9 A college has more than thousand security persons, who are instructed to give duties at different places within the campus. Additionally, they also maintain a routine, which contains all information, such as Date, Duty Start Time, Duty End Time, and Place. Most importantly, all the places are covered by at least one security person. If a security person takes leave, manual entry is done against that person. Finally, at the end of a month, the security persons get paid for their duties, while considering the number of leaves as well. You can see that the manual calculation/operation is a heavy task for the security manager. Therefore, the objective is to build an Online security management system using class diagram through which entire security system within the campus can be controlled in an efficient manner

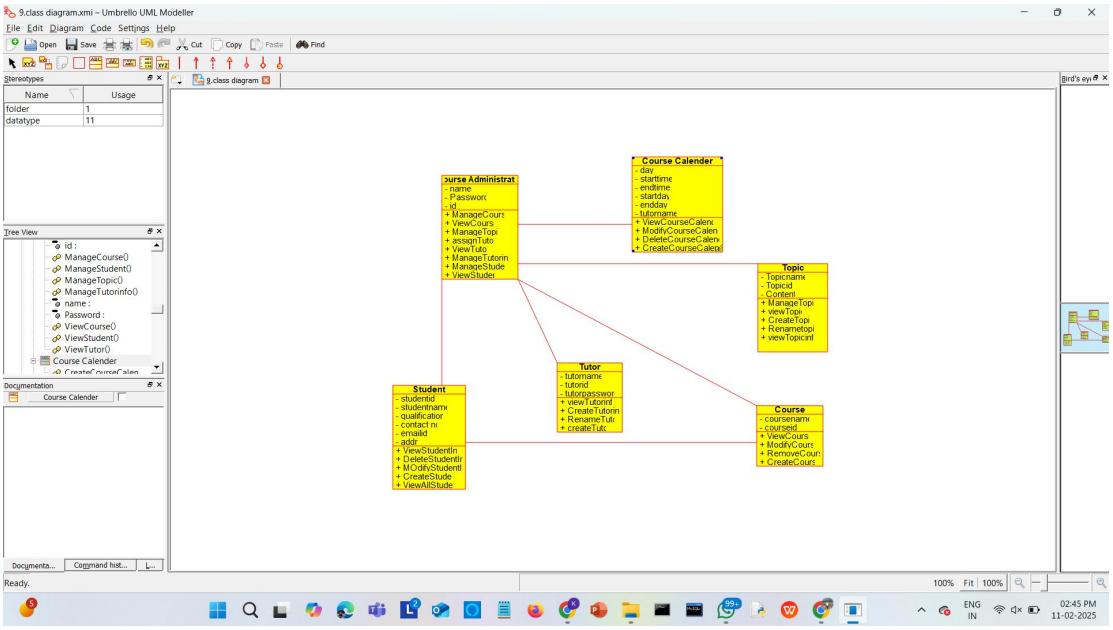
**AIM:**

To design a class diagram for an online security management system to efficiently manage security duties, schedules, leave records, and monthly payments at a college campus

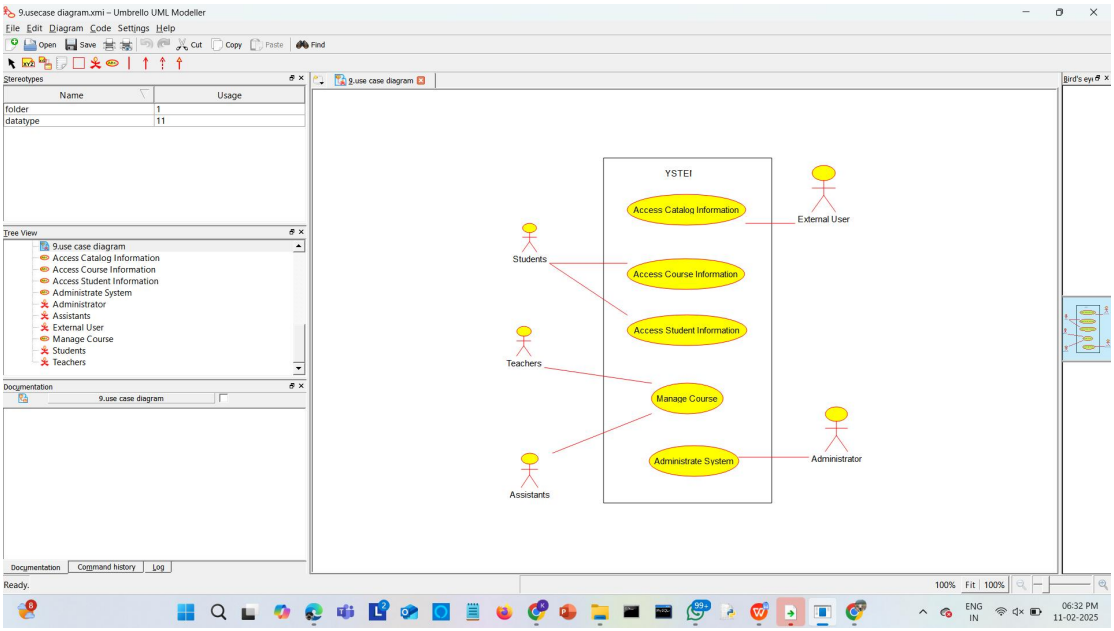
**Procedure**

- Identify key classes such as SecurityPerson, DutySchedule, Place, LeaveRecord, and Payment.
- Define attributes and operations for each class:
- SecurityPerson: Attributes for ID, name, contact details, and operations like ApplyLeave.
- DutySchedule: Attributes for date, duty start time, duty end time, and place.
- Establish relationships between classes, such as SecurityPerson assigned to DutySchedule.
- Include associations for LeaveRecord and Payment, linking leaves to payroll processing.
- Specify cardinalities, such as one Place having at least one security person.
- Draw the class diagram, showing attributes, operations, and associations.
- Ensure adherence to UML conventions and clarity in relationships between classes.

Class




Usecase




Result :

A class diagram for the online security management system was successfully designed, capturing duty scheduling, leave management, and payment processing to improve operational efficiency within the campus security framework.