

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.

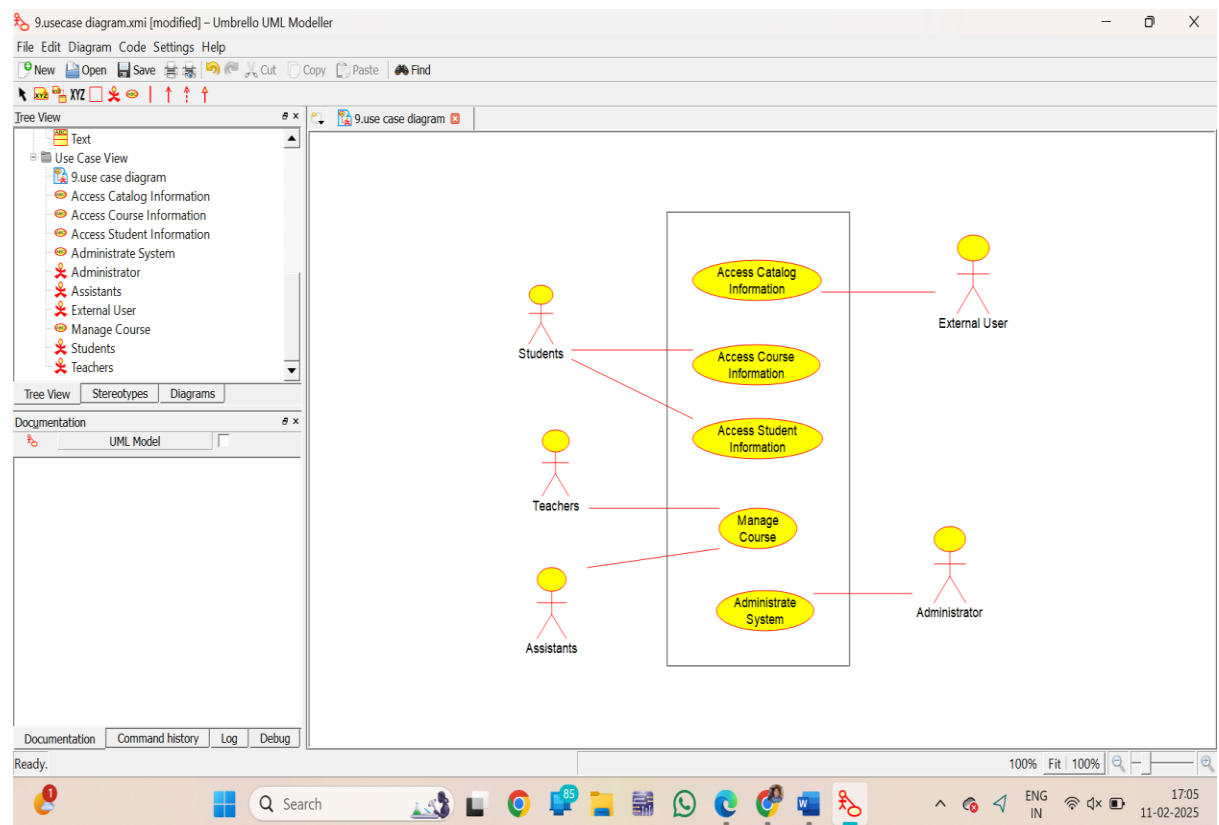
Aim:

To design and implement an online Security Management System using a class diagram to efficiently manage security personnel duties, leaves, and salary calculations within a college campus.

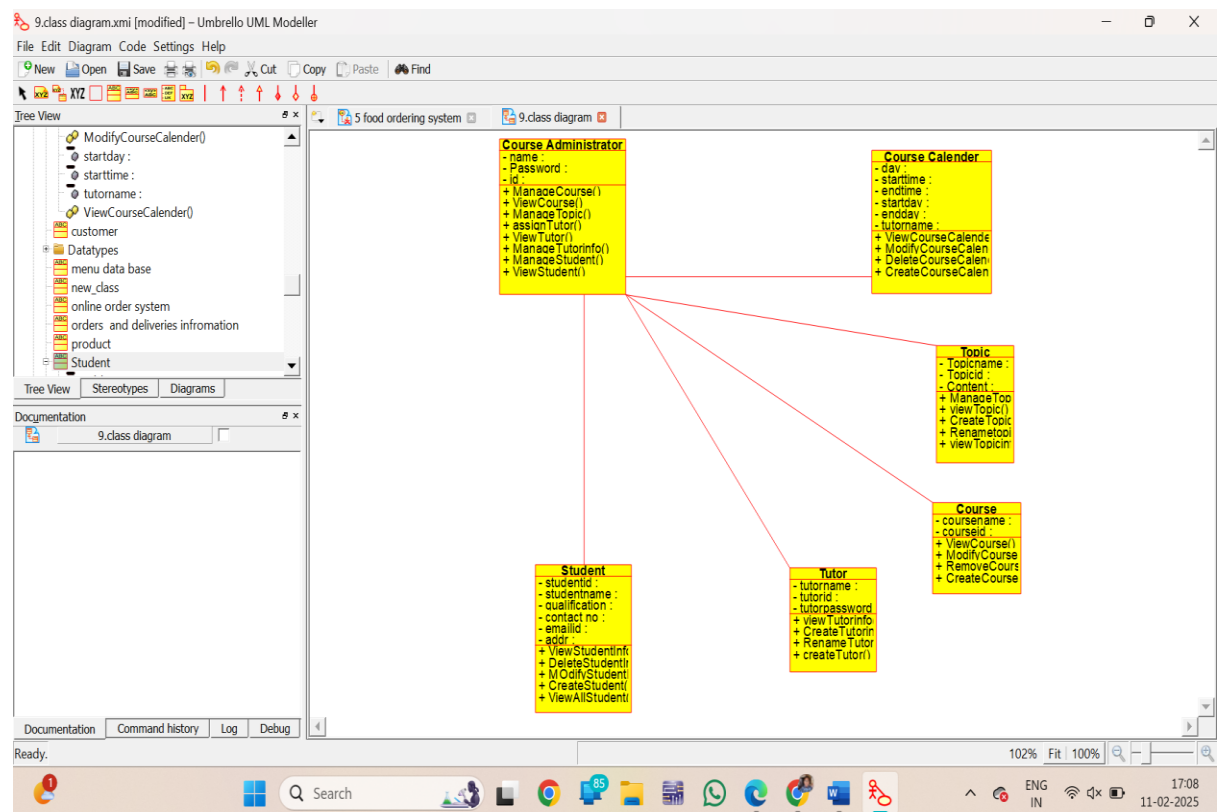
Procedure:

1. Identify Entities: Define main entities such as Security Person, Duty, Leave, and Payment.
2. Establish Relationships: Set up relationships between entities (e.g., one security person can have multiple duties).
3. Define Attributes: Assign attributes like name, ID, duty time, leave status, and payment details.
4. Create Class Diagram: Use UML notation to represent classes and their relationships.
5. Implement System Logic: Develop algorithms to automate duty allocation, leave management, and salary calculation.
6. Develop User Interface: Design an intuitive interface for security managers to manage operations online.
7. Test and Validate: Ensure the system works efficiently by conducting test cases on different scenarios.

Use Case Diagram:



Class Diagram:



Result:

The Security Management System streamlines the assignment of security personnel, tracks duties and leaves, automates salary calculation, and reduces manual workload, enhancing efficiency in campus security management.