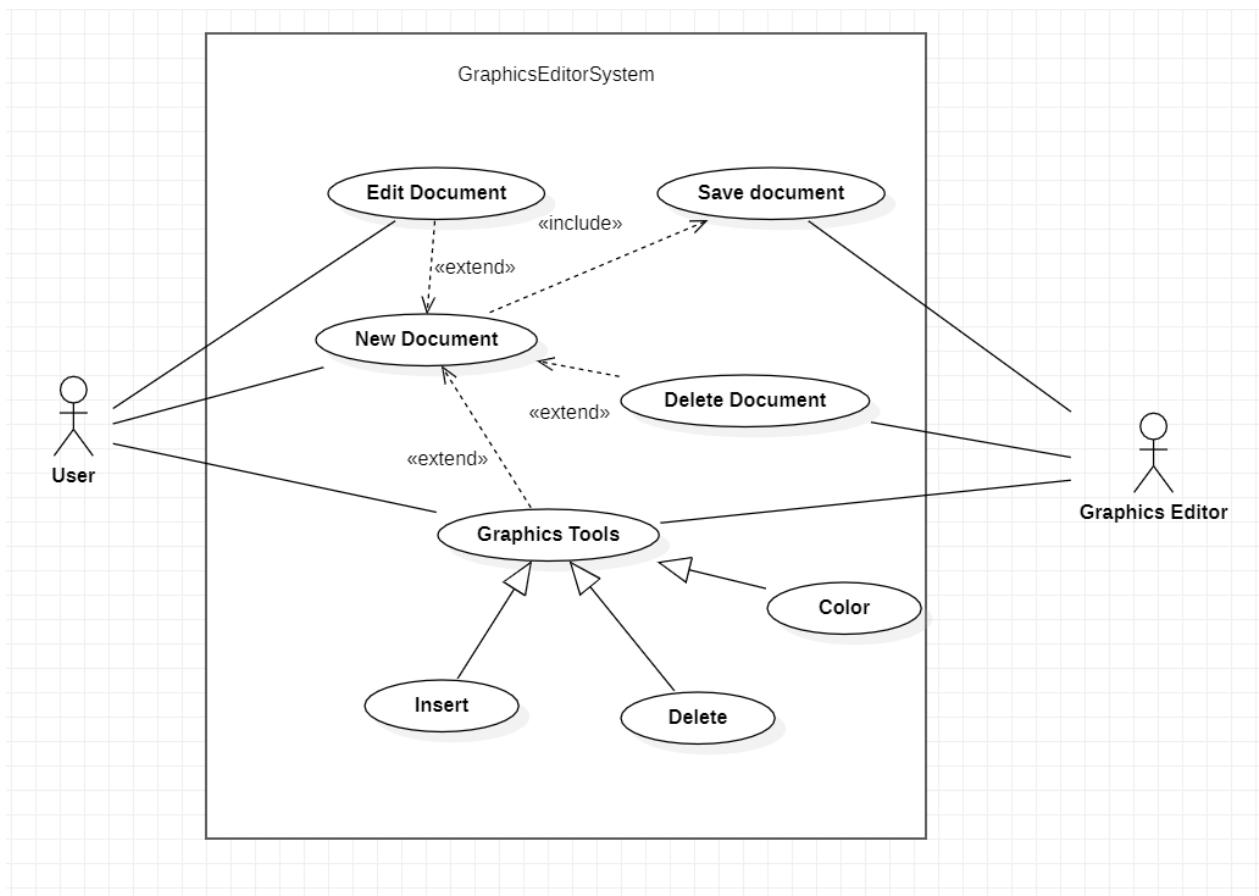
c) Advance State Diagram:



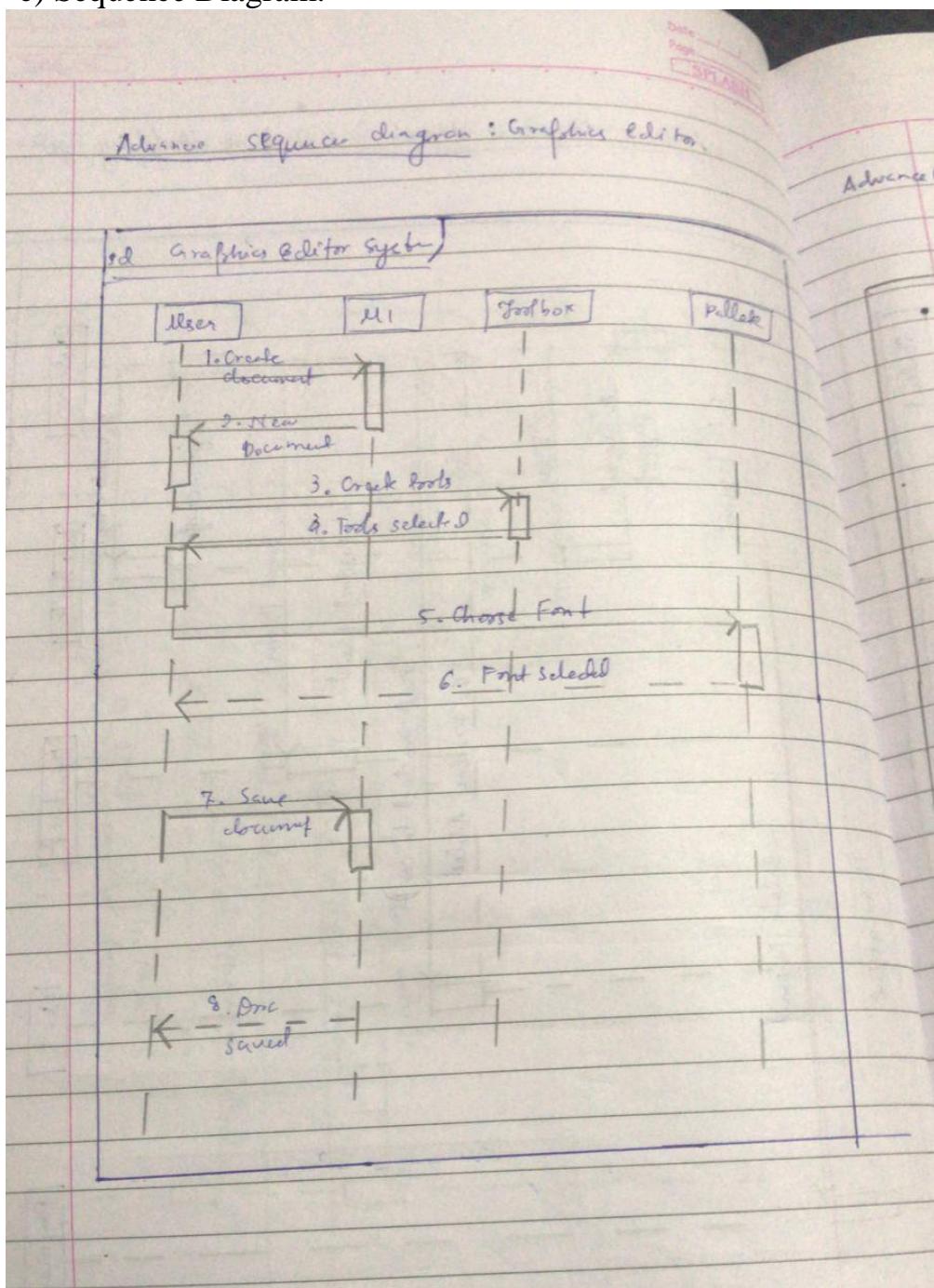


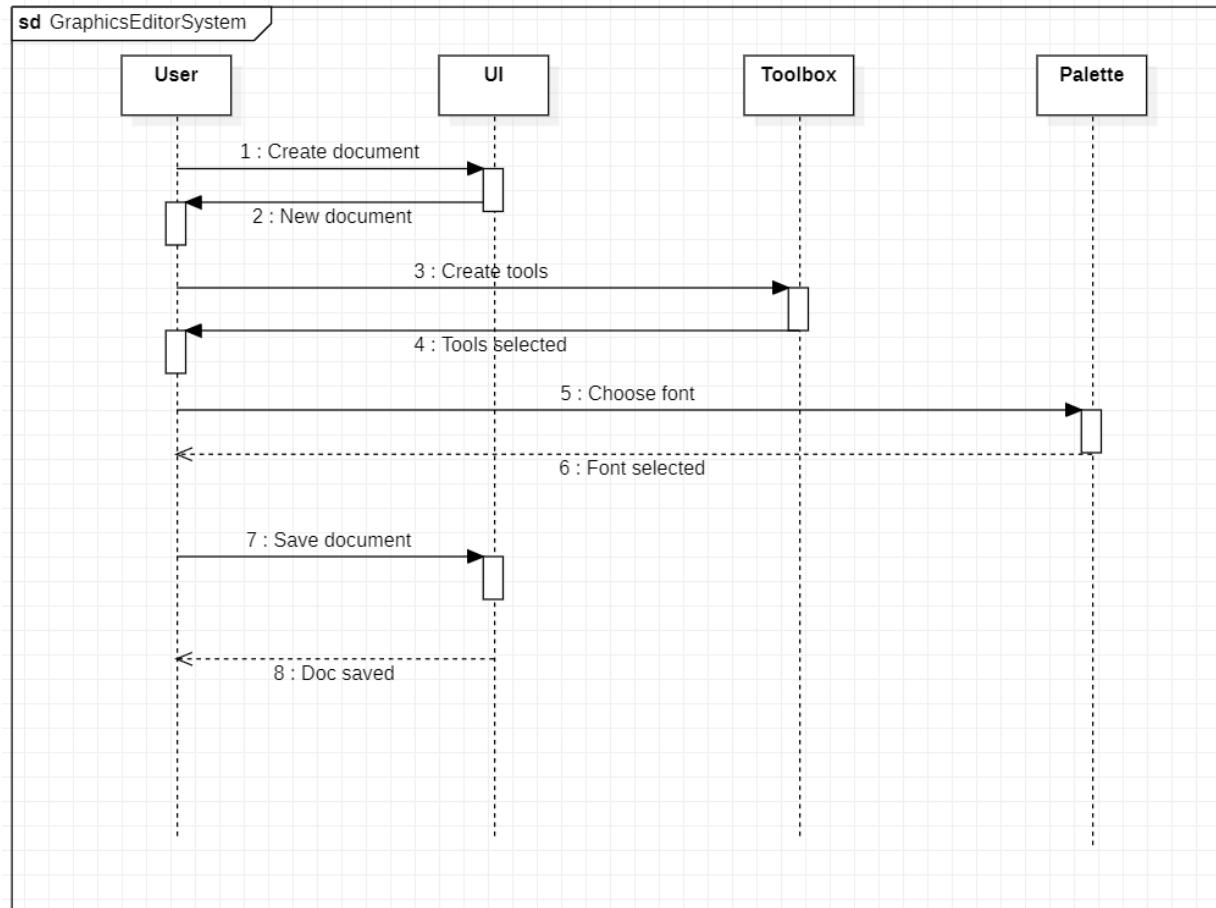
d) Advance Use Case Diagram:





e) Sequence Diagram:





f) Activity Diagram:

