CSA1070-Software Engineering for Process Analysis System
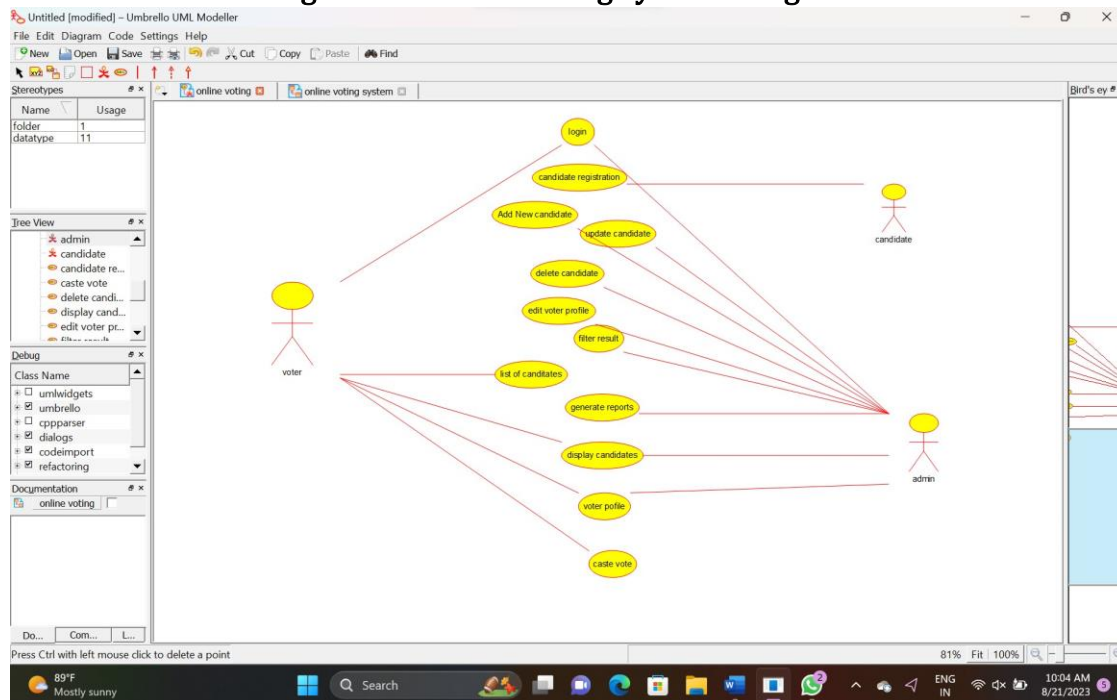
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LAB EXPERMIENTS

- ❖ Use case diagram
- ❖ Activity diagram
- ❖ Class diagram
- ❖ Raptor
- ❖ Cyclomatic calculation

# 1.Draw a Use Case diagram for Online Voting System using CASE tools

2. Draw a use case diagram for Library Management System is an automation system used to manage a library and the different resource management required in it like cataloguing of books, allowing check out and return of books, invoicing, user management?
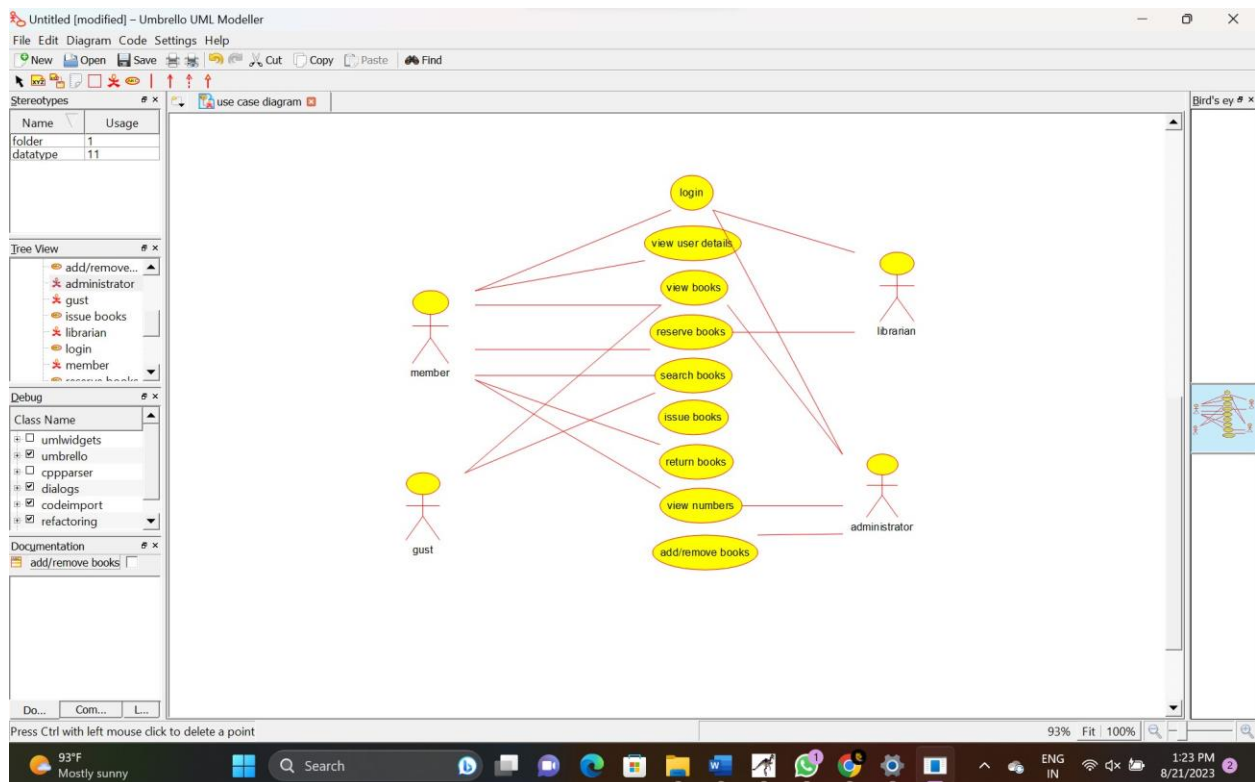
3. Draw and validate Flowchart to compute quotient and remainder between two integers can be calculated by using the division (/) and modulus (%) operators respectively. To compute the remainder of the division of two floating point numbers, the library function fmod() is used. This function considers quotient as an integer number and the remainder as a floating-point number
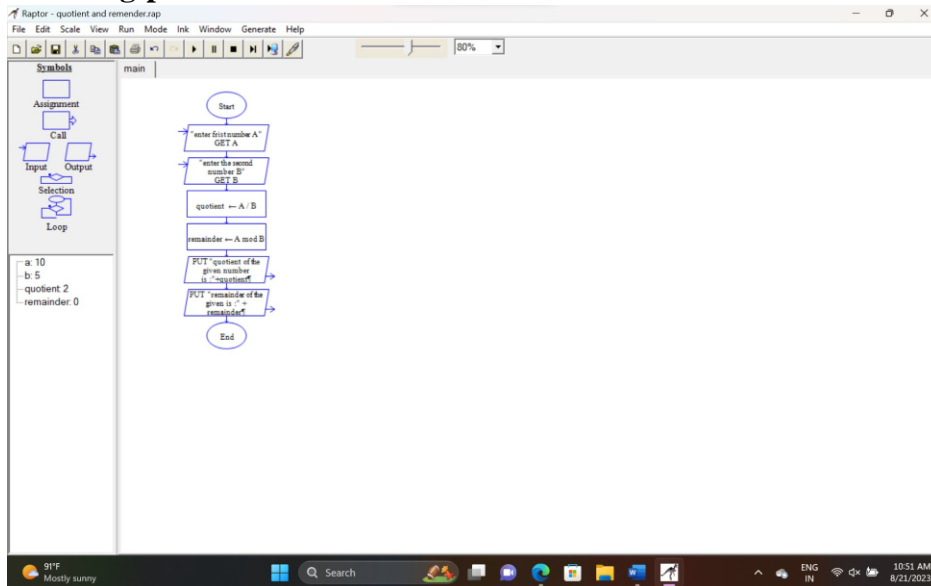

4. Design a shopping cart system. How is the cart updated when the application is open on multiple pages? When an item is added to the cart, store the update in the server. Therefore, a page refresh on any tab will keep everything up to date. If you don't want to rely on a refresh, you could try some sort of polling mechanism. If the web browser on Focus event happens (assuming it's there), poll the server for a quick update if there is one.
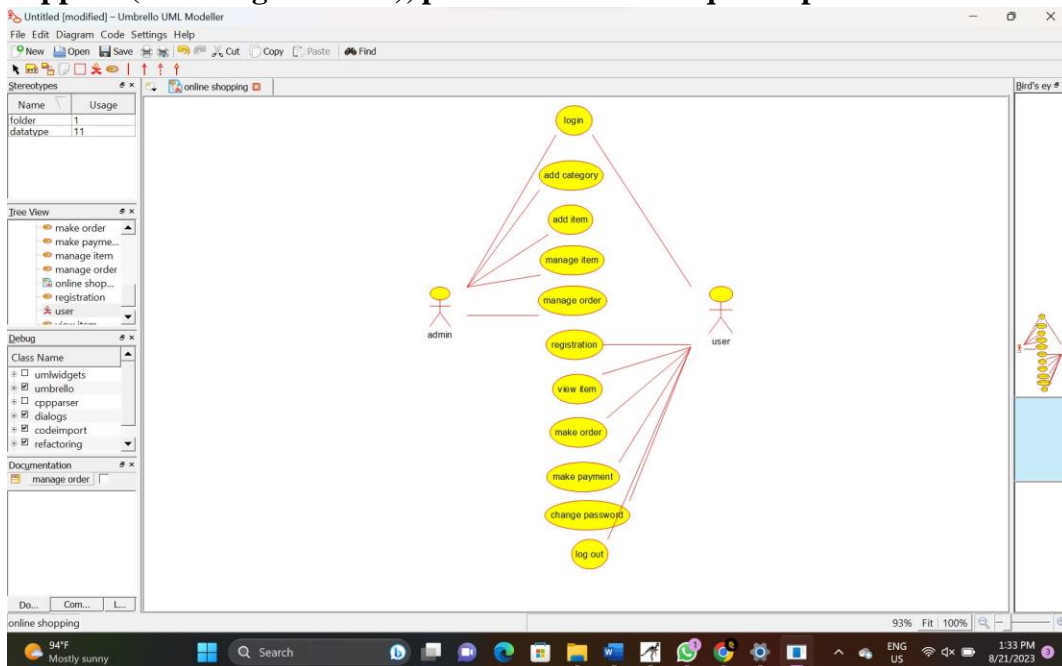
5. Draw the use case diagram is a graphic depiction of the interactions among the elements of the Railway reservation system for maintaining admin user can search ticket, view the description of a selected ticket, add a ticket, update a ticket and delete a ticket and it shows the activity flow of editing, adding and updating of the customer.
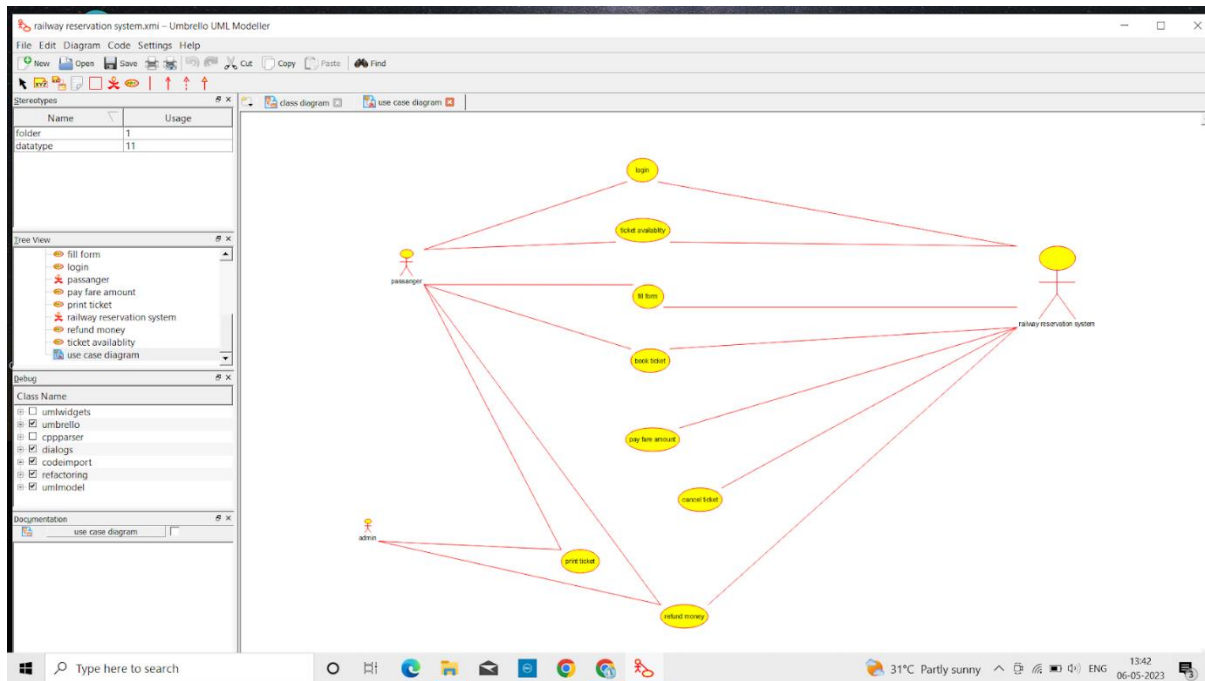

6. Draw a USE-CASE diagram for the Hospital Management System. The activities of the hospital system are listed below.
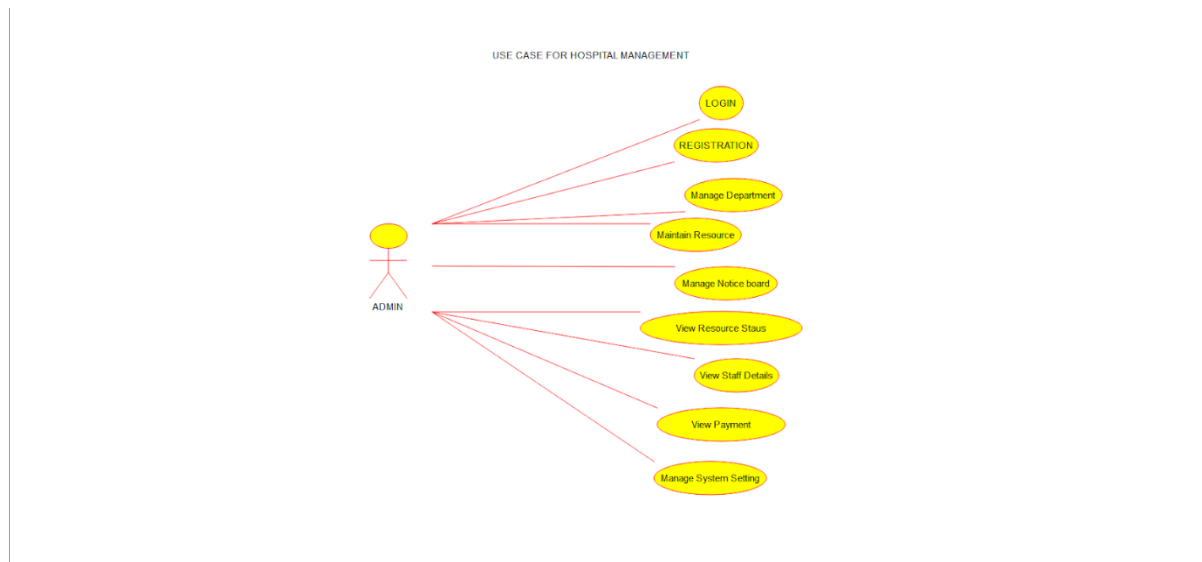
7. Draw a USE-CASE diagram for an ATM System using CASE tool.
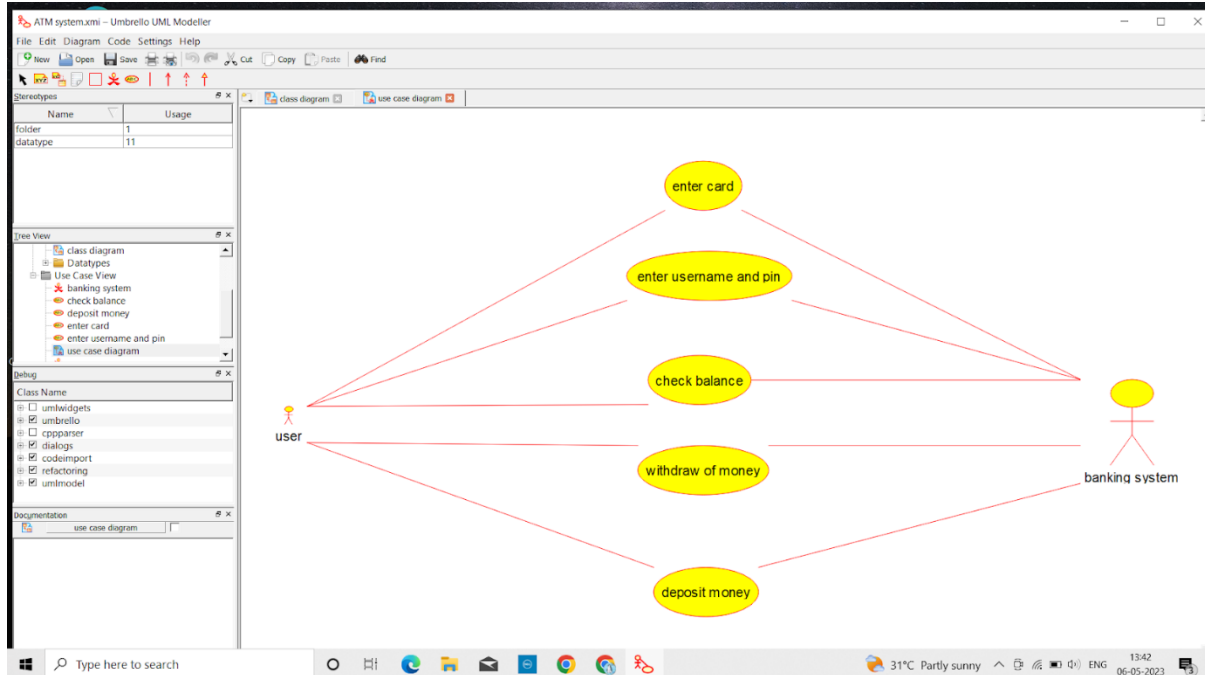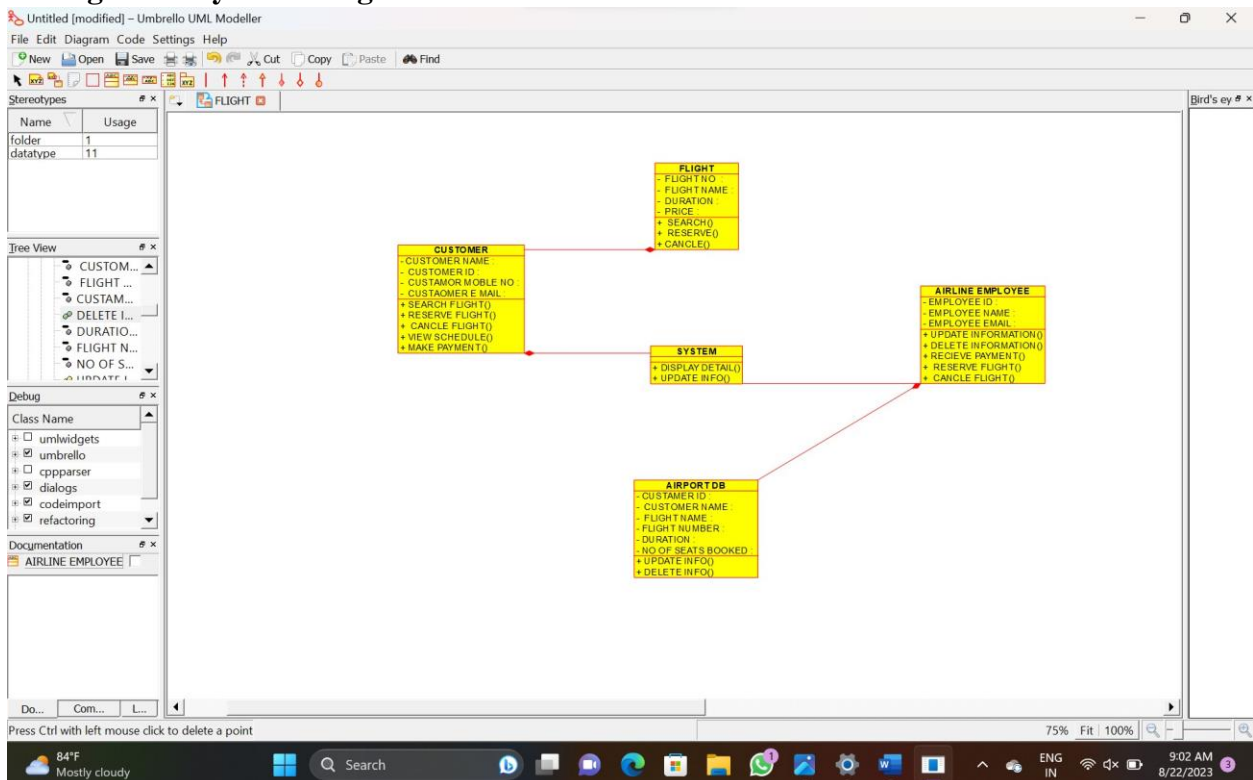

8. Draw a USE-CASE diagram for Online college management System Manage student's information and status, manage courses and subjects, Manage Instructors and designation, record all transactions Draw a USE-CASE diagram for Online Airline Management System which is a dedicated and highly configurable system for all airlines, which can be easily accessed by all users.
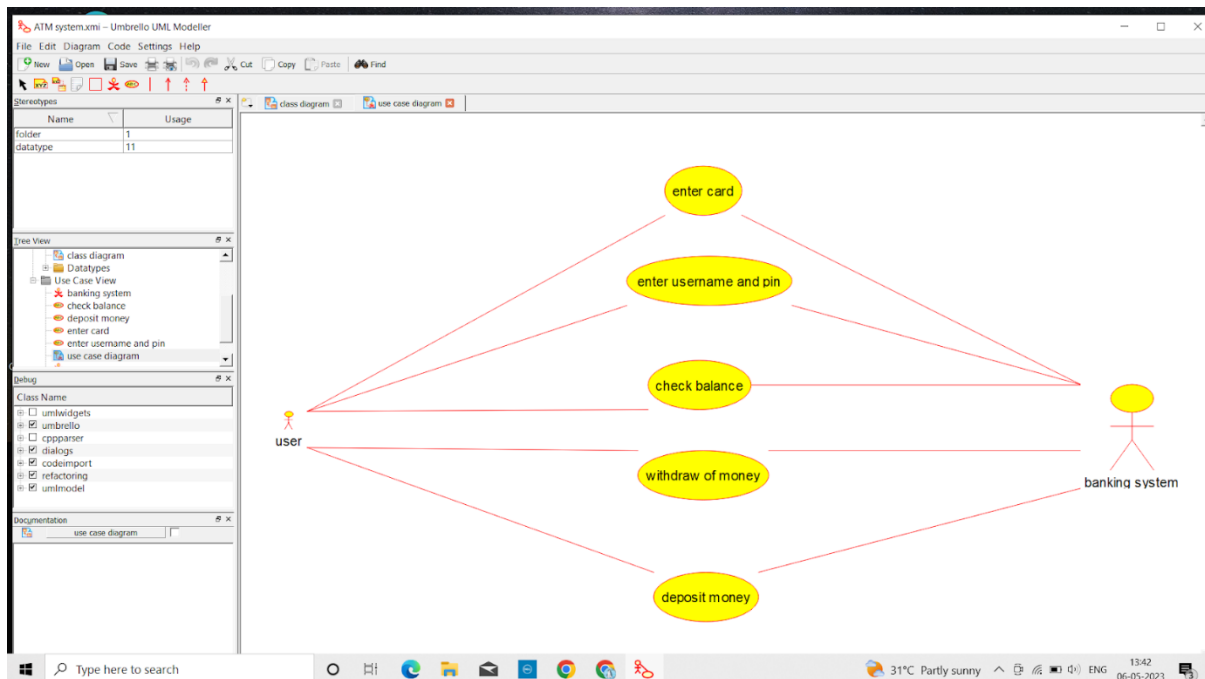
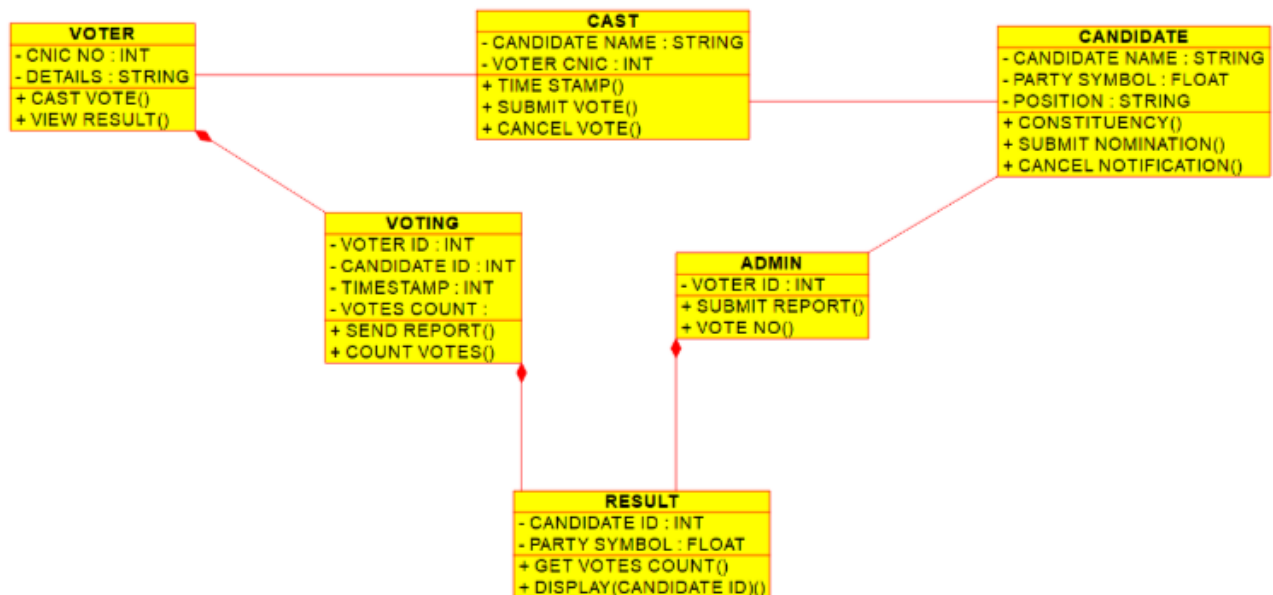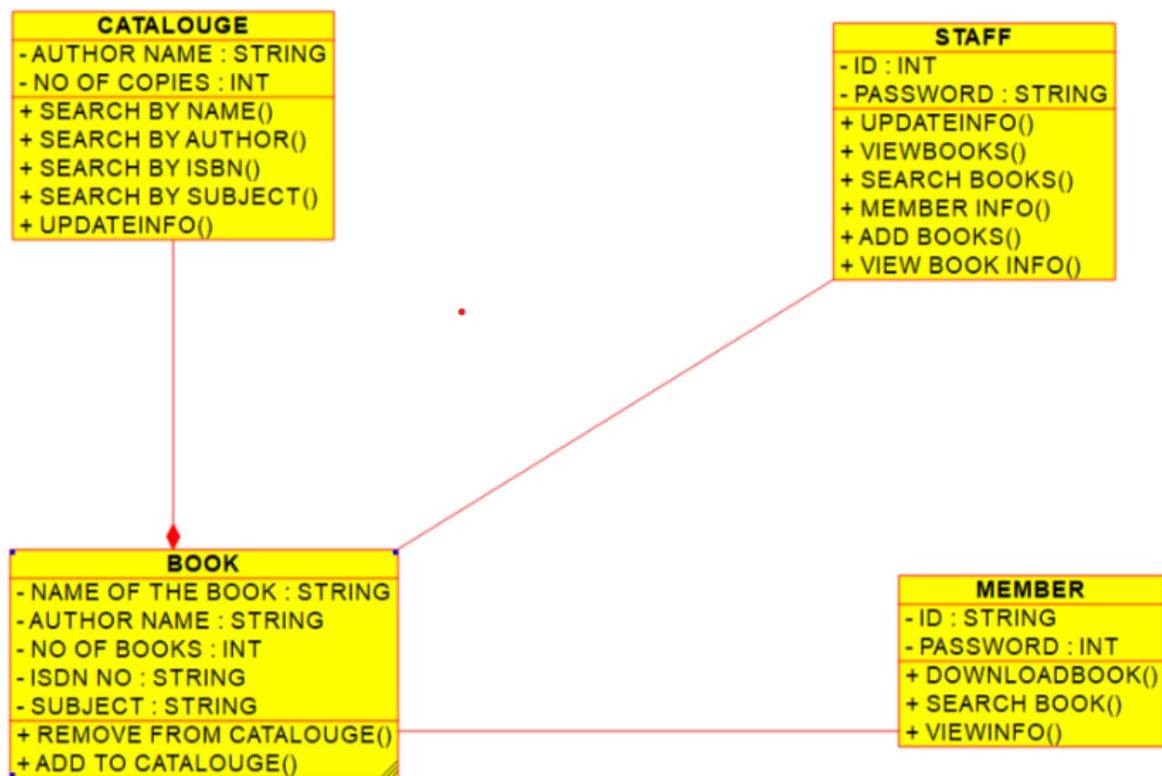**9. Make an Online Airline Reservation System using USE-CASE diagram.**
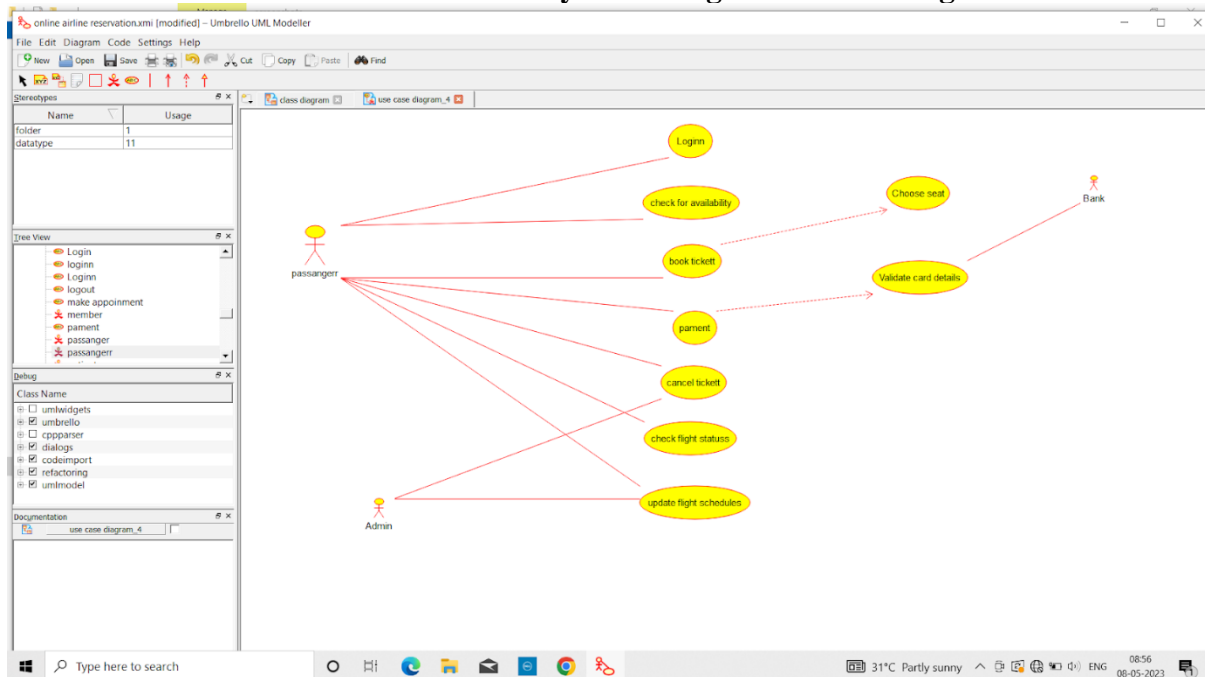
10. Make an Online Airline Reservation System. The activities of the Online Airline Reservation system are listed below user, admin, LOGIN, MANAGE CLASSES, MANAGE WAITING LIST, MANAGE HOLDS, MANAGE DEADLINES, LOGOUT, using this has a step-by-step process draw a CLASS diagram Draw a Class diagram for Library Management System using CASE tools.

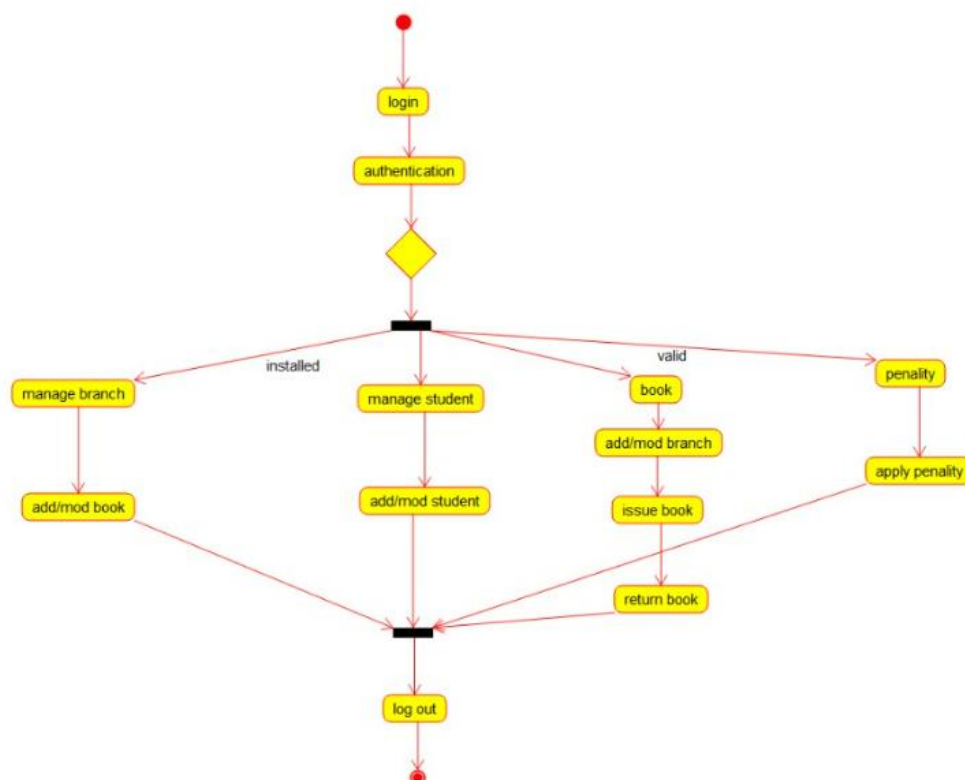**11. Draw a Class diagram for Online Voting System using CASE tools.**

VOTER
- CNIC NO : INT
- DETAILS : STRING
+ CAST VOTE()
+ VIEW RESULT()

CAST
- CANDIDATE NAME : STRING
- VOTER CNIC : INT
+ TIME STAMP()
+ SUBMIT VOTE()
+ CANCEL VOTE()

CANDIDATE
- CANDIDATE NAME : STRING
- PARTY SYMBOL : FLOAT
- POSITION : STRING
+ CONSTITUENCY()
+ SUBMIT NOMINATION()
+ CANCEL NOTIFICATION()

VOTING
- VOTER ID : INT
- CANDIDATE ID : INT
- TIMESTAMP : INT
- VOTES COUNT :
+ SEND REPORT()
+ COUNT VOTES()

ADMIN
- VOTER ID : INT
+ SUBMIT REPORT()
+ VOTE NO()

RESULT
- CANDIDATE ID : INT
- PARTY SYMBOL : FLOAT
+ GET VOTES COUNT()
+ DISPLAY(CANDIDATE ID)()

12. Draw a Class diagram for Library Management System using CASE tools.

CATALOUGE
- AUTHOR NAME : STRING
- NO OF COPIES : INT
+ SEARCH BY NAME()
+ SEARCH BY AUTHOR()
+ SEARCH BY ISBN()
+ SEARCH BY SUBJECT()
+ UPDATEINFO()

STAFF
- ID : INT
- PASSWORD : STRING
+ UPDATEINFO()
+ VIEWBOOKS()
+ SEARCH BOOKS()
+ MEMBER INFO()
+ ADD BOOKS()
+ VIEW BOOK INFO()

BOOK
- NAME OF THE BOOK : STRING
- AUTHOR NAME : STRING
- NO OF BOOKS : INT
- ISDN NO : STRING
- SUBJECT : STRING
+ REMOVE FROM CATALOUGE()
+ ADD TO CATALOUGE()

MEMBER
- ID : STRING
- PASSWORD : INT
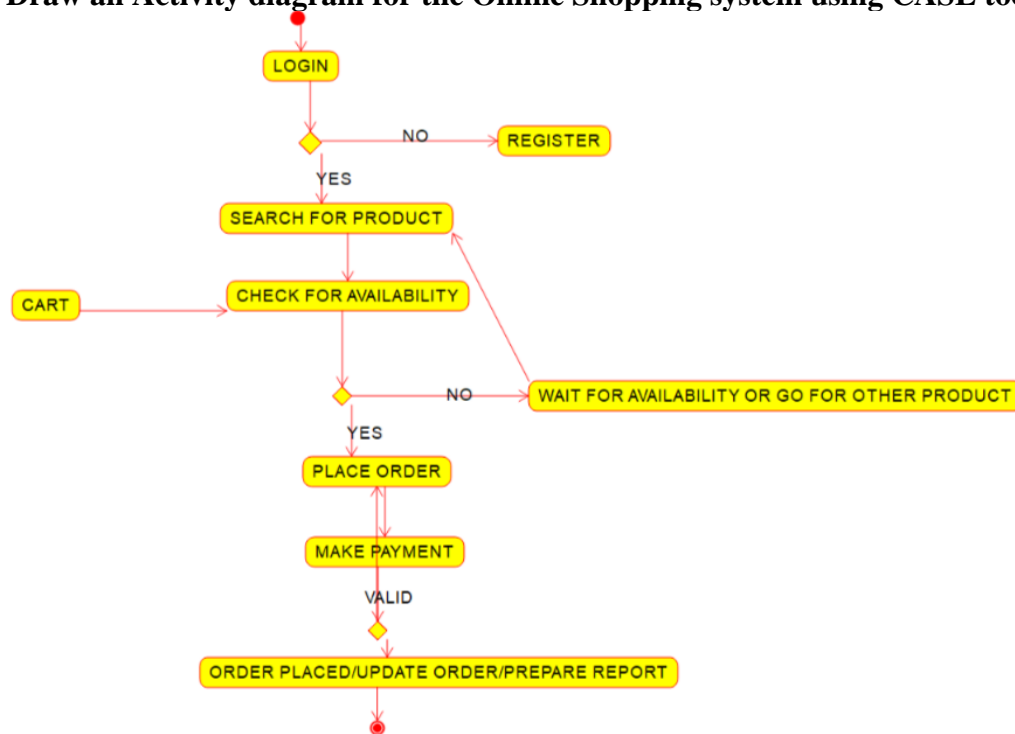+ DOWNLOADBOOK()
+ SEARCH BOOK()
+ VIEWINFO()

13. Draw a Activity diagram for Online Voting System for a software platform using CASE tools.
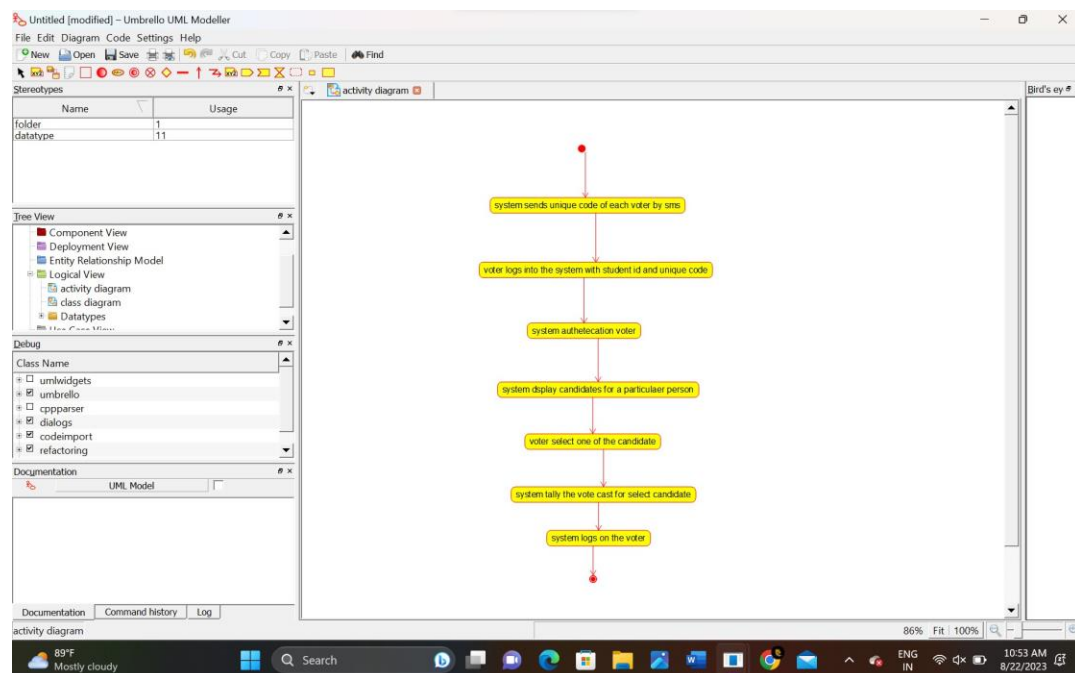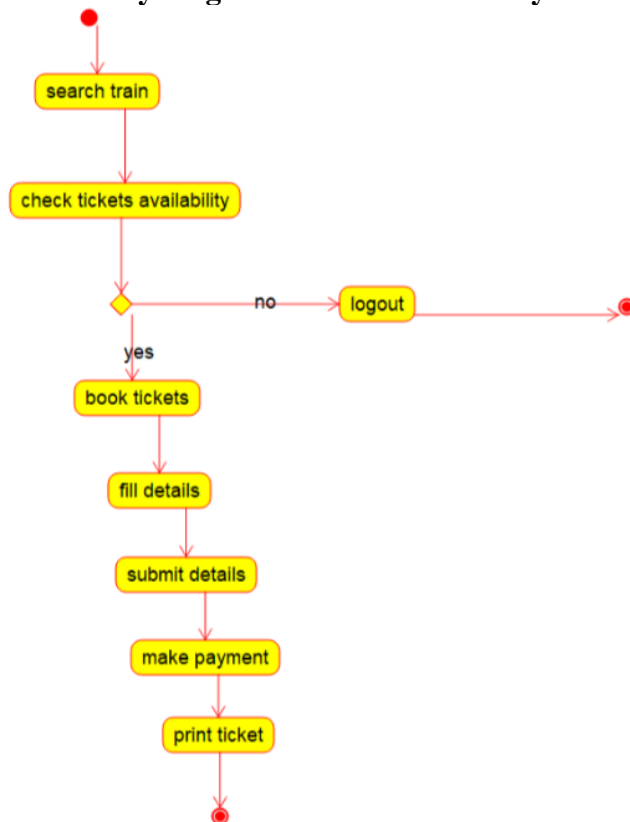

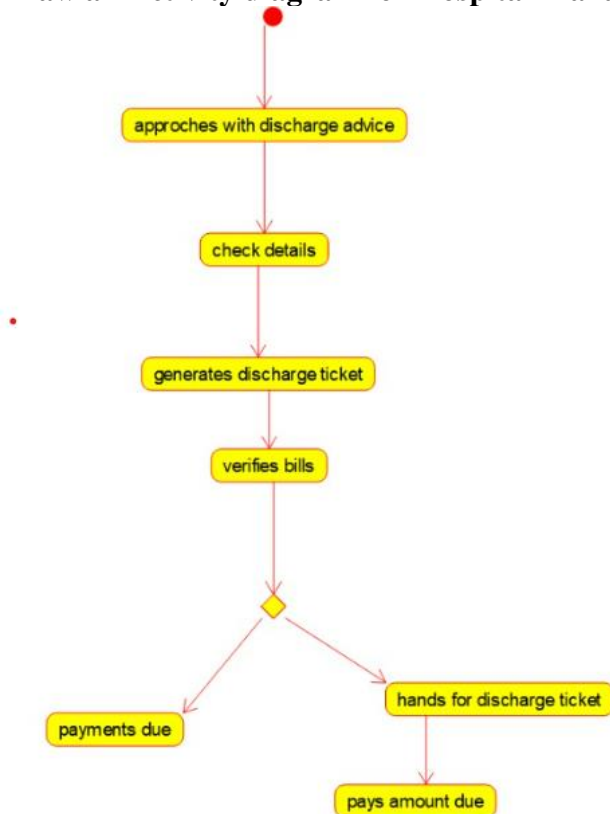**14. Draw a Activity diagram for Library Management System using CASE tools.**

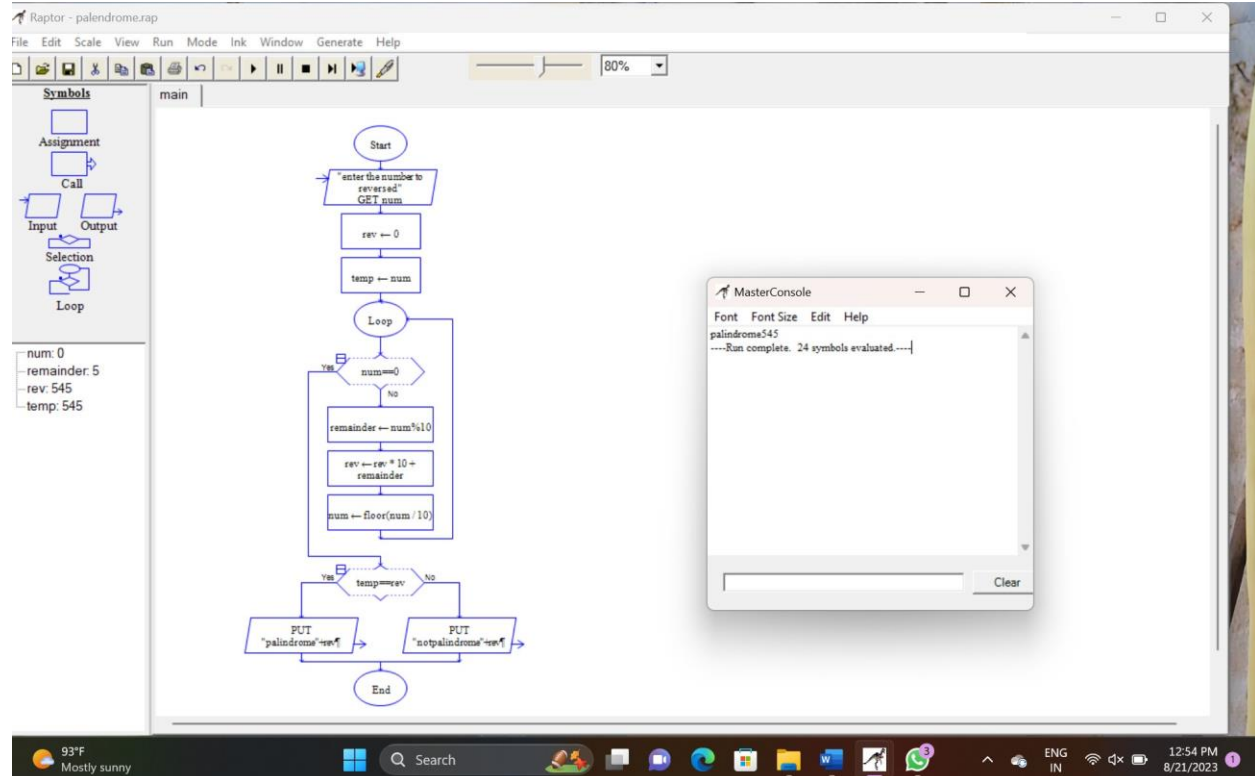**15. Draw an Activity diagram for the Online Shopping system using CASE tools.**

LOGIN

NO → REGISTER

YES

SEARCH FOR PRODUCT

CART → CHECK FOR AVAILABILITY

NO → WAIT FOR AVAILABILITY OR GO FOR OTHER PRODUCT

YES

PLACE ORDER

MAKE PAYMENT

VALID

ORDER PLACED/UPDATE ORDER/PREPARE REPORT

16. Draw an Activity diagram for Online Railway Reservation System using CASE tools.

search train

check tickets availability

no → logout

yes

book tickets

fill details

submit details

make payment

print ticket

17. Draw an Activity diagram for Hospital Management System using CASE tools.

approches with discharge advice

check details

generates discharge ticket

verifies bills

payments due

hands for discharge ticket

pays amount due

18. Using Raptor- Draw the flowchart to check whether the given number is a palindrome or not.
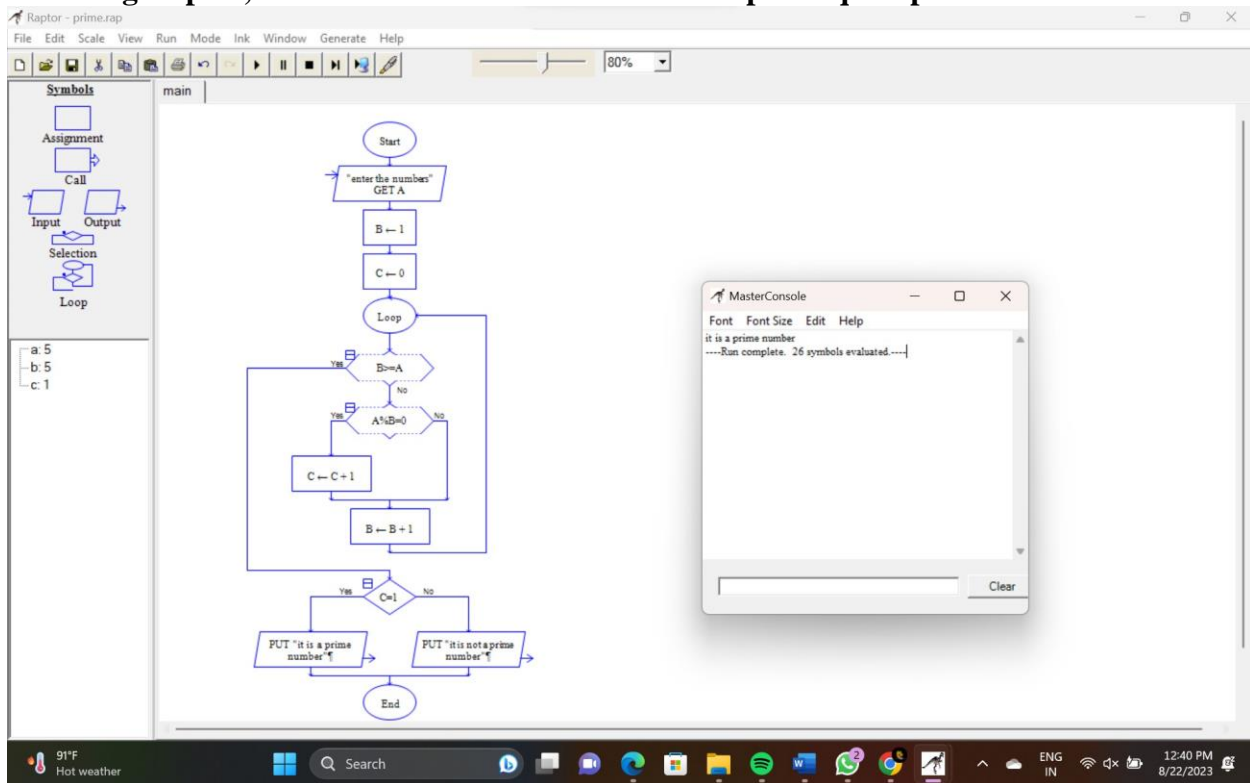

19. Draw a Activity diagram for Hospital Management System using CASE tools.
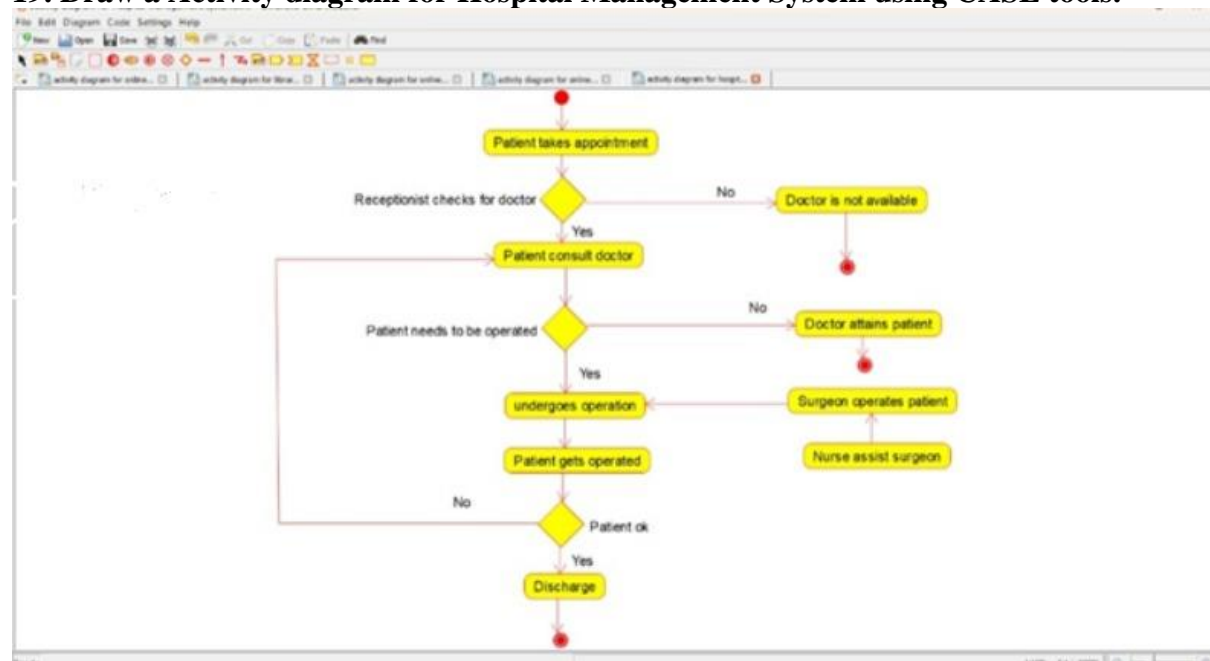
20. Using Raptor draw a flowchart to display the total number of characters in the string and return it.
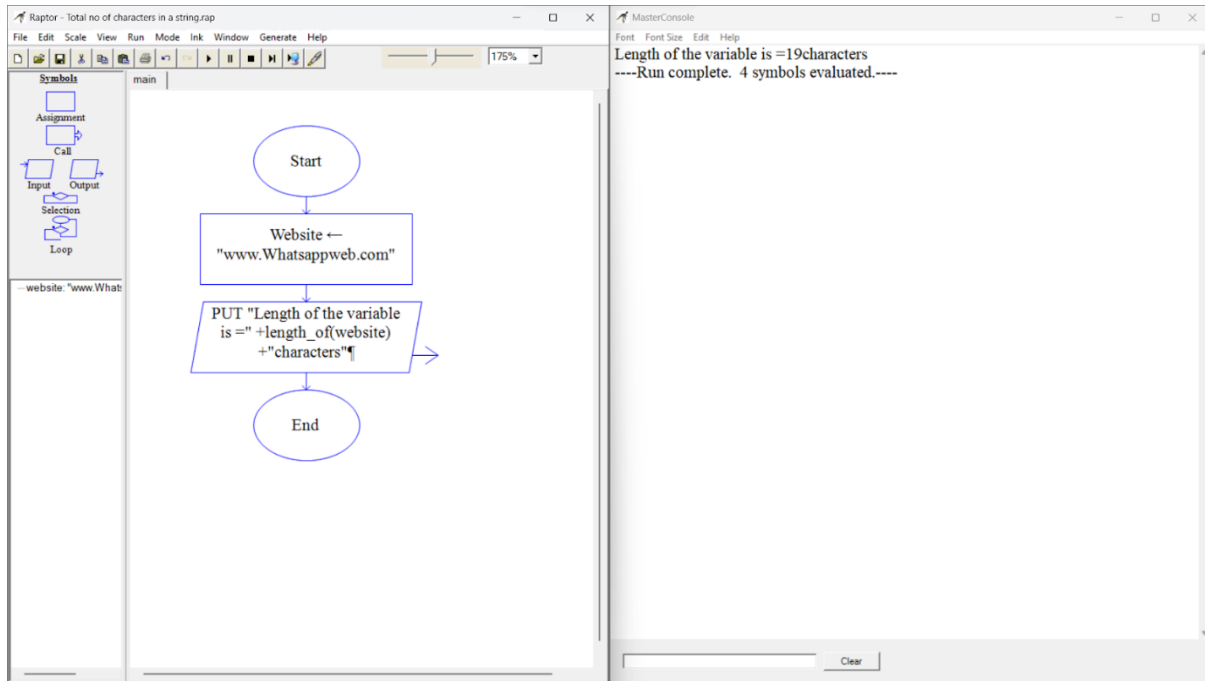
21. Using Raptor, draw the flowchart to find whether p and q are prime or not.

22. Cyclomatic complexity can be calculated by using control flow graphs or with respect to functions, modules, methods or classes within a software program.
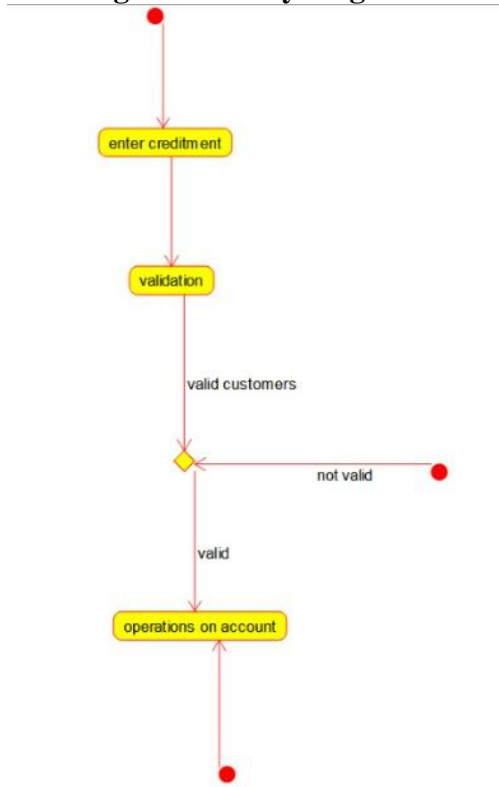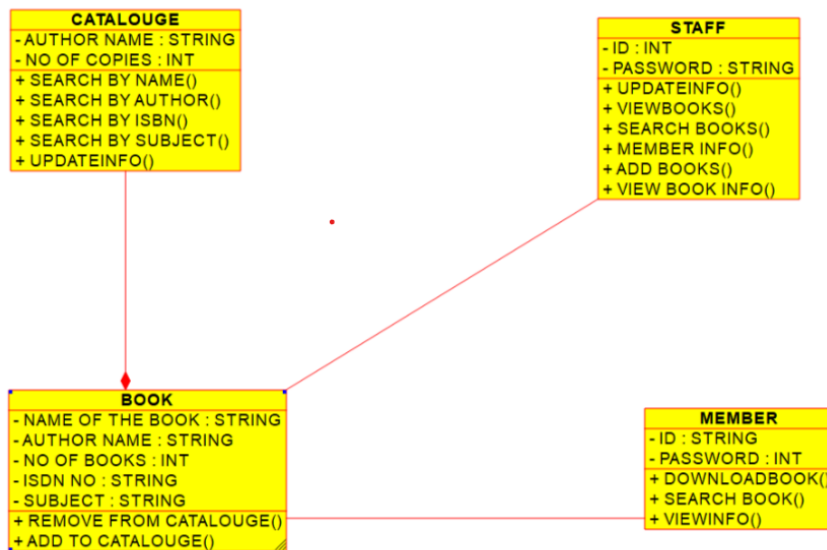

23. Design an activity diagram for an automated online banking system.

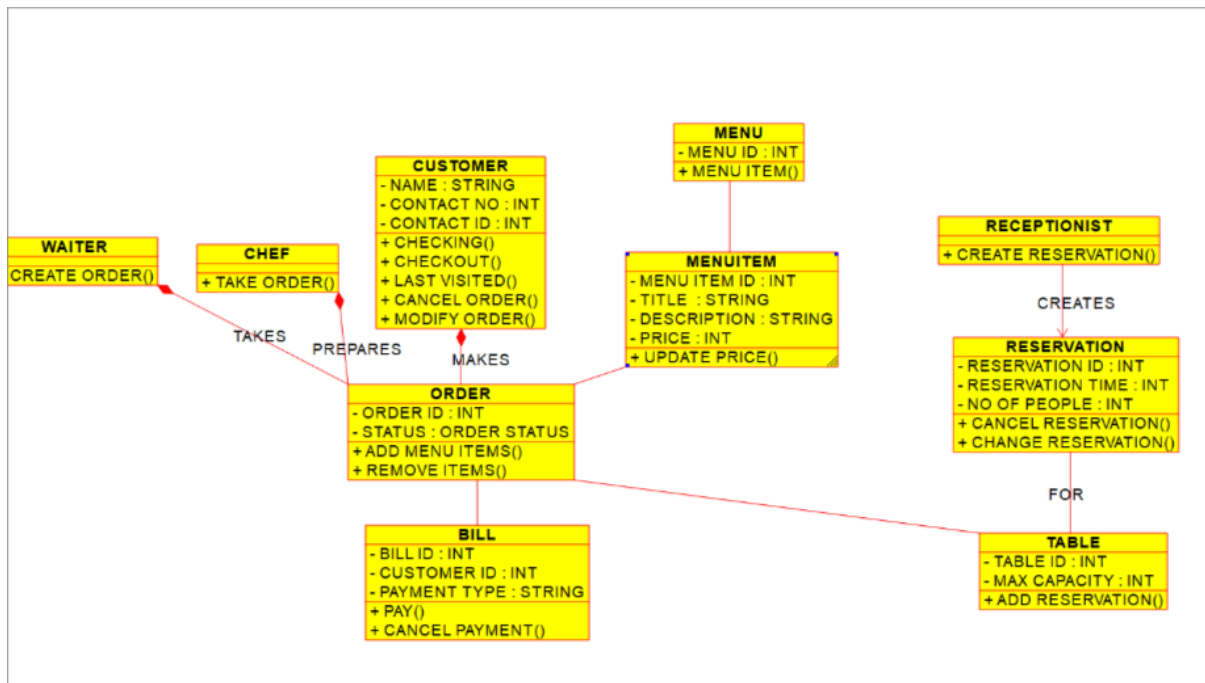**24. Develop an activity diagram for an e-library online public access catalogue.**
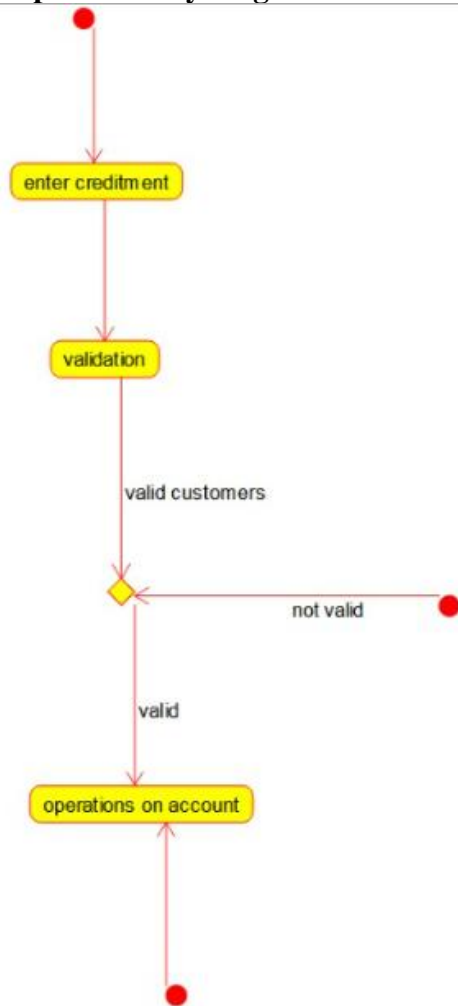
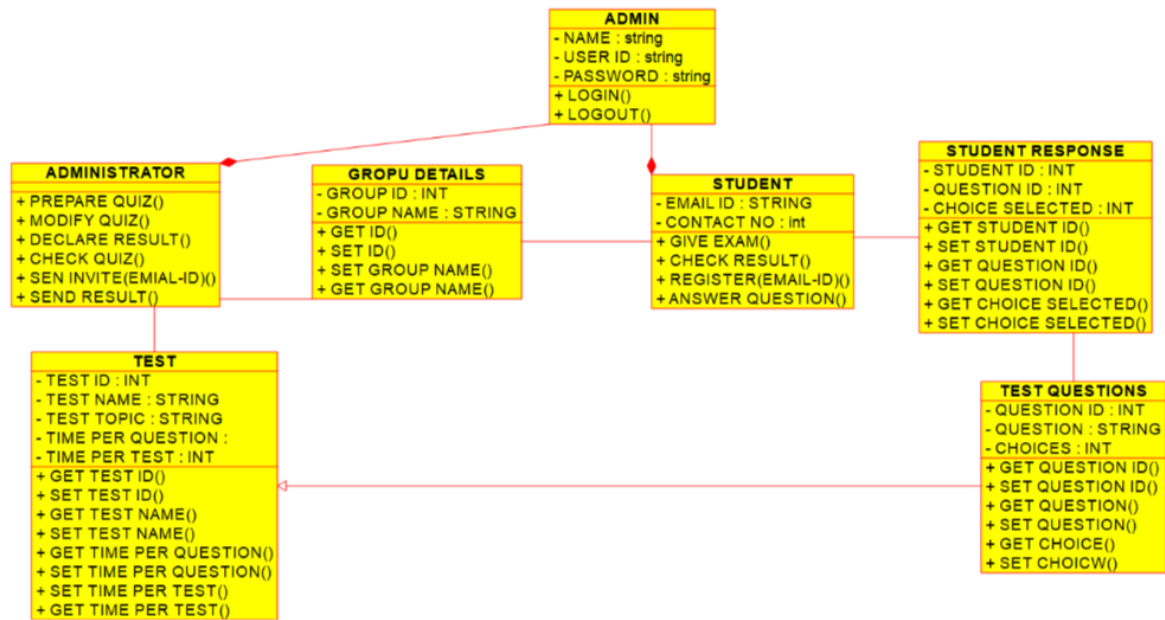**25. Draw a Class diagram for an e-library online public access catalogue.**

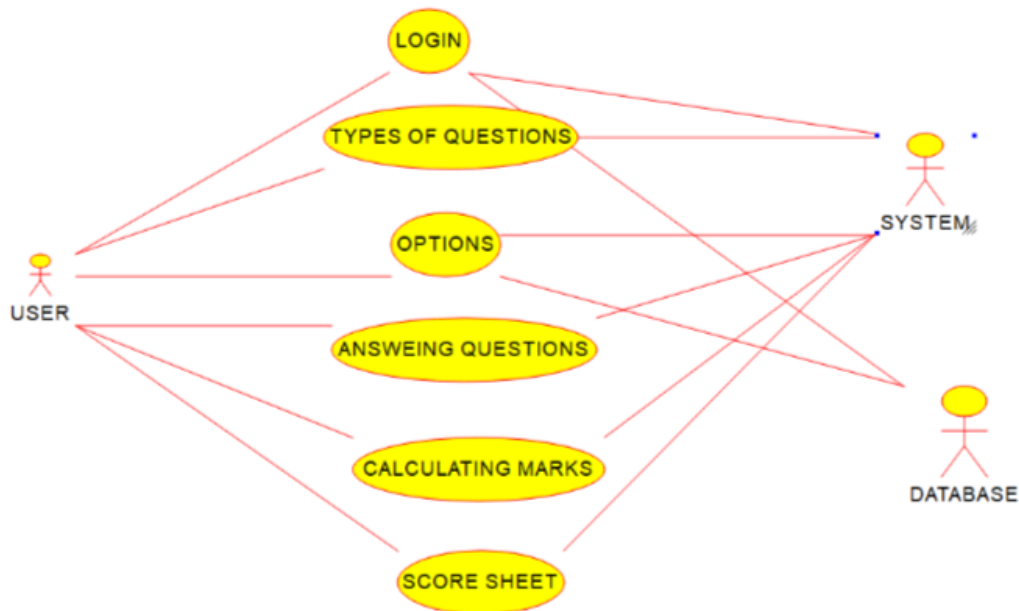**26. Draw a Use Case diagram for a Restaurant Systems.**


27. Draw a Class diagram for a Restaurant Systems.

28. Make a class diagram to model for a quiz system.

ADMIN
- NAME : string
- USER ID : string
- PASSWORD : string
+ LOGIN()
+ LOGOUT()

ADMINISTRATOR
+ PREPARE QUIZ()
+ MODIFY QUIZ()
+ DECLARE RESULT()
+ CHECK QUIZ()
+ SEN INVITE(EMIAL-ID)()
+ SEND RESULT()

GROPU DETAILS
- GROUP ID : INT
- GROUP NAME : STRING
+ GET ID()
+ SET ID()
+ SET GROUP NAME()
+ GET GROUP NAME()

STUDENT
- EMAIL ID : STRING
- CONTACT NO : int
+ GIVE EXAM()
+ CHECK RESULT()
+ REGISTER(EMAIL-ID)()
+ ANSWER QUESTION()

STUDENT RESPONSE
- STUDENT ID : INT
- QUESTION ID : INT
- CHOICE SELECTED : INT
+ GET STUDENT ID()
+ SET STUDENT ID()
+ GET QUESTION ID()
+ SET QUESTION ID()
+ GET CHOICE SELECTED()
+ SET CHOICE SELECTED()

TEST
- TEST ID : INT
- TEST NAME : STRING
- TEST TOPIC : STRING
- TIME PER QUESTION :
- TIME PER TEST : INT
+ GET TEST ID()
+ SET TEST ID()
+ GET TEST NAME()
+ SET TEST NAME()
+ GET TIME PER QUESTION()
+ SET TIME PER QUESTION()
+ SET TIME PER TEST()
+ GET TIME PER TEST()

TEST QUESTIONS
- QUESTION ID : INT
- QUESTION : STRING
- CHOICES : INT
+ GET QUESTION ID()
+ SET QUESTION ID()
+ GET QUESTION()
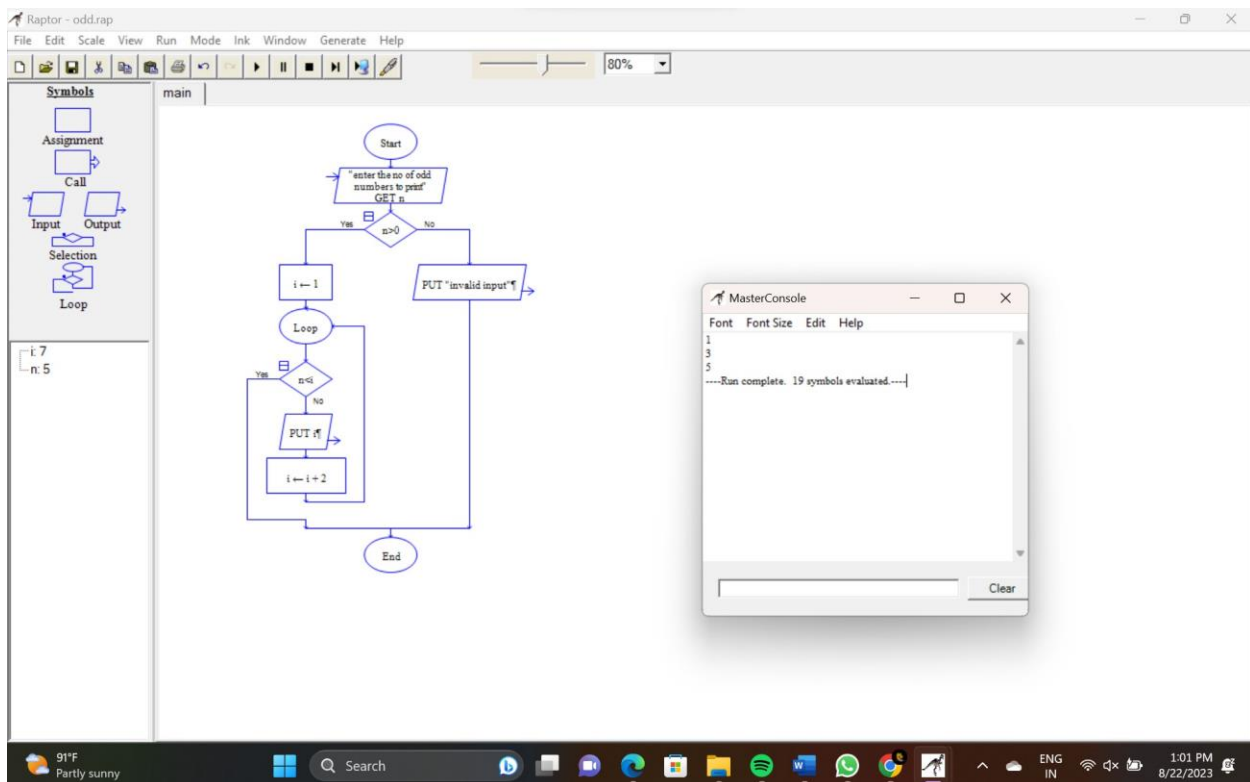+ SET QUESTION()
+ GET CHOICE()
+ SET CHOICW()

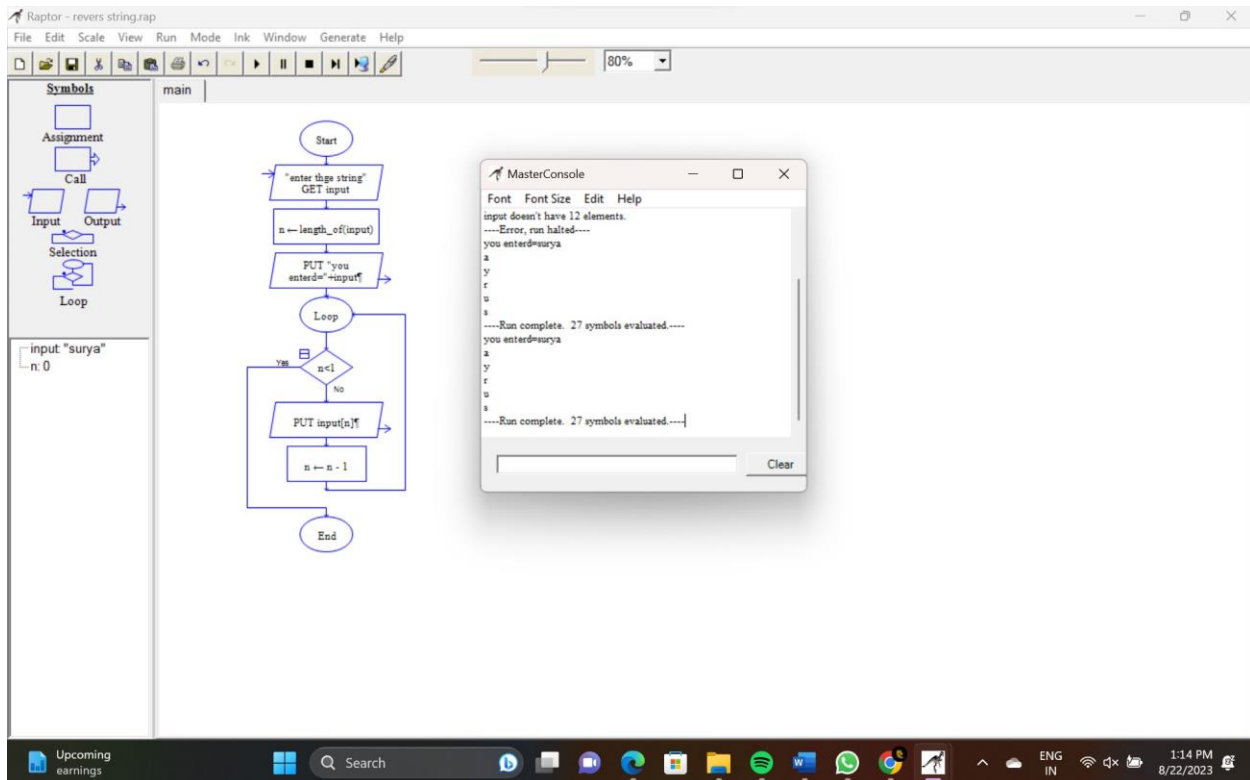## 29. Draw a Use case diagram to model for a quiz system.

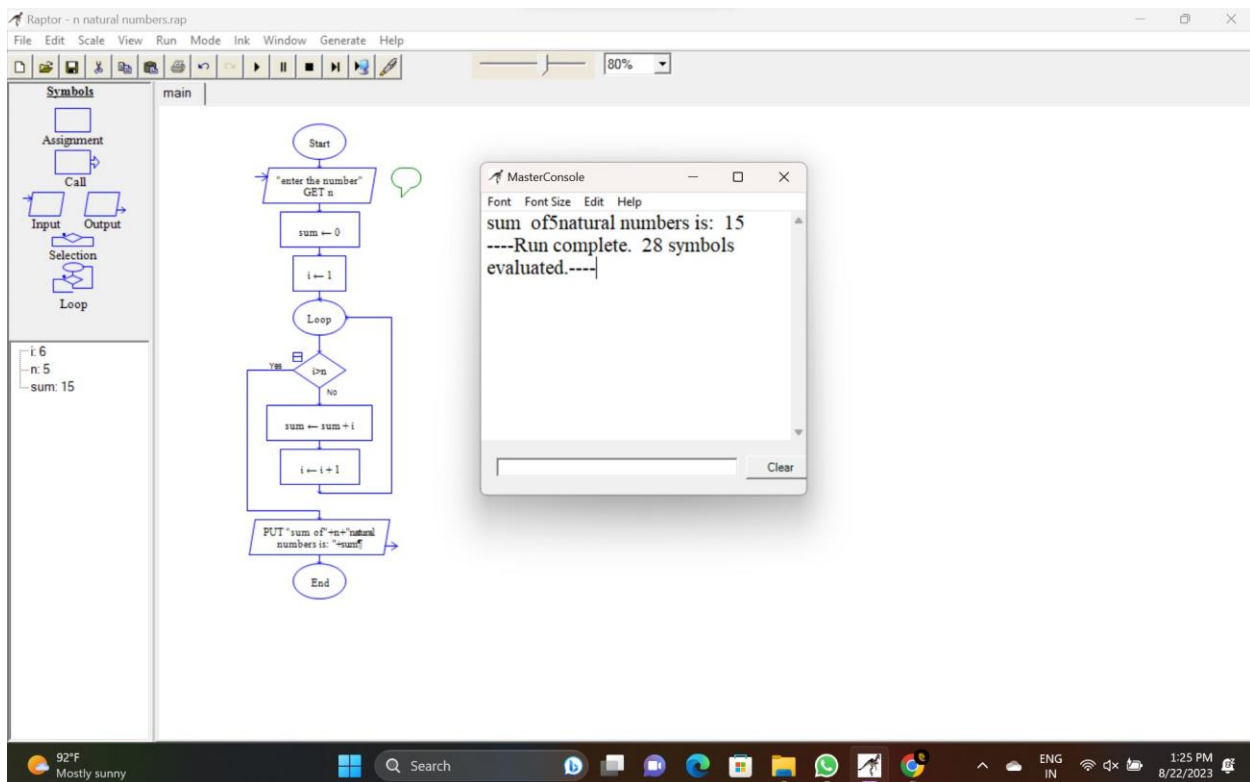## 30. Using Raptor- Draw and validate the flowchart to calculate Factorial of a number
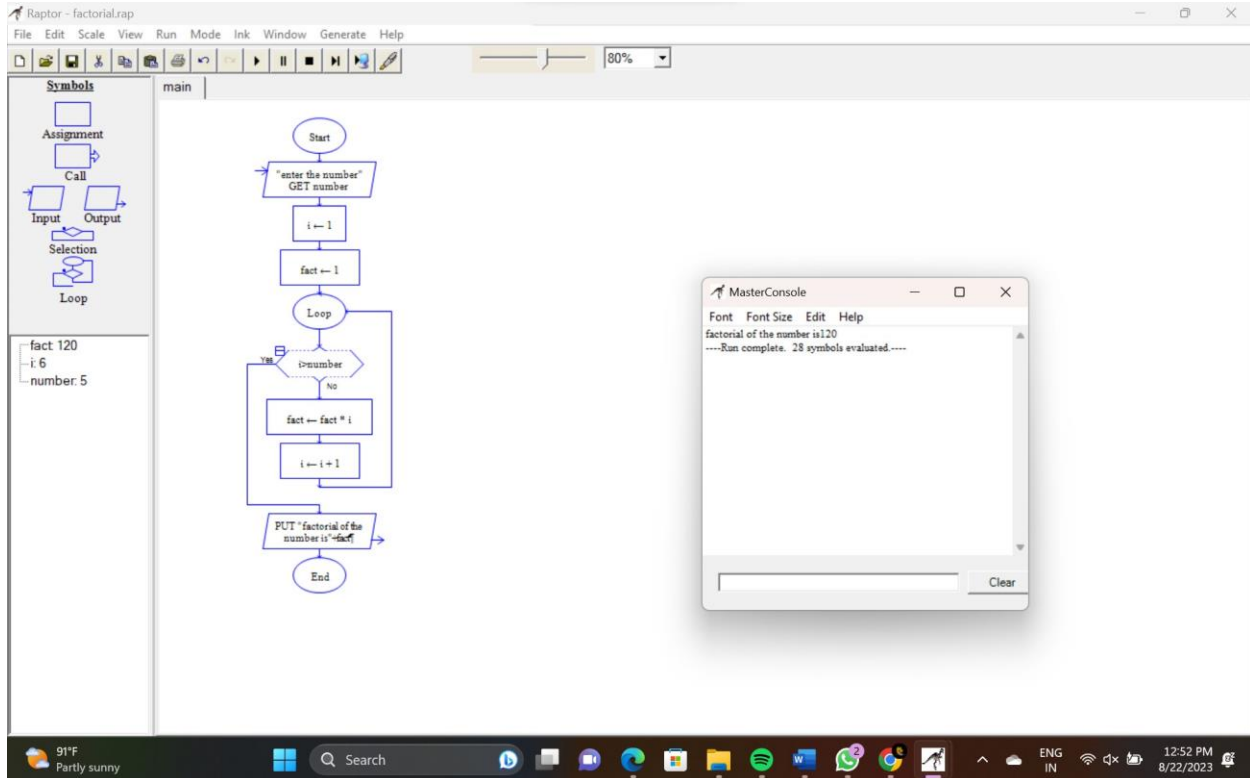
31. Using Raptor – Draw and validate the flowchart to find odd series of the given number
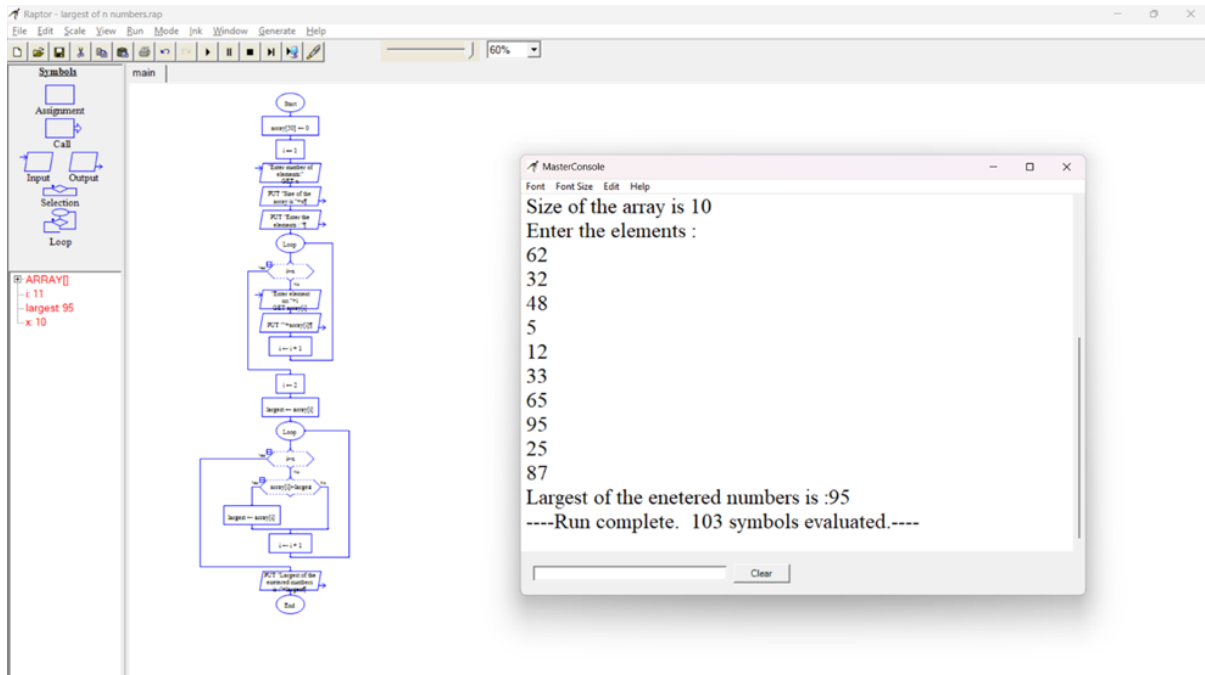
32. Draw the flowchart that uses Raptor, how to reverse a given String.
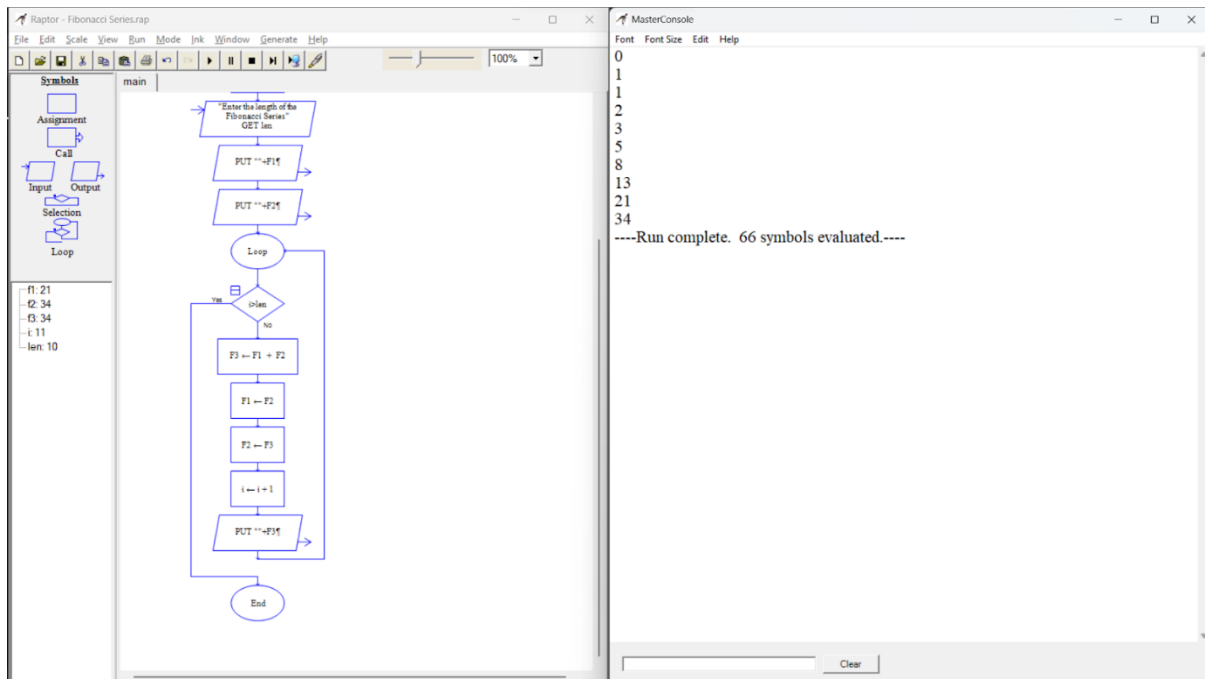

## 33. Draw the flowchart using Raptor, The formula of the sum of first n natural numbers.

34. Draw the flowchart using Raptor; Write a shell script to find the largest of n numbers in a range.

35. Using Raptor- Draw and validate the flowchart to calculate Fibonacci Series.
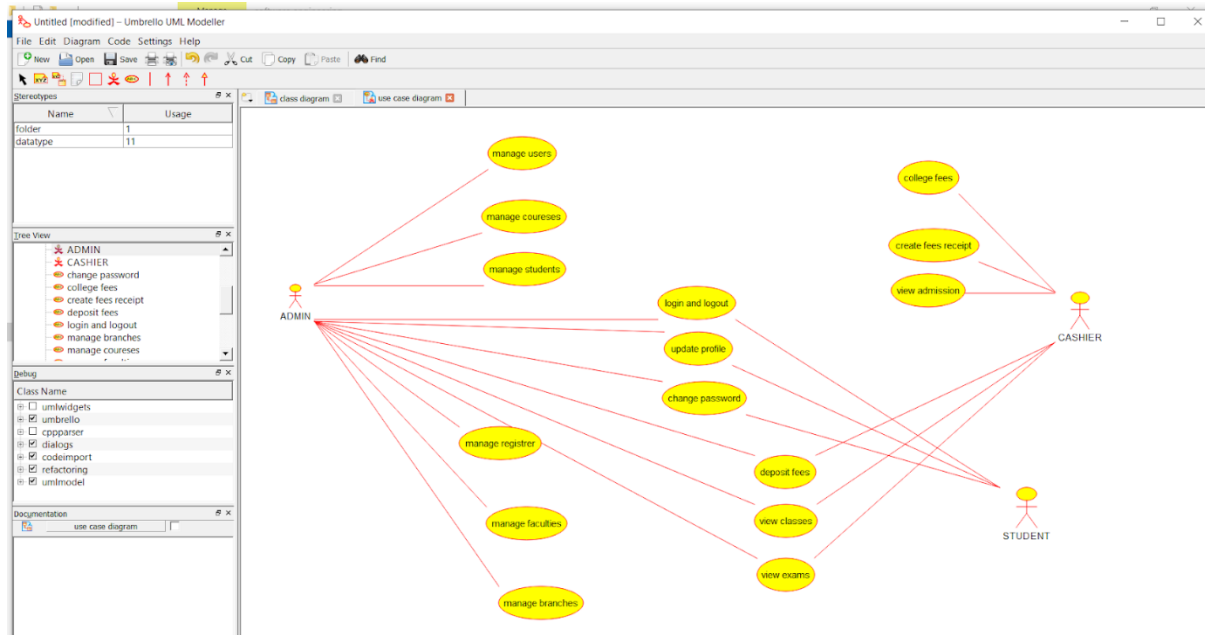
36. Draw the flowchart using Raptor; given a number n find the smallest number evenly divisible by each number 1 to n.
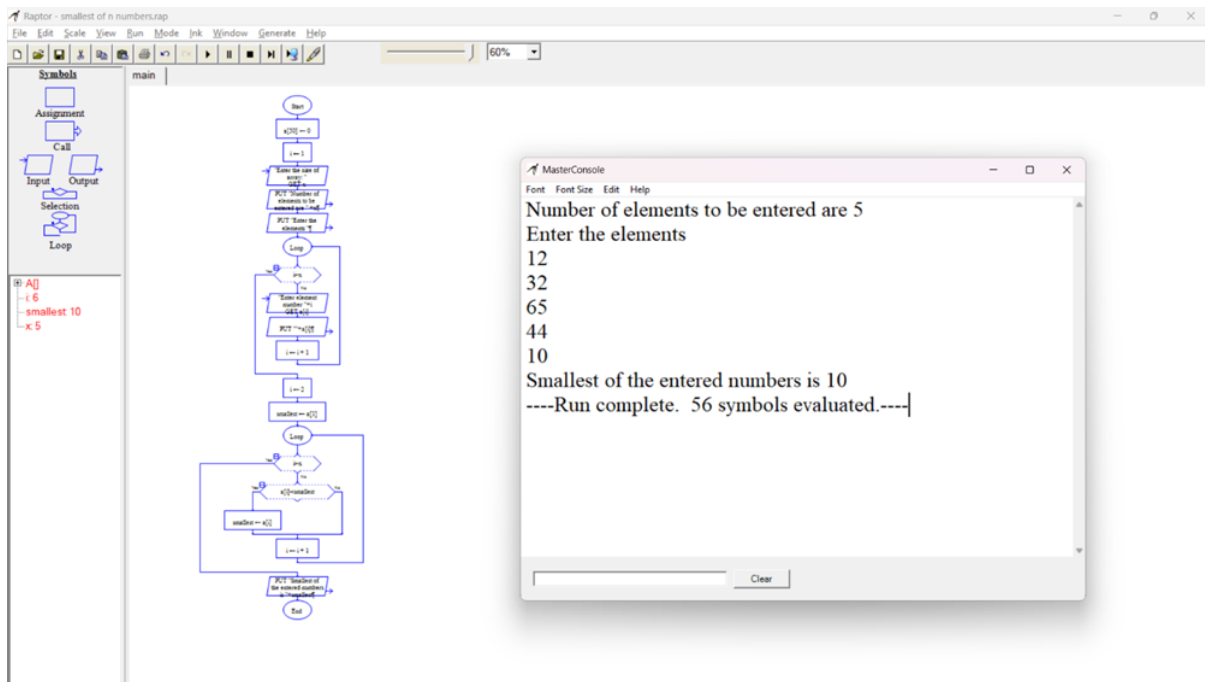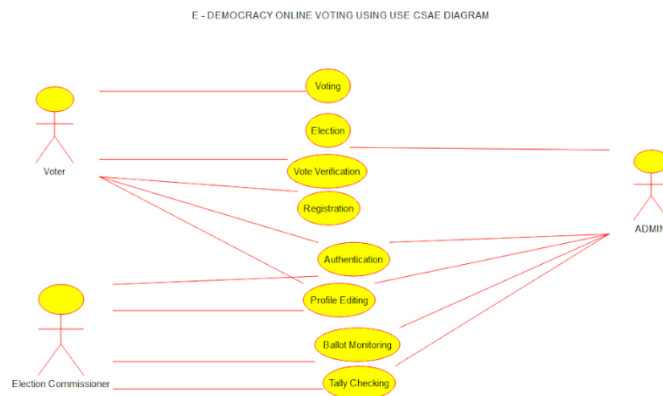

37. E-wallet is an online prepaid account where one can stock money, to be used when required using Use case diagram.

38. A college has more than thousand security persons using Use case diagram.

39. The Internet has led to discussion of e-democracy and online voting using use case.

40. Using Rapto-Construct a flowchart using raptor and Check whether a string is palindrome or not a palindrome is a word, number, phrase, or other sequence of symbols that reads the same backwards as forwards, such as the words madam or race car