

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT

on

OBJECT ORIENTED MODELING AND DESIGN

Submitted by
SHARAN S PAI (1BM19CS146)

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

May-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 SHARAN S PAI (1BM19CS146), who is Bonafede 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 year 2022. The Lab report has been approved as it satisfies the academic requirements in respect of object oriented modeling and designing - (20CS6PCOMD) work prescribed for the said degree.

LATHA N R
PROFESSOR
BMSCE
BANGALURU

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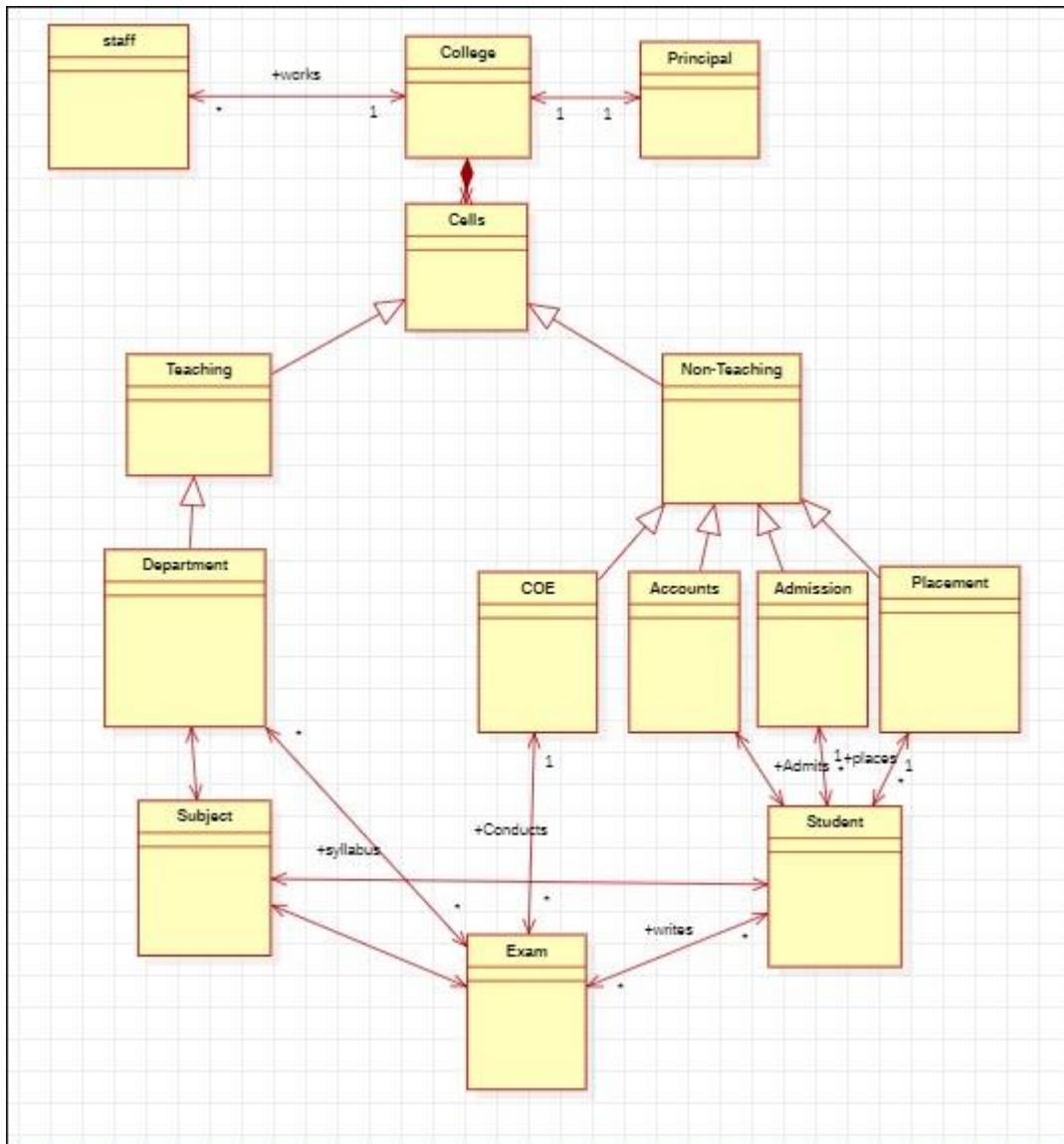
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Course Outcome

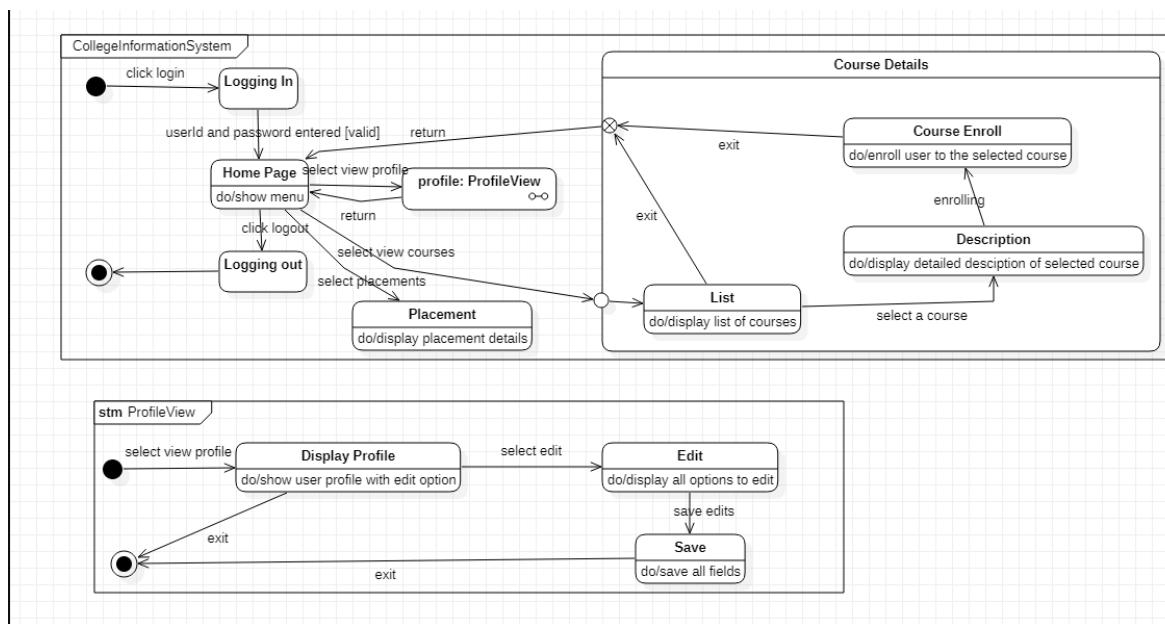
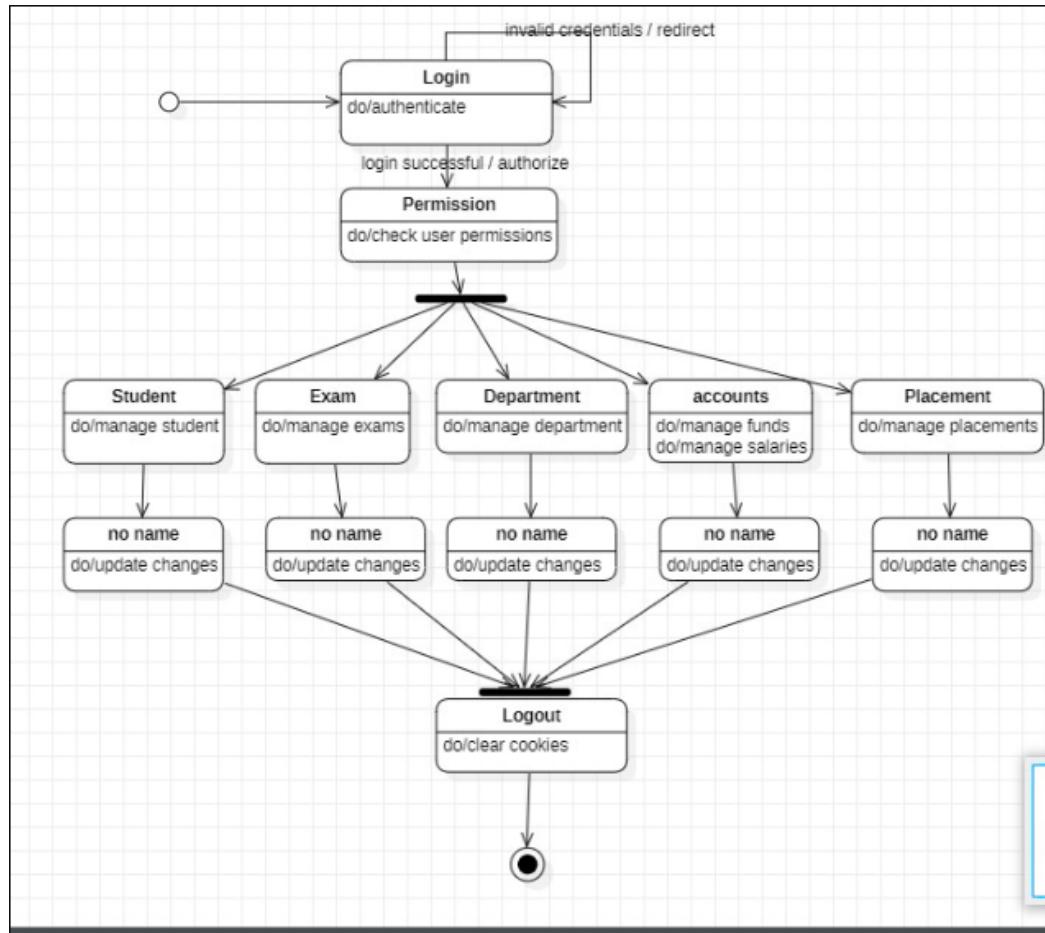
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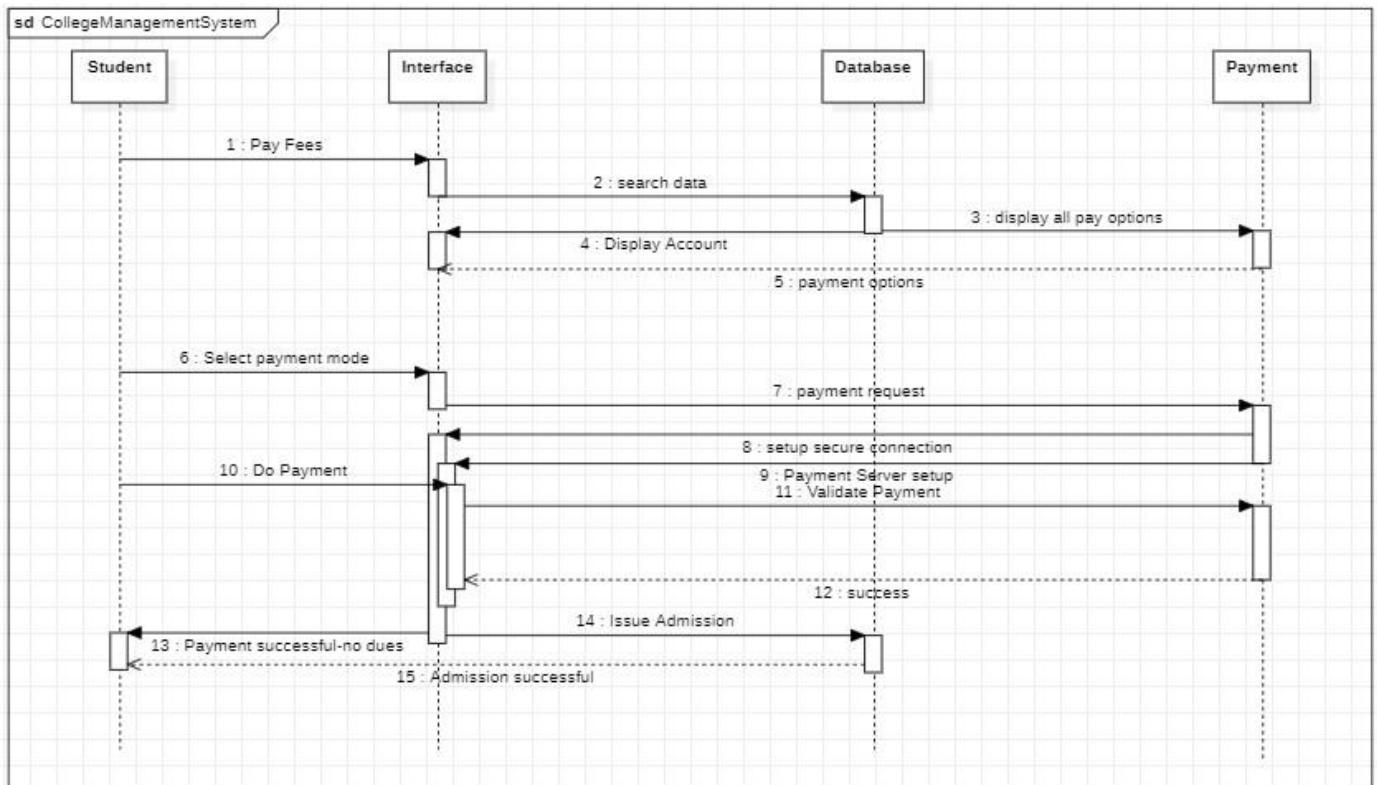
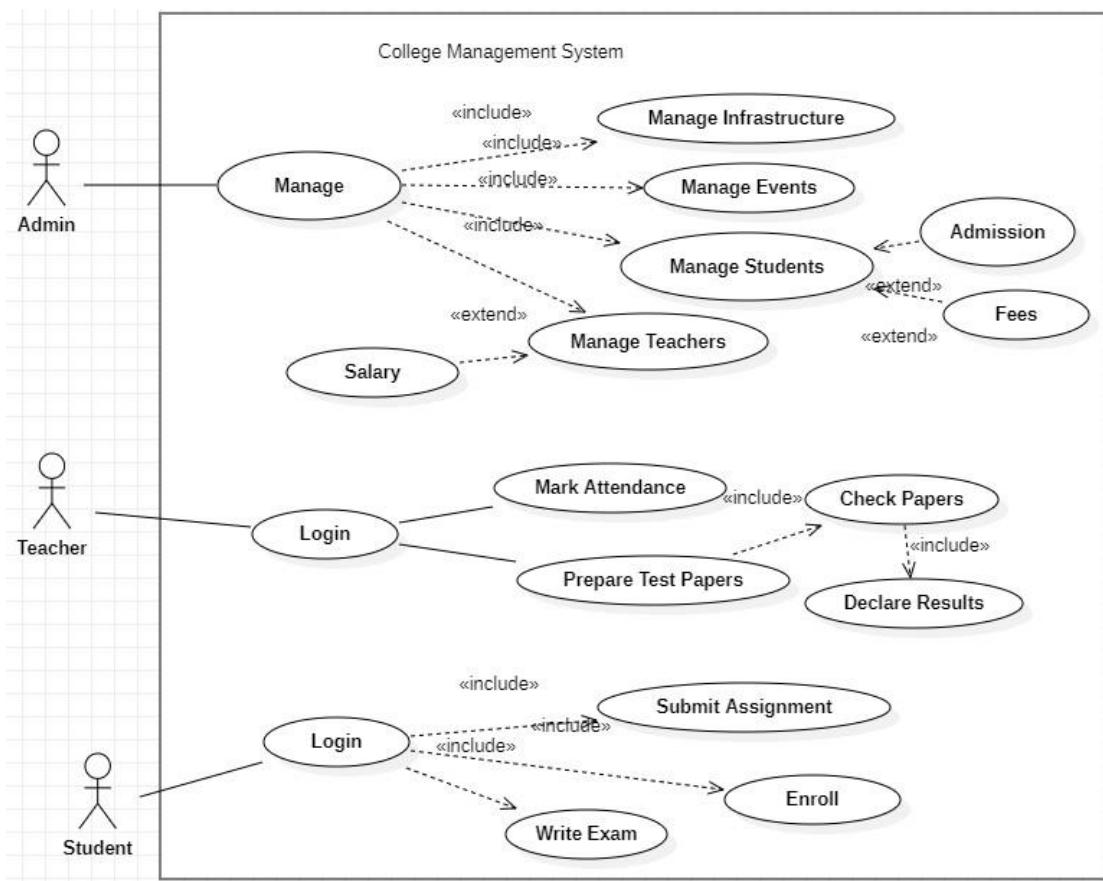
LAB-1
**COLLEGE MANAGEMENT
SYSTEM**

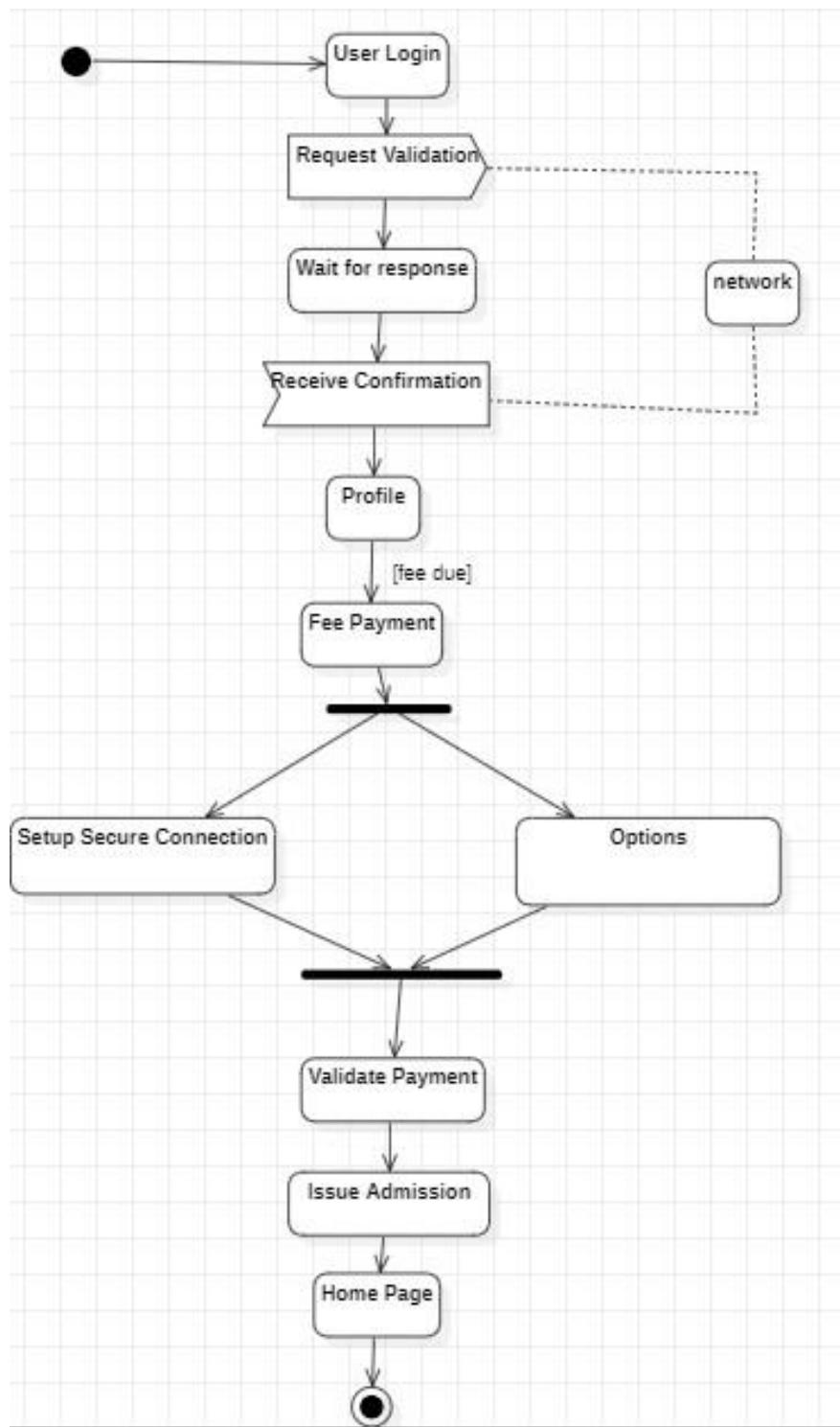
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● STATE DIAGRAM

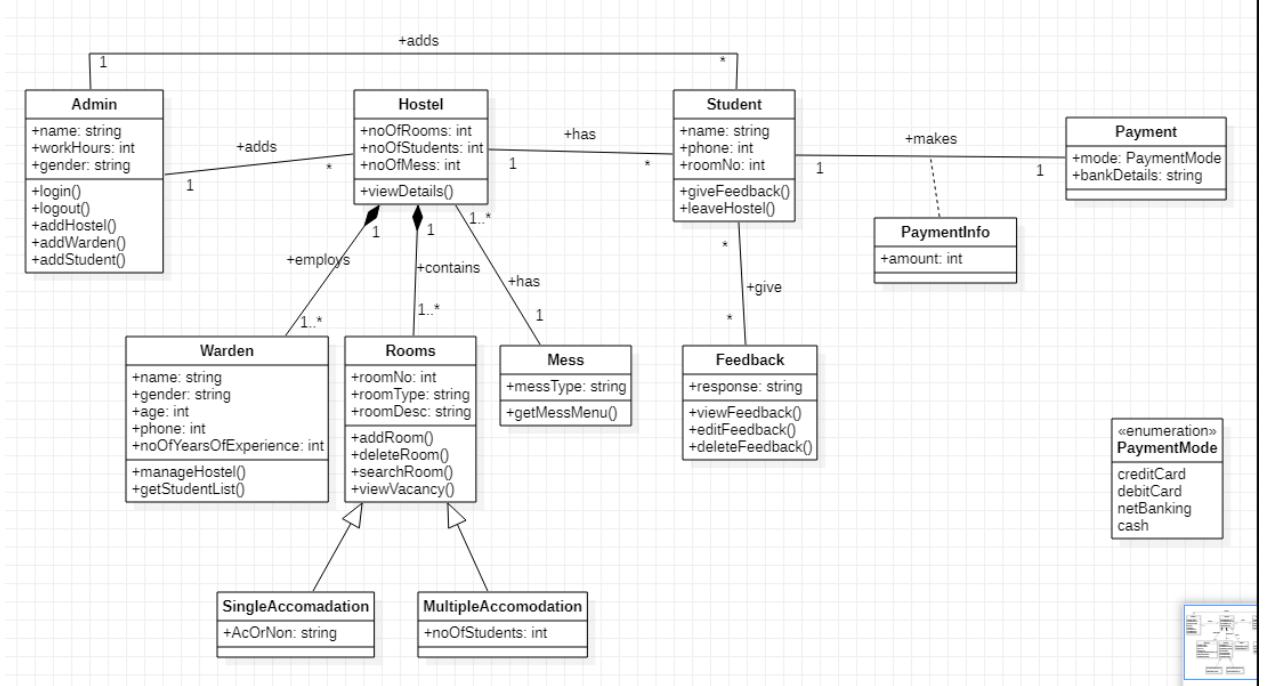




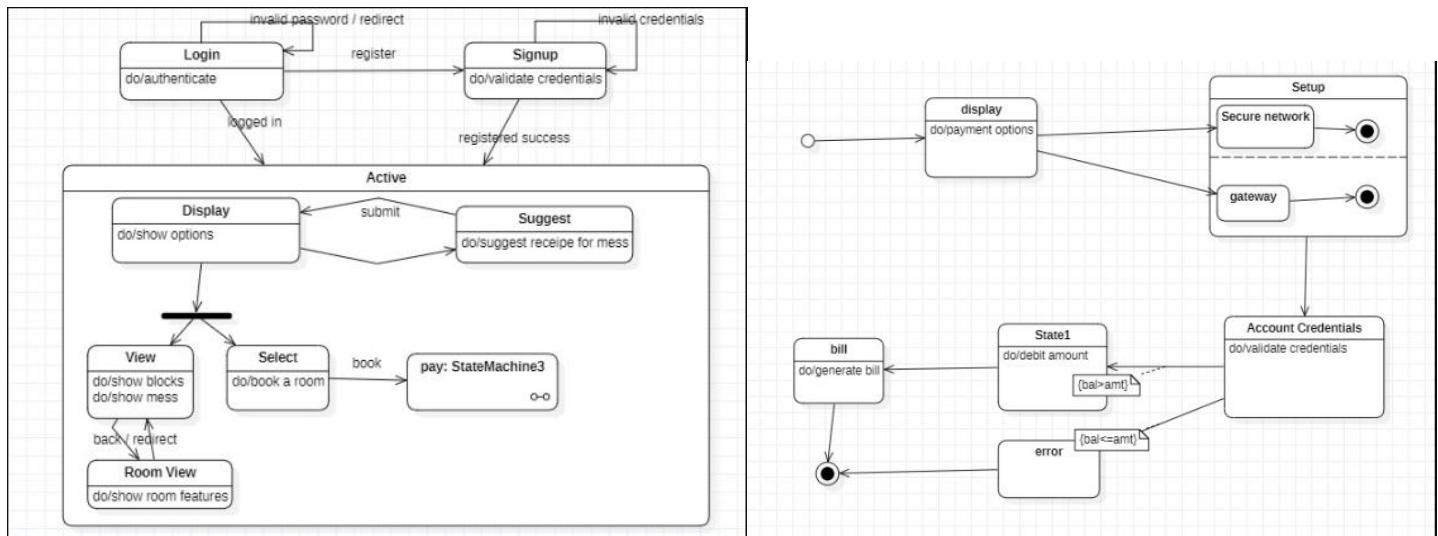


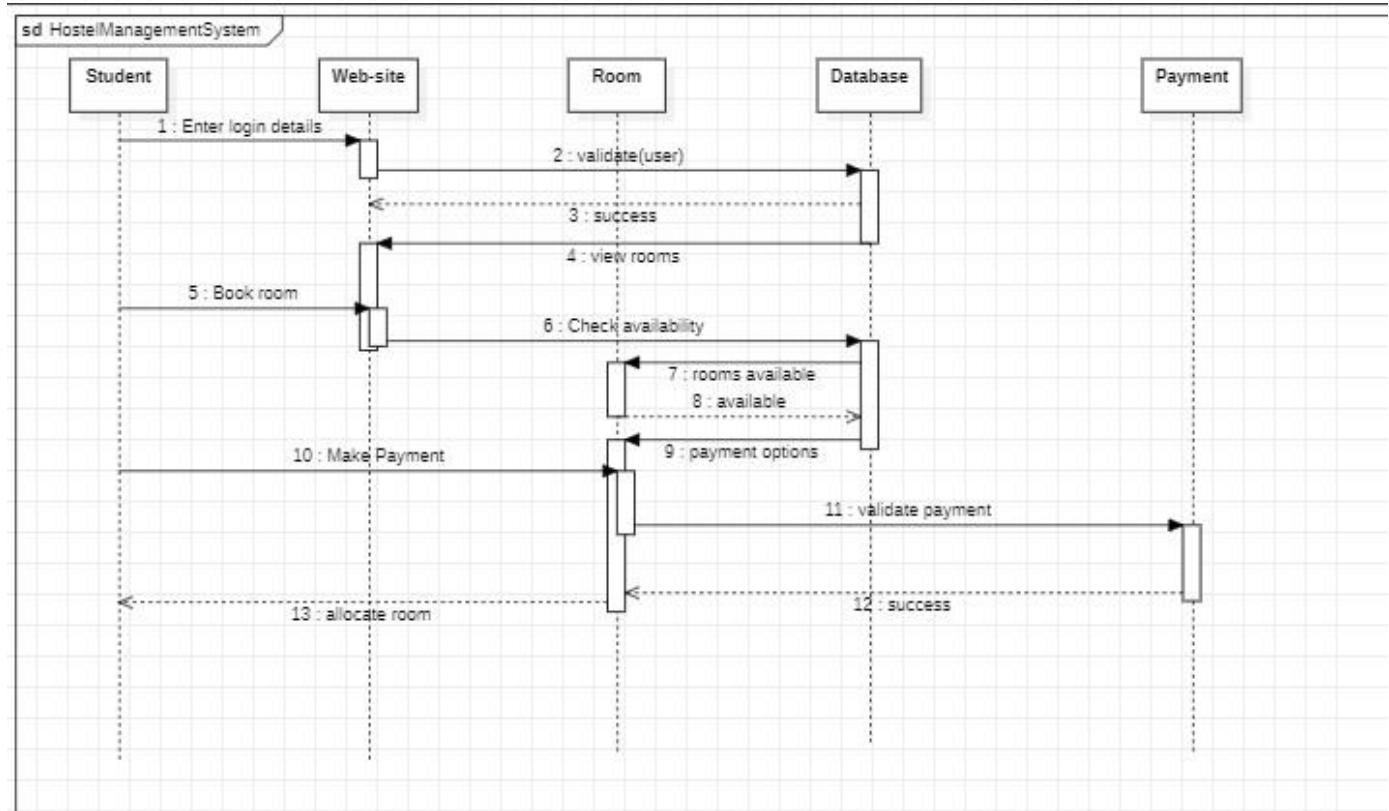
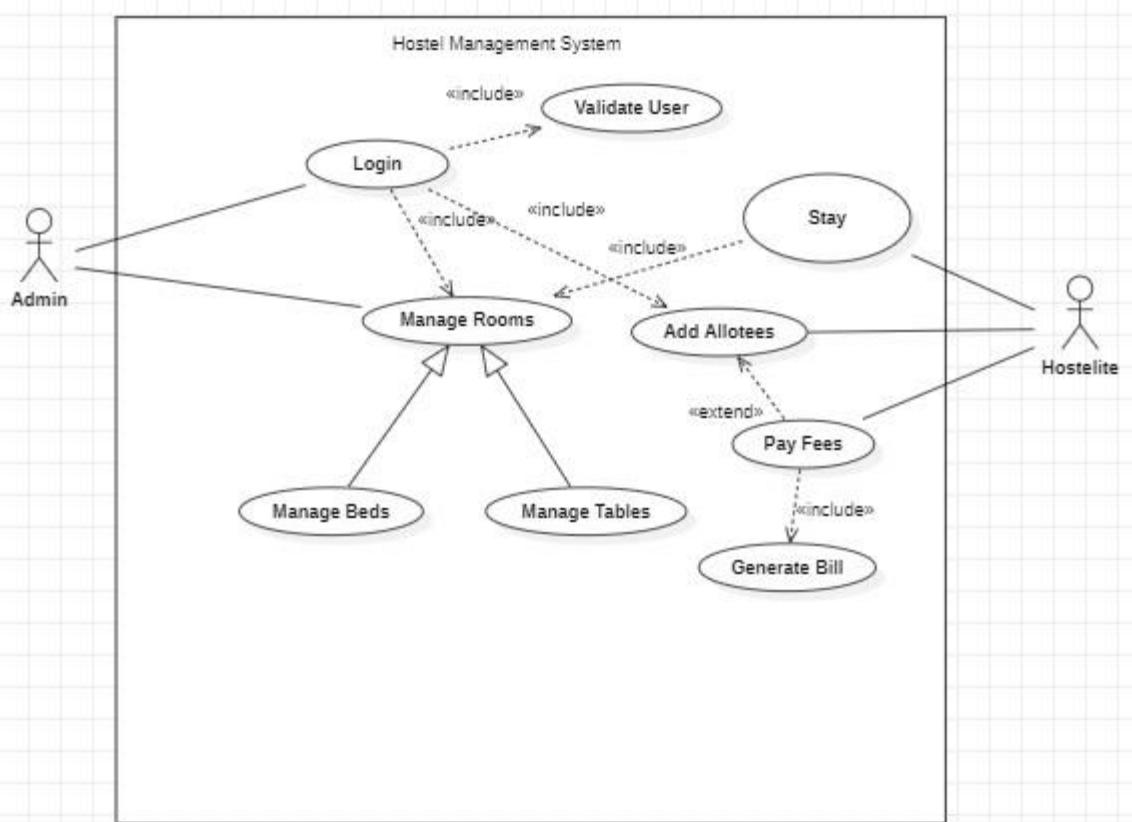
LAB-2
**HOSTEL MANAGEMENT
SYSTEM**

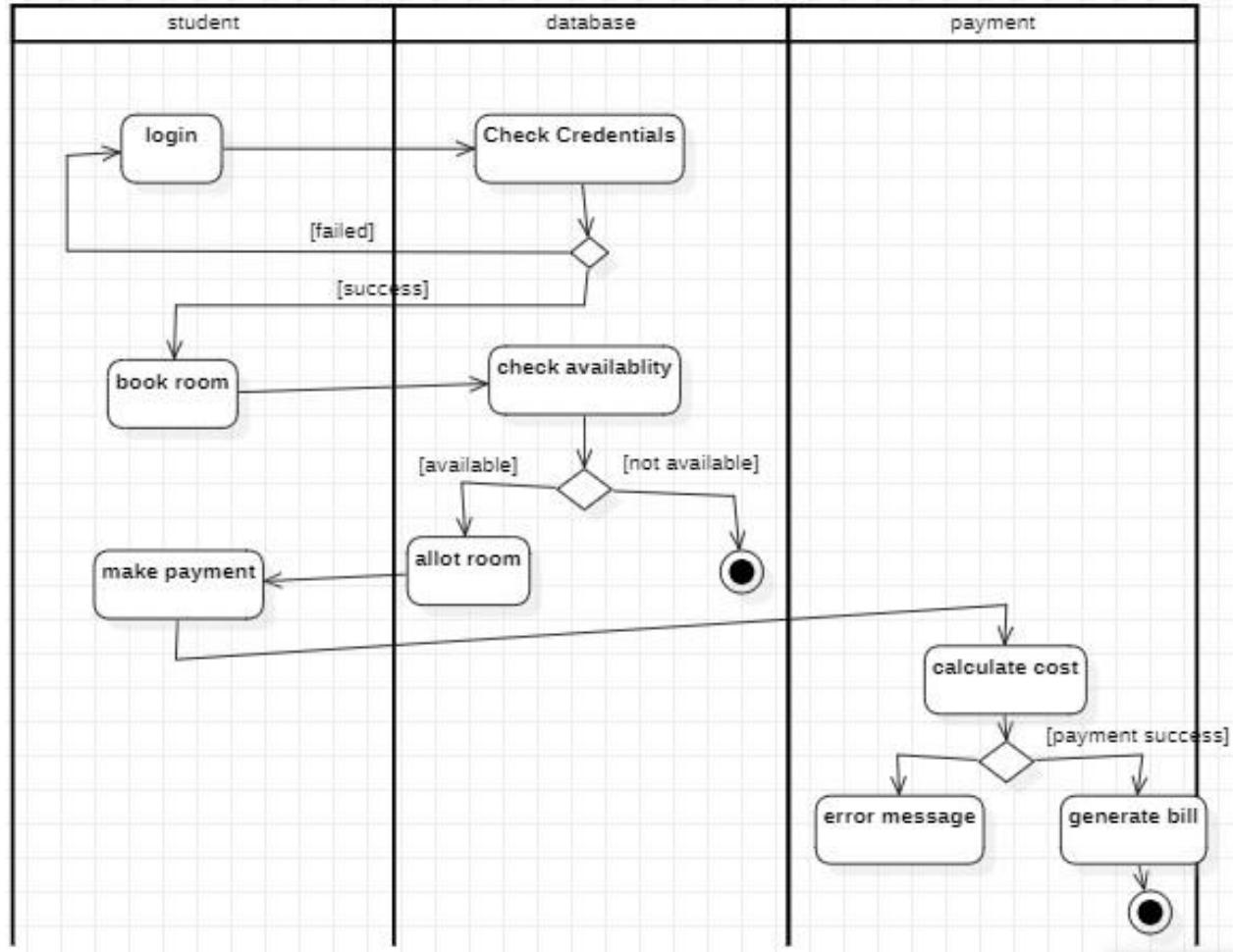
● CLASS DIAGRAM



● STATE DIAGRAM

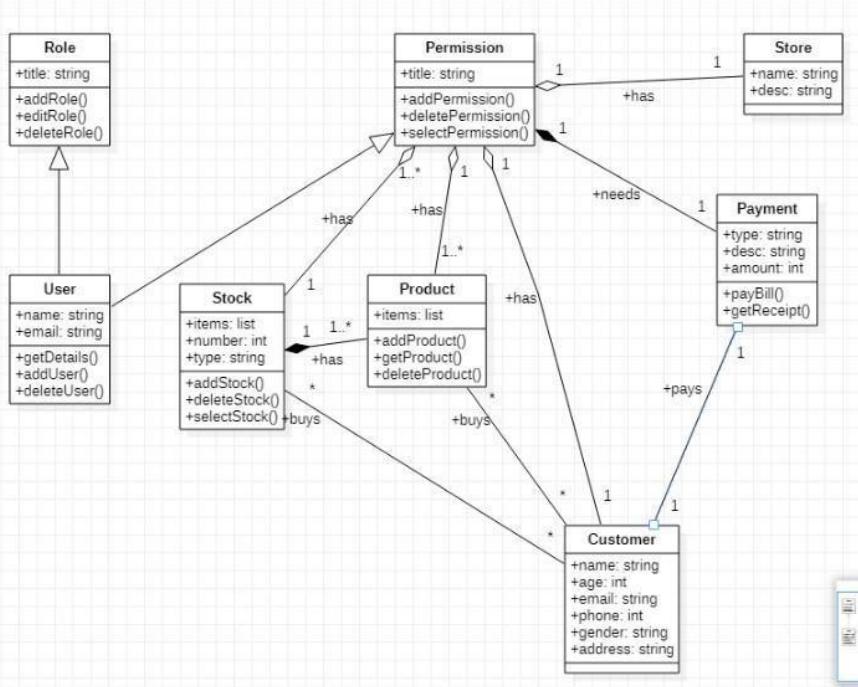




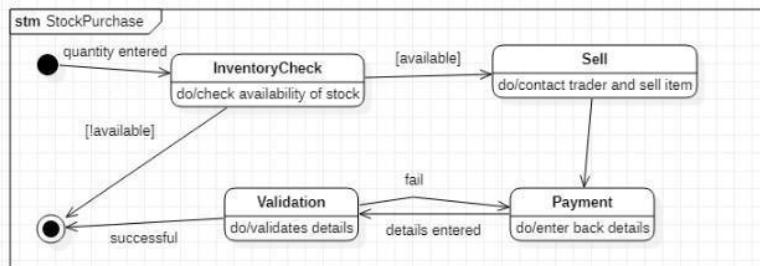
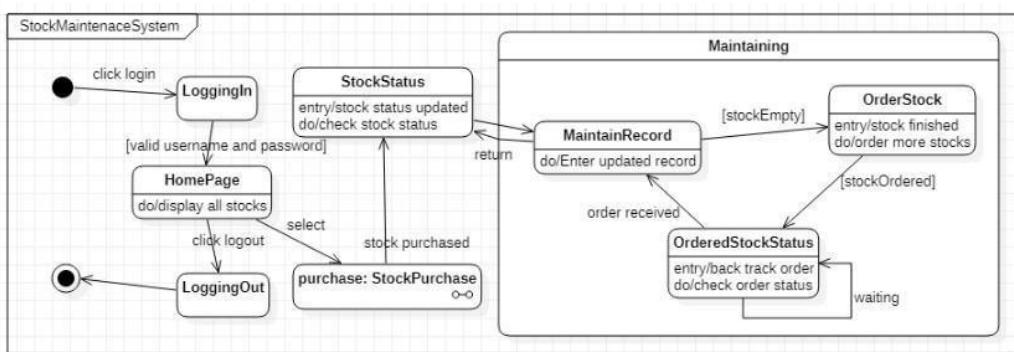


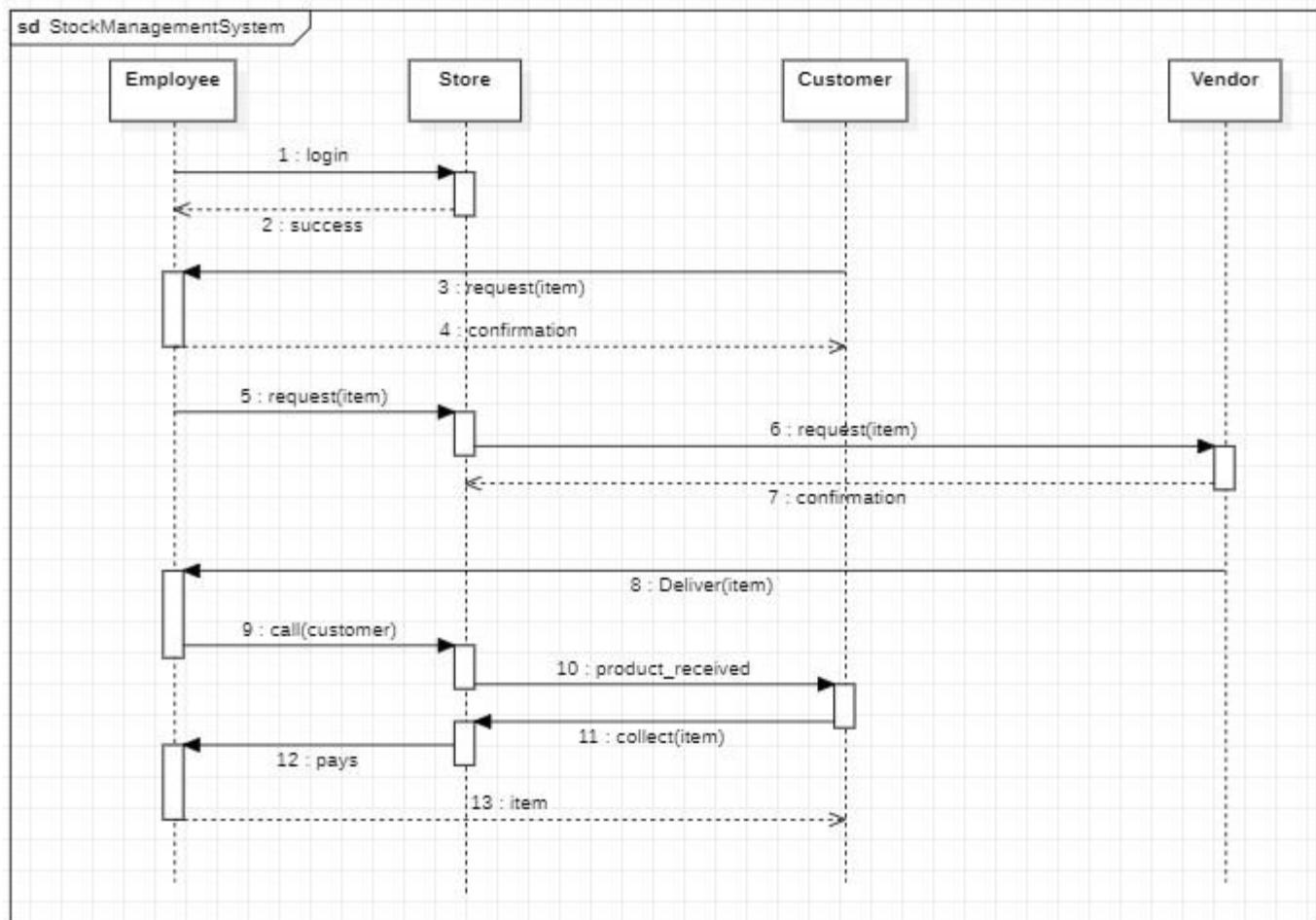
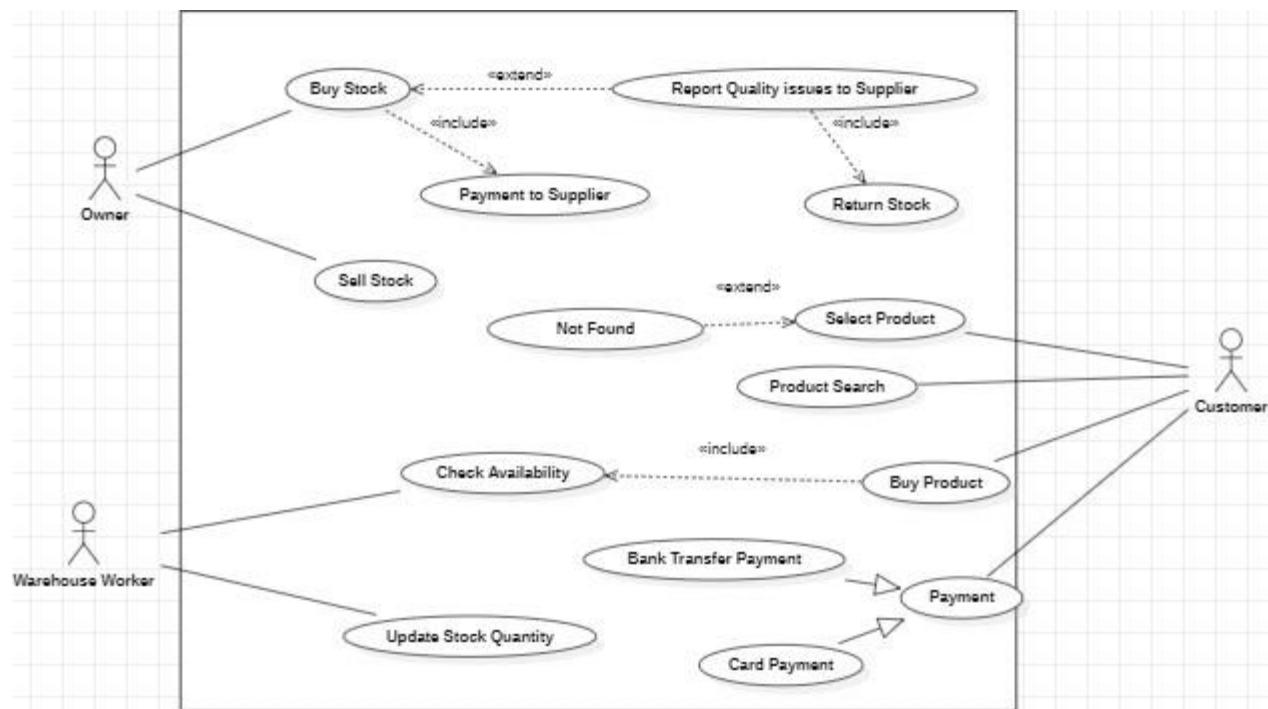
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STOCK MAINTENANCE SYSTEM

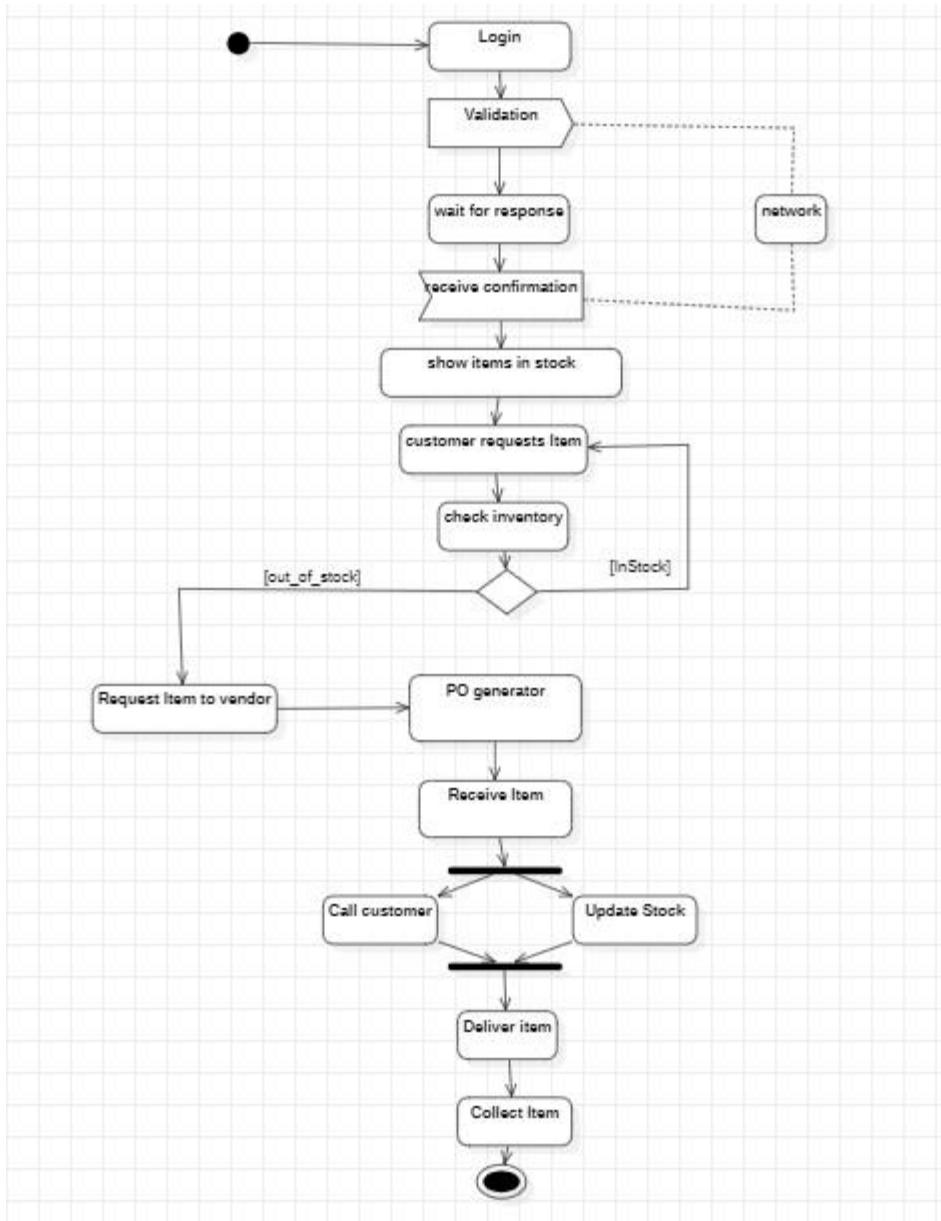
● CLASS DIAGRAM



● STATE DIAGRAM

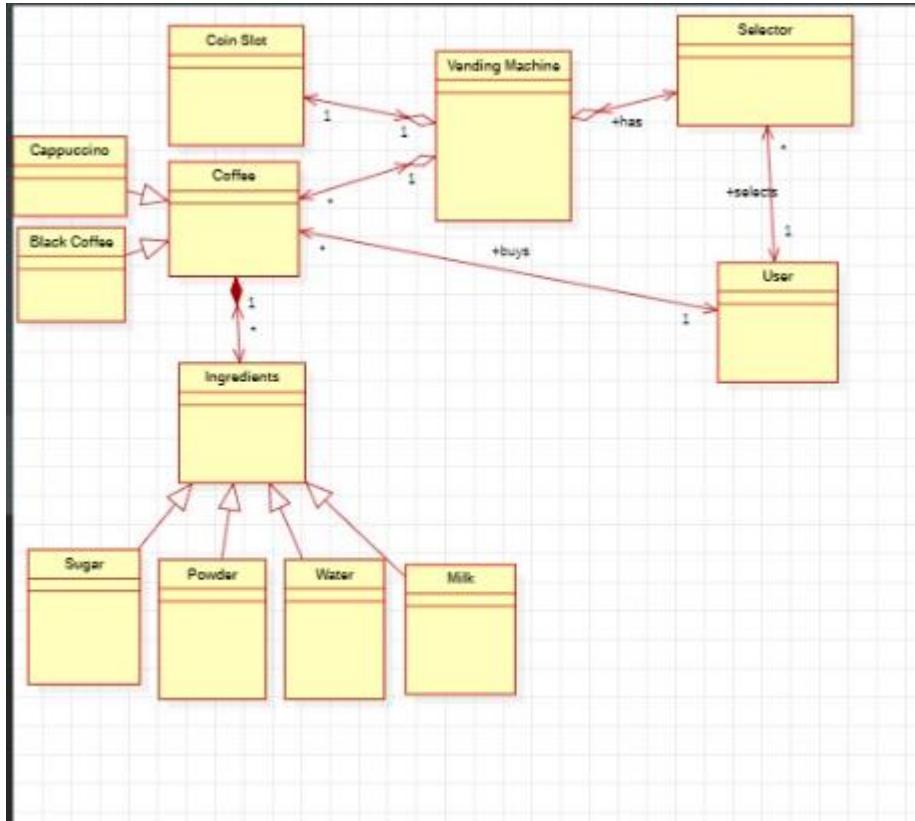




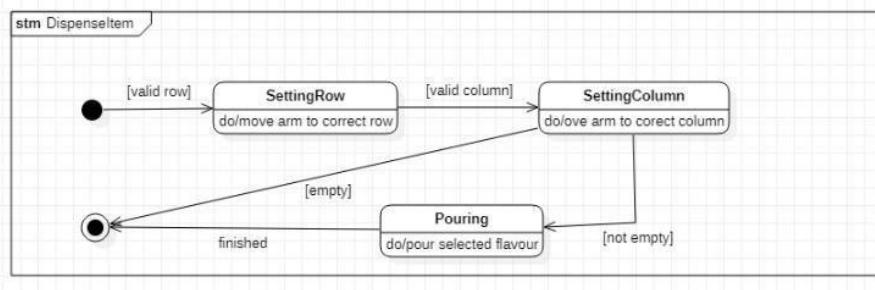
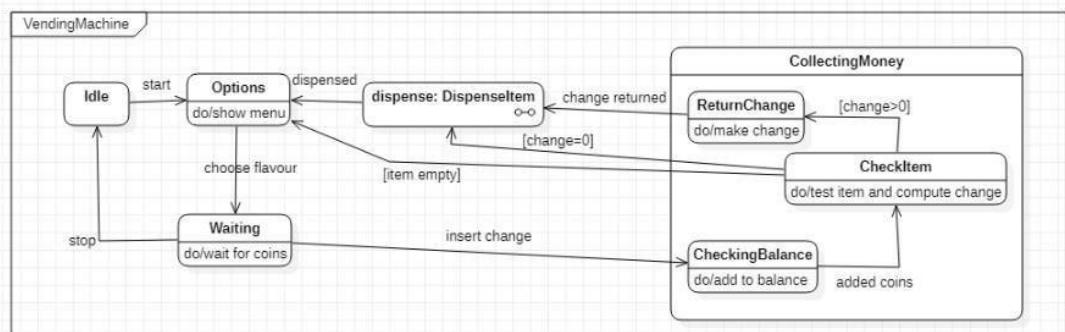


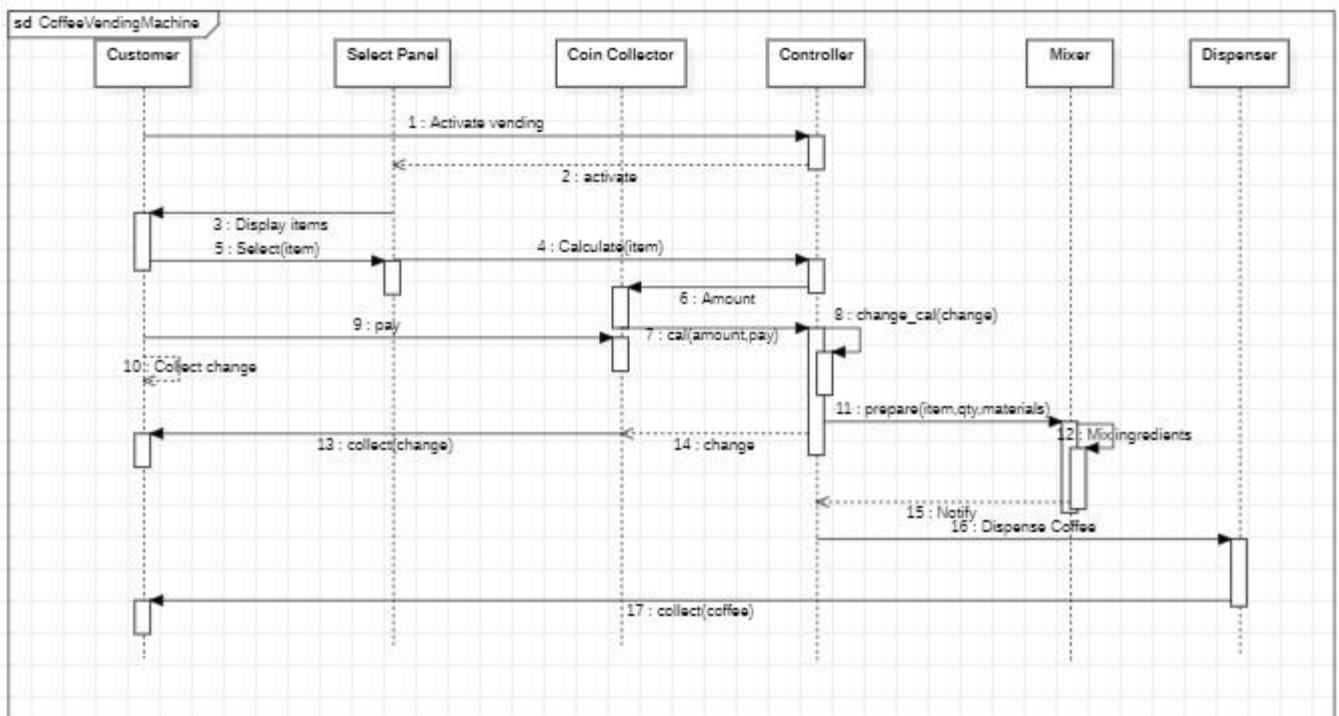
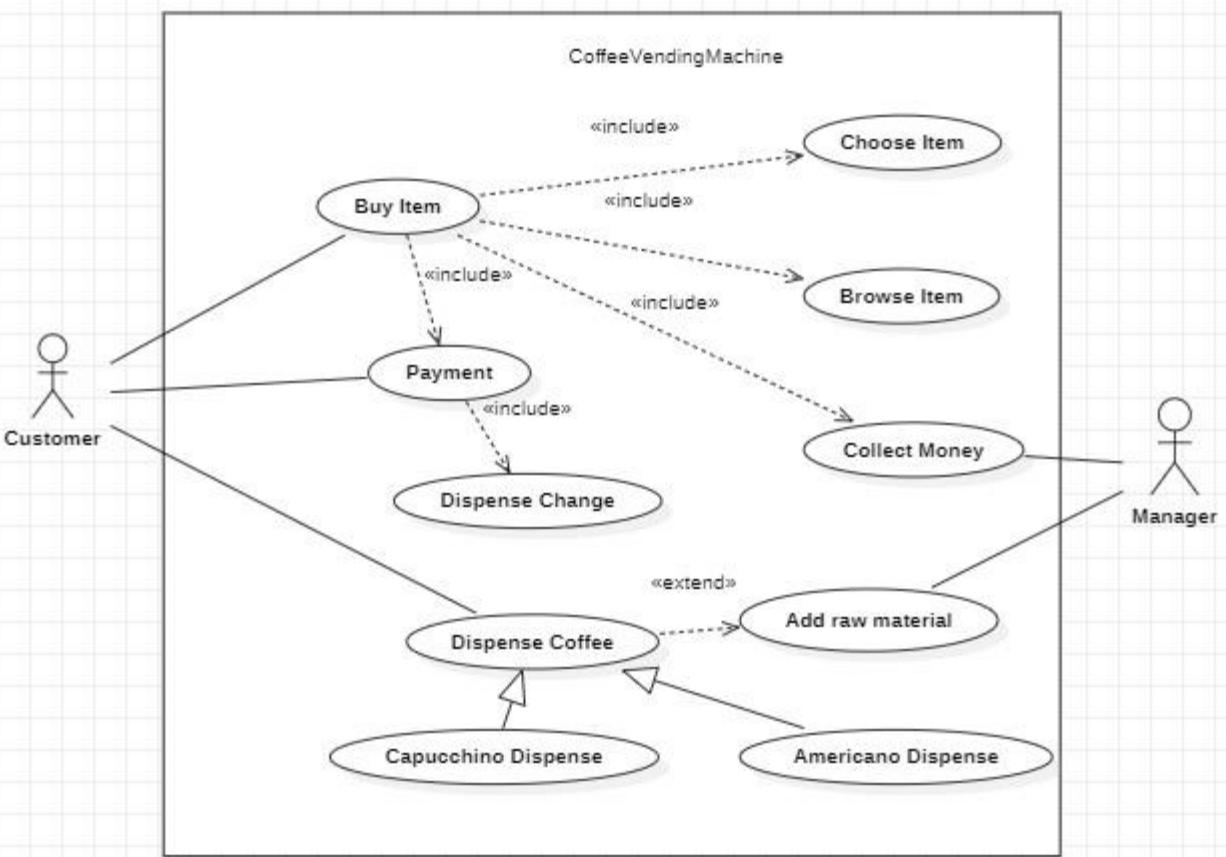
LAB-4
**COFFEE VENDING
MACHINE**

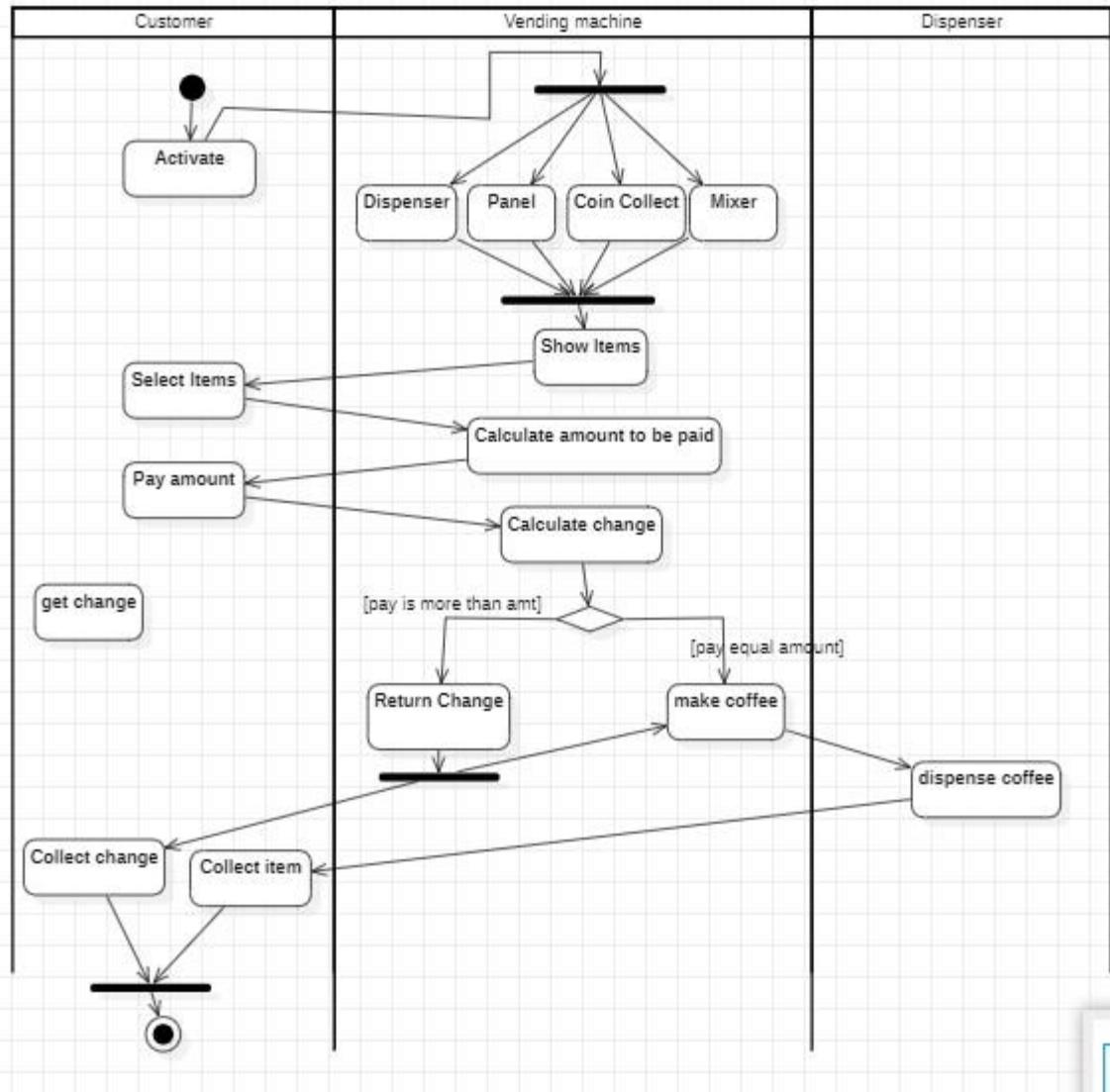
● **CLASS DIAGRAM**



● **STATE DIAGRAM**

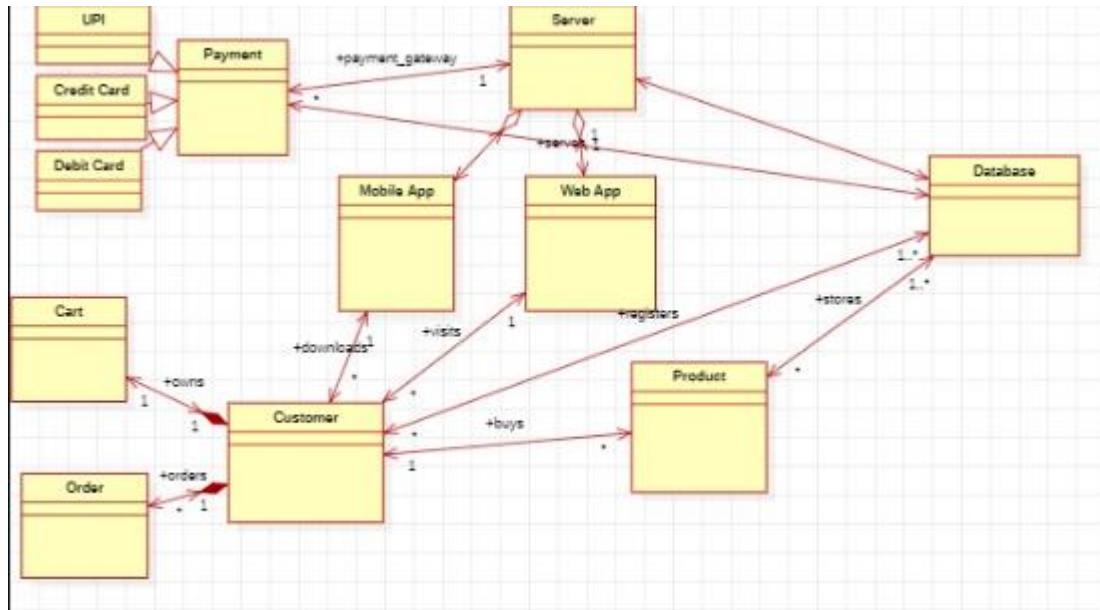




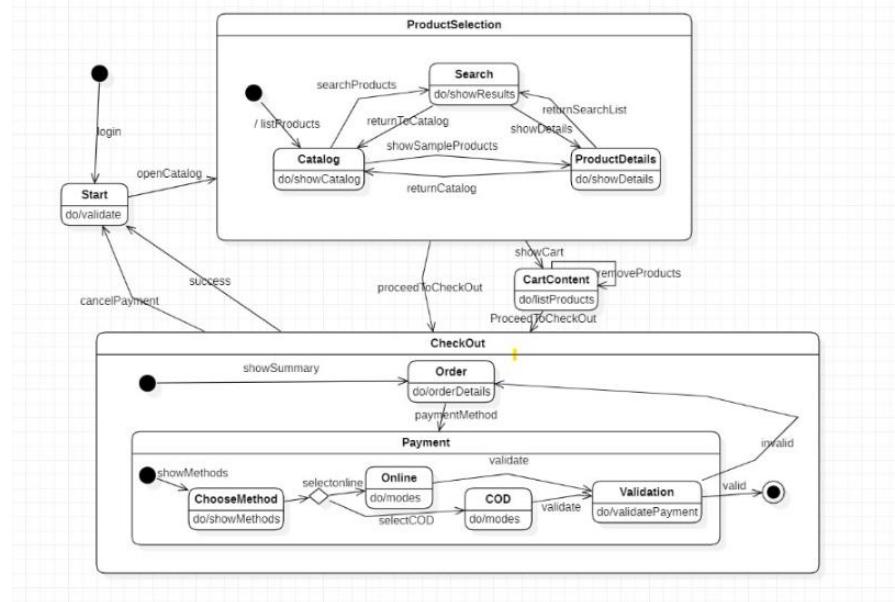


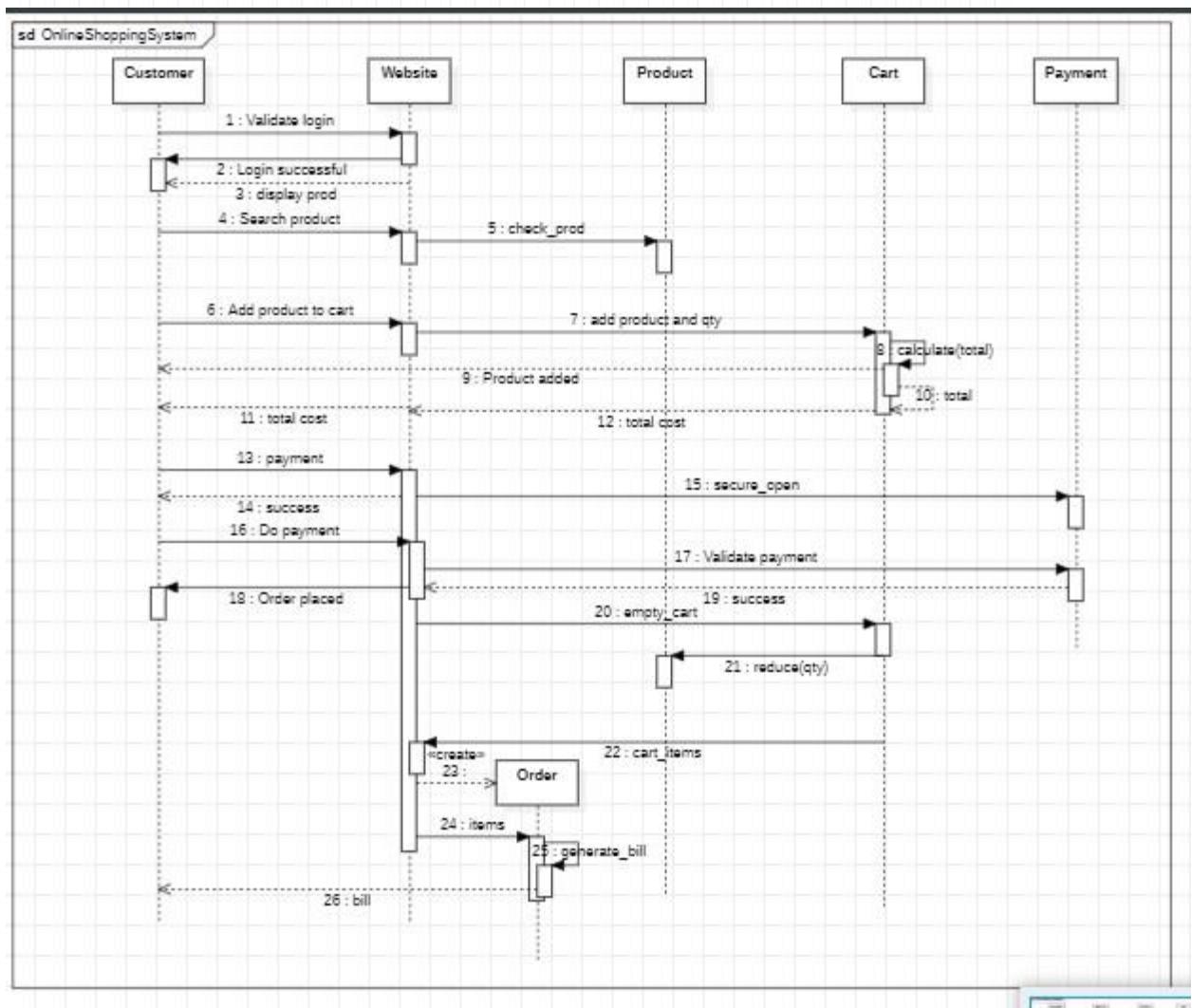
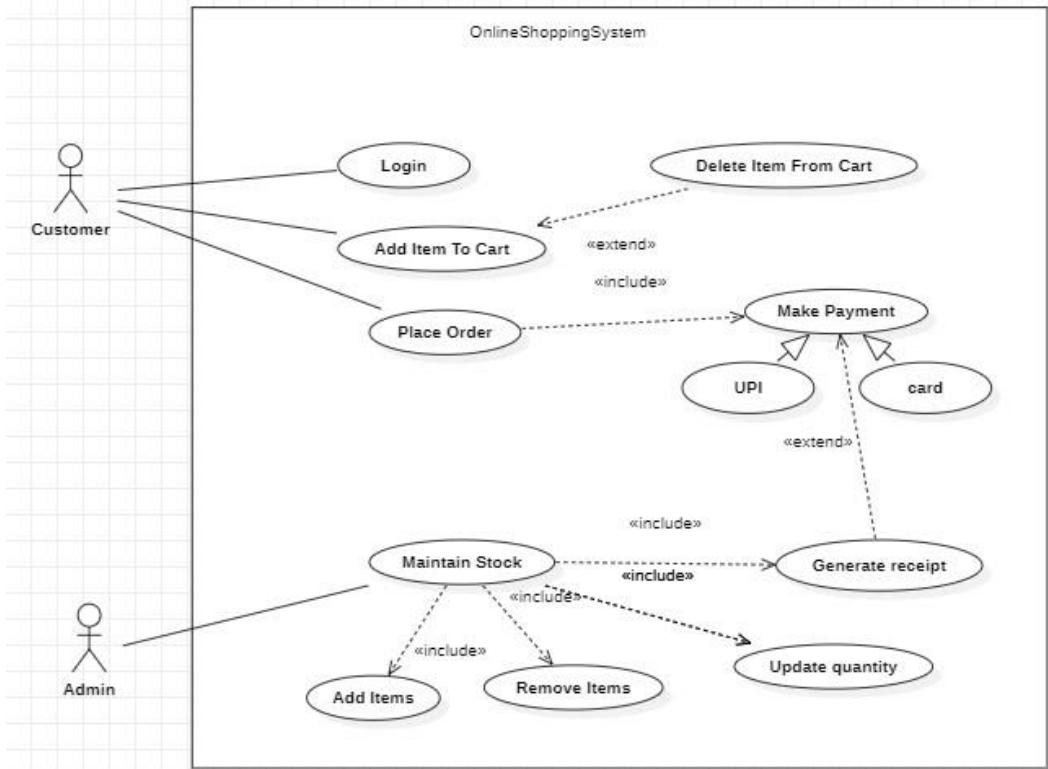
LAB-5
**ONLINE SHOPPING
SYSTEM**

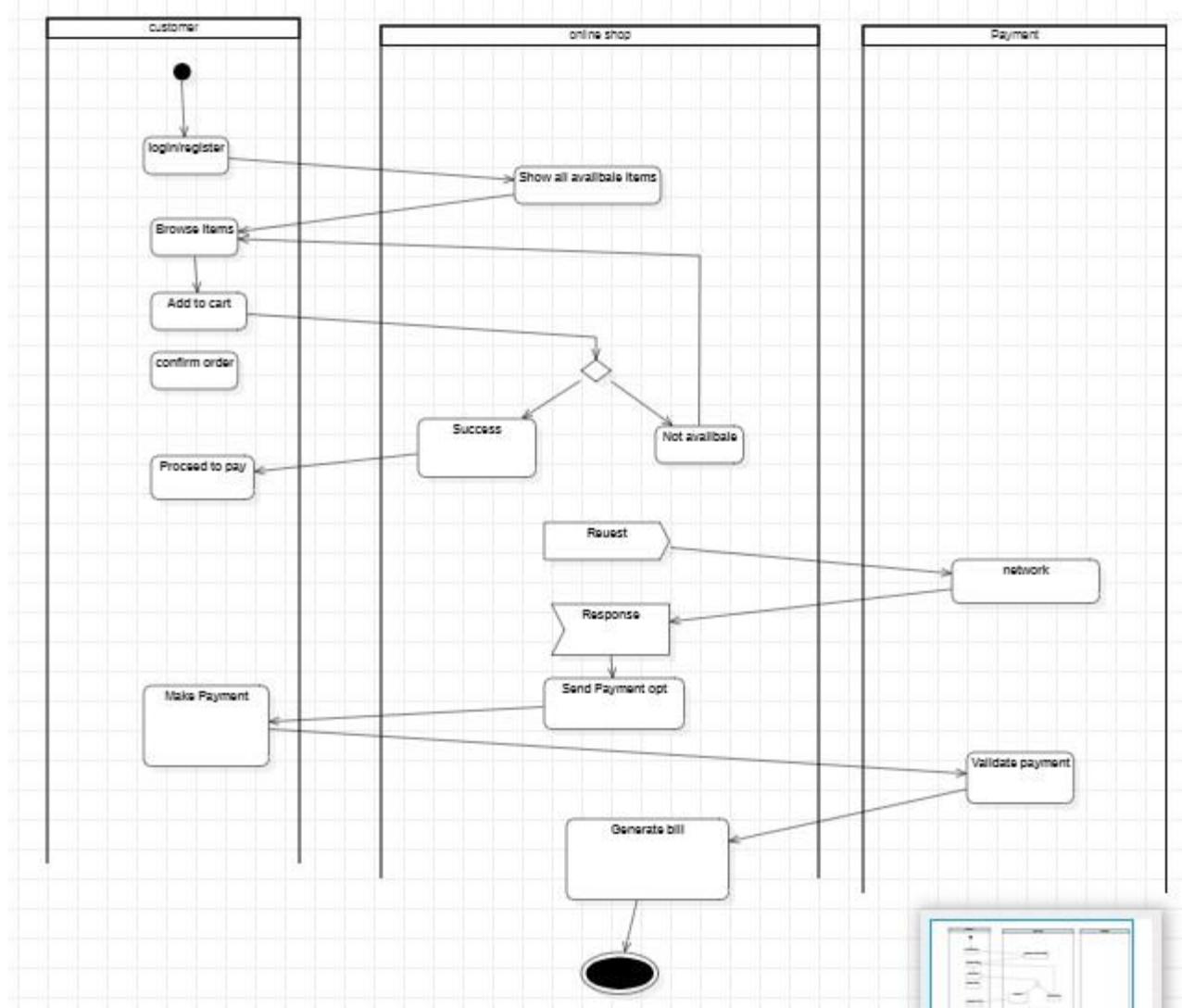
● CLASS DIAGRAM



● STATE DIAGRAM



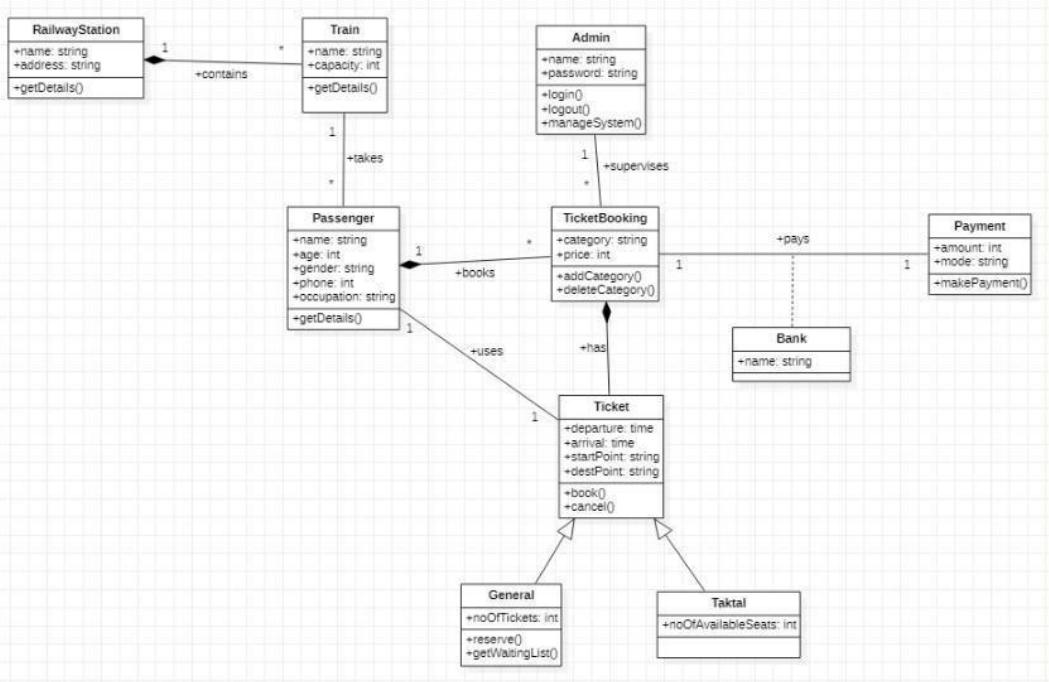




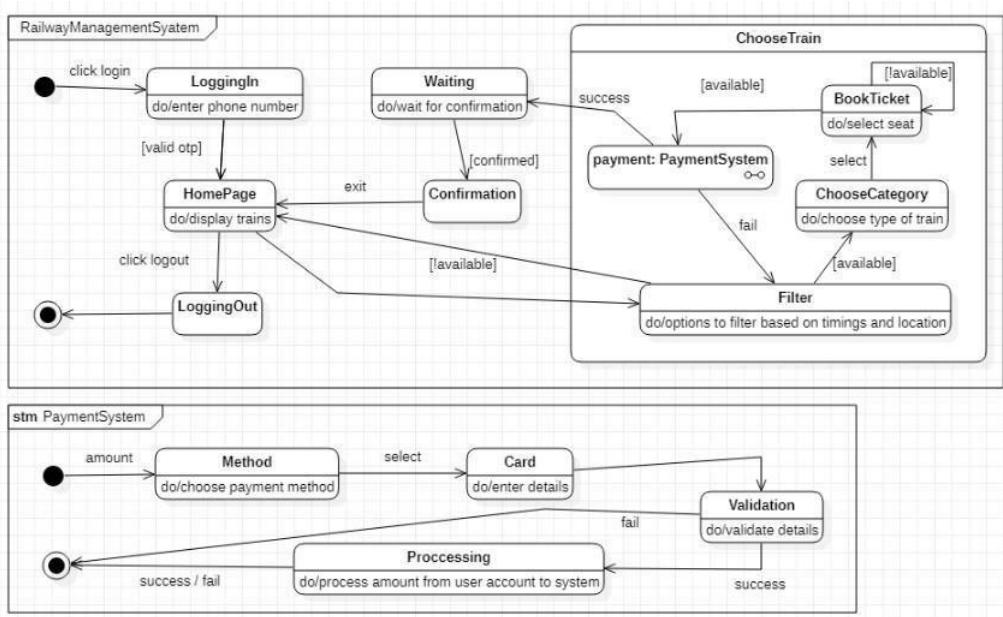
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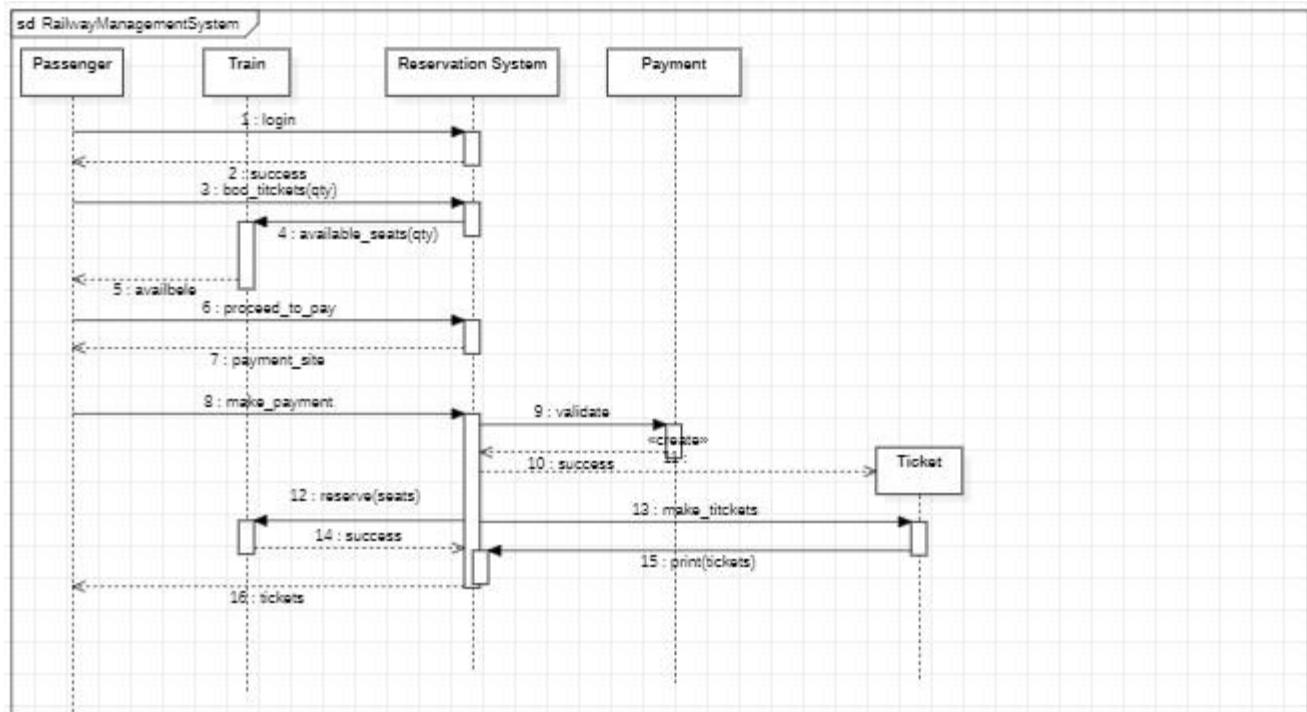
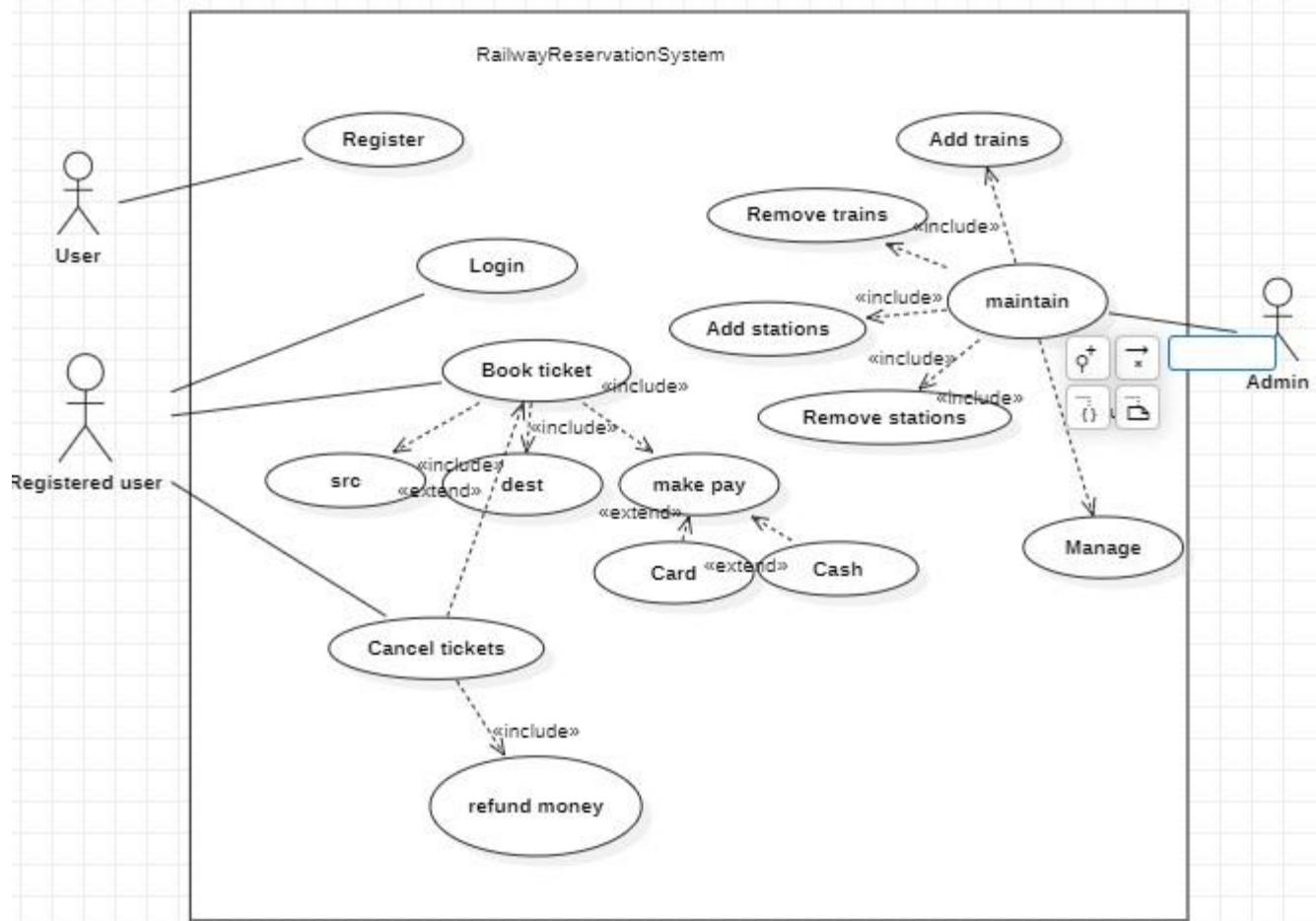
RAILWAY RESERVATION SYSTEM

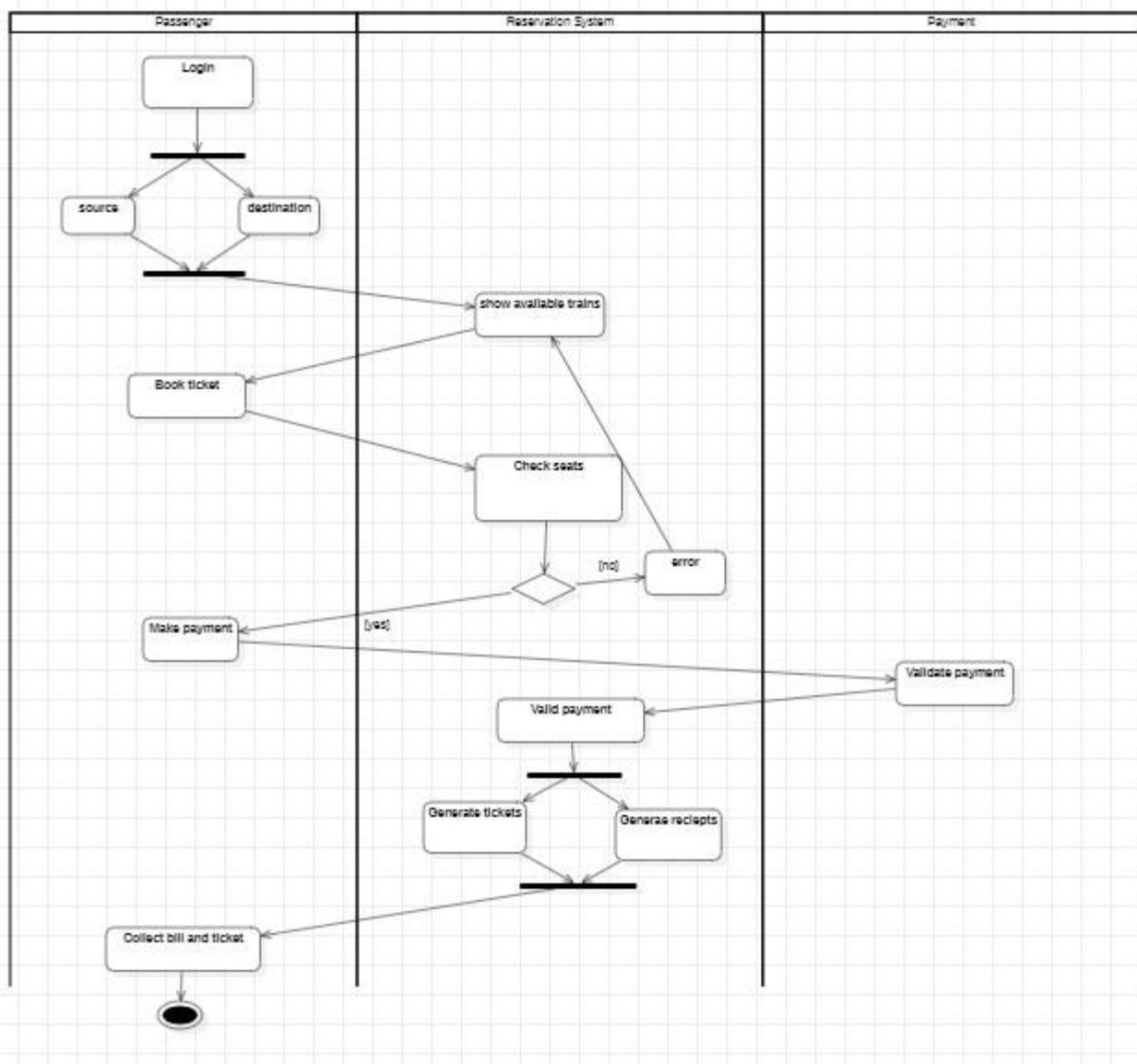
● CLASS DIAGRAM



● STATE DIAGRAM

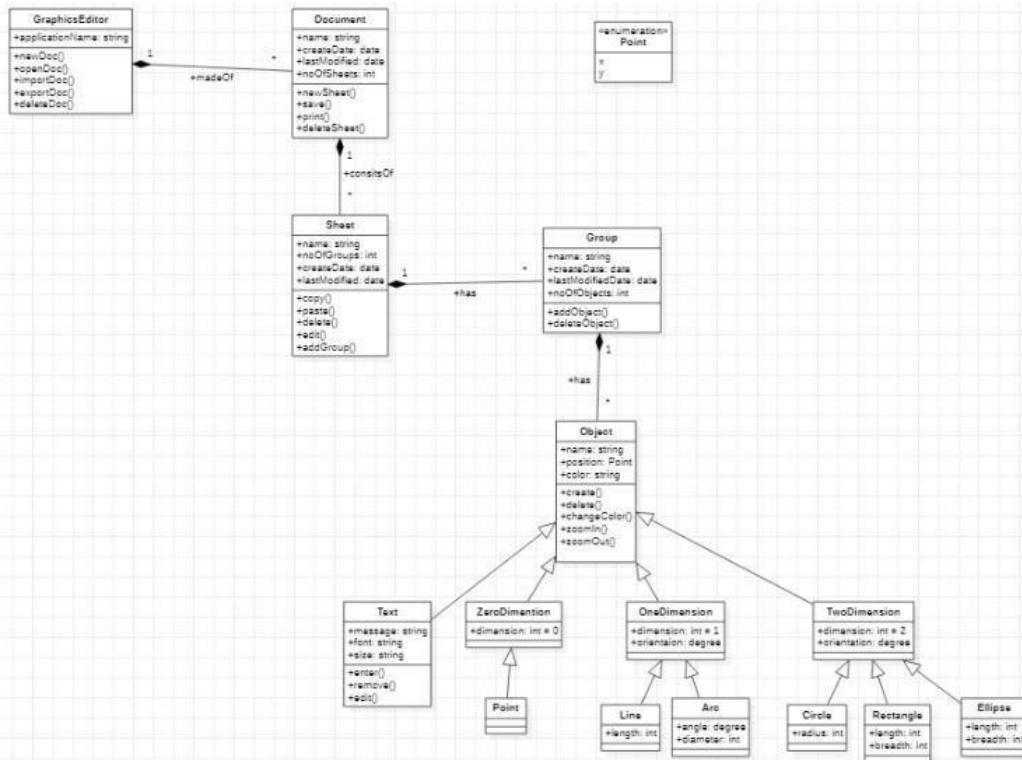




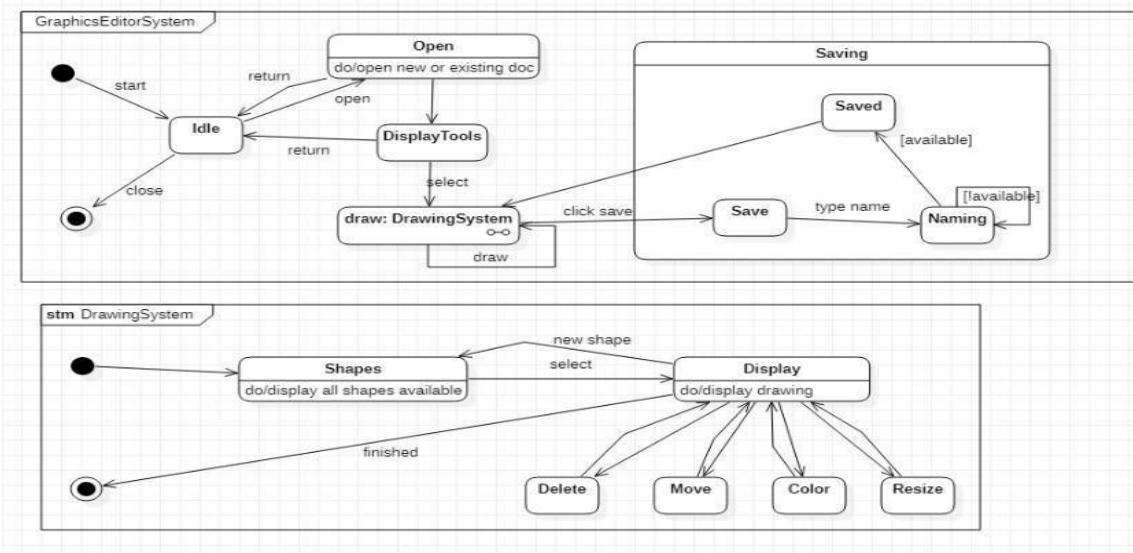


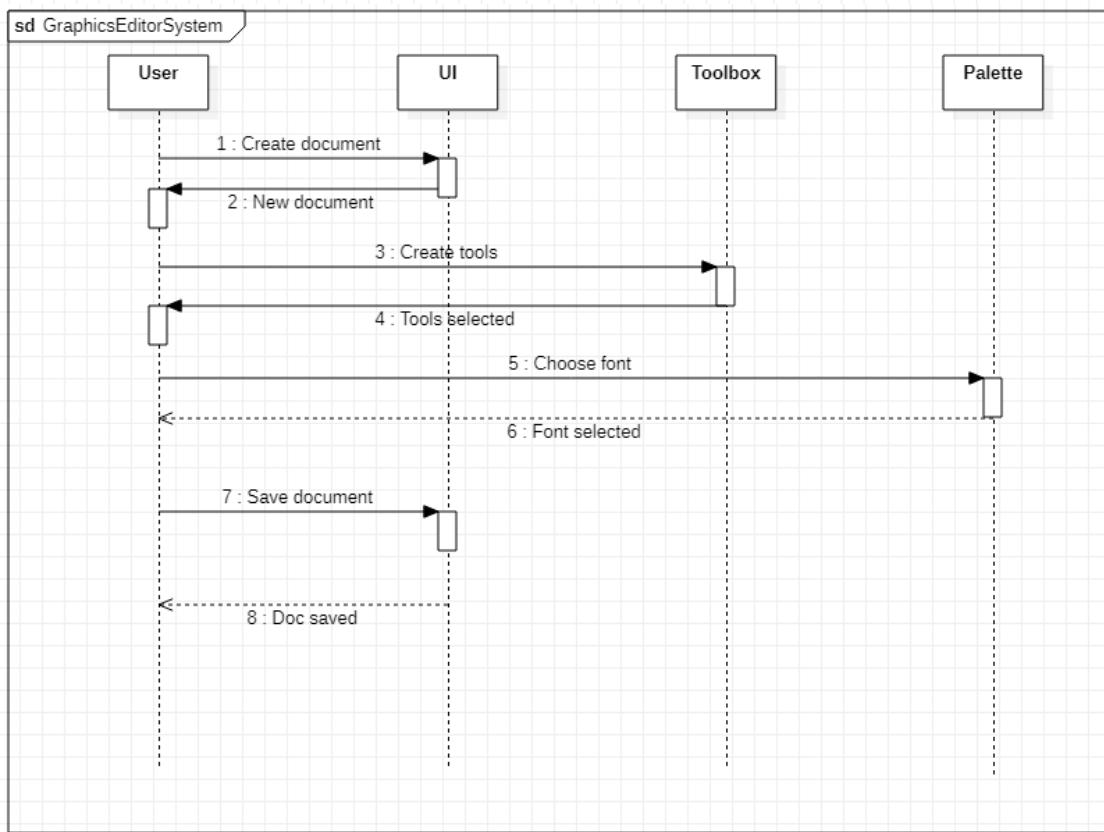
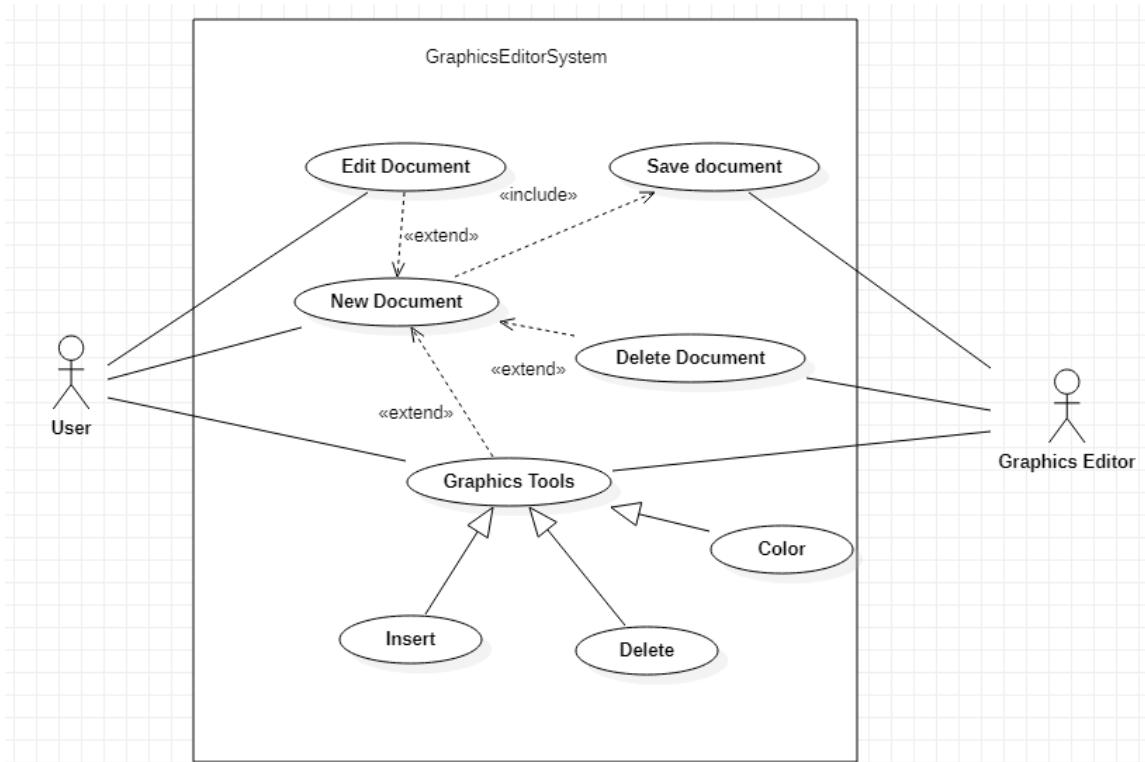
LAB-7
**GRAPHICS EDITOR
SYSTEM**

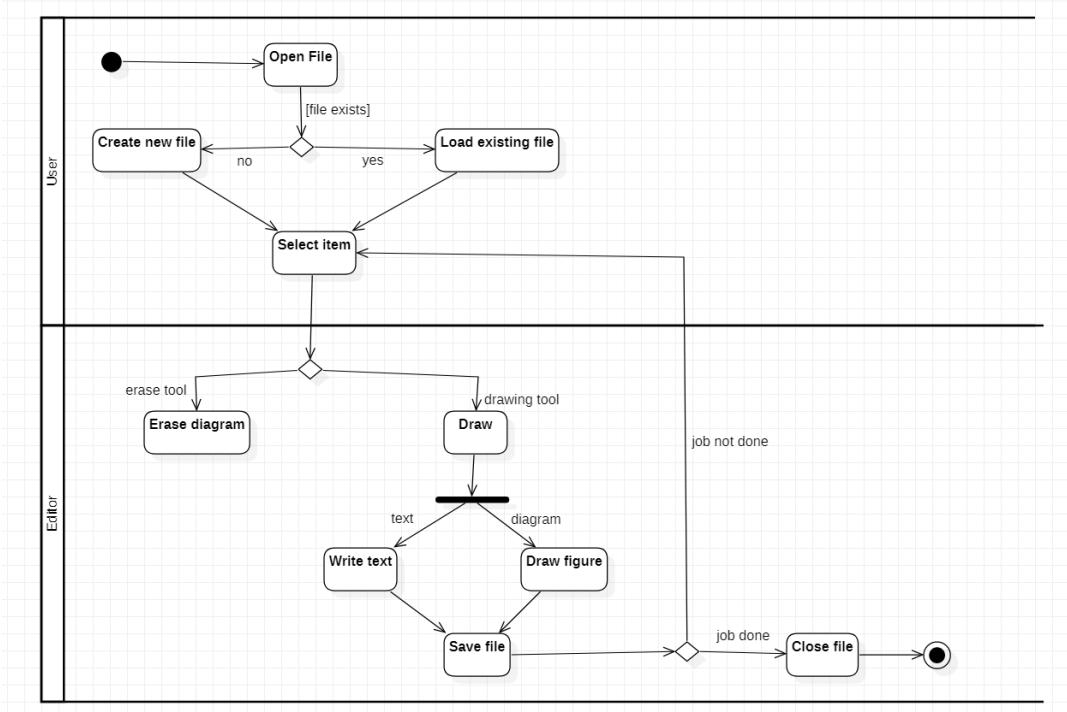
● CLASS DIAGRAM



● STATE DIAGRAM







Observation Write up

Date / /
Page
SPLASH

College Information System

The target audience of CIS product is the college Administrator / students / faculty.

Users of system :

- ① Administrator : The Super User of system. Mainly focuses on administrative & academic related issues.
- ② Department : A user who is managed by HOD of department. It will be representing a course.
- ③ Subject : A dept will have a set of subjects associated with them over the course years. Its dept.'s duty to organize and accommodate all subjects.
- ④ Staff : A user of system who has more access right
- ⑤ Placement cell : A user of the system that brings companies to college to get students hired.
- ⑥ Coe Cell : These users ~~use~~ use the system for setting exam papers, decide exam timetables.
- ⑦ Admission cell : This cell manages the admission of students and allocation of seats. Seat distribution is also managed by this cell.
- ⑧ Account cell : This cell manages all the transaction the college has to do.

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<h3>2. Hostel Management</h3> <ul style="list-style-type: none"> ① Admin: Allocates room to students. Also keeps track of payments & allocation. ② Mess: Allocates timetable for lunch / breakfast & dinner. It will also come up with the monthly food charges on each student. ③ Rooms: This class will give us info about who shares the rooms. The type of room. ④ Warden: He/She will be responsible for a block of rooms and students. He/She will be primarily contact. ⑤ Student: Every student must be allocated a room based their preference during registration. ⑥ Bill: An yearly maintenance bill for accomodation of students. 	<h3>3. Stock Management</h3> <ul style="list-style-type: none"> ① Customer: He/She can purchase any product any part of the day. Will have unique id. ② Bill: Customer needs to pay an amount based on quantity & base value of stocks. ③ Stock: Stock of each products is maintained separately. Name of product, id, quantity. Info is required during purchases. ④ Vendor: The supplier of product, he has to have an id, quantity, product selling. ⑤ Store: The outlets where product can be sold, quantity of product in store must be kept. ⑥ Product: Entire detail of product, with id, quantity stock of product must be related to each product.

4. Coffee Vending Machine

- ① Vending-Machine: It must have money slot, display screen & coffee dispensation.
- On selecting coffee, a cup must be provided, and after the cup has been sensed at dispenser, coffee of appropriate selection must be passed.
- ② Coin-Slot: The slot can be used by users to enter the amount for coffee (selected).
- ③ Coffee-Types: The vending machine will be having multiple coffee types. Our display screen must show only the coffee-types available.
- ④ Ingredients: Every coffee requires its own type ingredients & quantity. We need to continuously check and update display screen.
- ⑤ ~~Amount Check User~~: Users must select coffee, quantity and then pay amount, after getting the cup, collect the dispensed coffee.
- ⑥ Selecter: We must be able to select the type of coffee we want, for that a selector is needed.

5. Online Shopping System

- ① • The customer must have an account in online website where he/she can purchase.
- Every customer will have a cart associated to their account.
- Whenever a customer wants to purchase a product, they will put it in their cart, changes to cart can be made only after logging in.
- Once, he wants to buy, he places an order for all the products in the cart & proceeds to payment. A bill is generated and payment gateway is opened.
- Every product will have quantity available, will be associated with target audience.
- Every customer must be able to see only the available products.
- Customer must be allowed to choose the type of payment he/she wishes to do. (It can be credit card/debit card/UPI/COD).

6. Railway Reservation System

- Each user will have user id & password. Records of users of system should be kept in a log file.
- Customers must enter the destination, after that, they will get list of trains, timings, available tickets.
- Customers can book ticket only if its available, customer must fill a form about weather details.
- A few of tickets are available i-ticket & e-ticket.
- In i-ticket physical form of ticket is considered to be addressed. In e-ticket, an online ticket is mailed to customers, in both cases, we take online mode of payment.
- For cancellation of ticket, customers must go to reservation office. If cancellation is done 24 hrs before train timing, refund will be granted.
- Customer after booking a seat, the updated status of the seat must be shared with all seats.

7. Graphics Editor

- It must consist of graphical document editor which can be used to create, new document, delete document, update from document.
- Each document consists of multiple sheets which have graphics included in them.
- Sheets have multiple number of drawing objects, which can be created, grouped & formatted.
- Programmers must provide implementations of functions that draw objects & their connections, as well as functions to add/remove connections. All functions are implemented as event handlers.
- User will also have palette to choose colors to fill, tools to use, shape to be constructed.
- Each sheet contains drawing objects, including texts, geometrical objects & groups. A group is combination of drawing objects.
- A geometrical objects include, circle, ellipse, rectangle, line of segments, trapezium, identified by constraints.

