**1. Title Slide**

**Say:**  
*"Good [morning/afternoon] everyone. We are here to present our mini-project on* ***Hostel Room Allocation System****. Our team consists of [Your Names], and our guide for this project is [Guide’s Name]. In this presentation, we will walk you through our project's concept, implementation, and future scope."*

**2. Table of Contents**

**Say:**  
*"Here's the agenda for our presentation. We will start with an introduction, followed by the literature survey, problem statement, and our proposed solution.*

**3. Abstract**

**Say:**  
*"Our project aim is to simplify the process of hostel room allocation by providing an automated solution. Many colleges still allocate rooms manually, which is time-consuming and inefficient. Our system allows students to register, log in, and choose their preferred rooms while ensuring fairness through different allocation strategies. The admin panel helps manage rooms, allocations, and student data seamlessly."*

**4. Literature Survey (Existing Systems)**

**Say:**  
*"We researched existing hostel management systems and found that many institutions either manage hostel allocation manually or use outdated software with limited automation. Some universities use First-Come-First-Serve (FCFS) allocation, while others follow preference-based or priority-based methods. However, most of these systems lack flexibility, real-time updates, and security features."*

**5. Existing System & Limitations**

**Say:**  
*"The manual process of hostel room allocation has several limitations:  
1️⃣* ***Time-consuming*** *– Requires paperwork and manual verification.  
2️⃣* ***No transparency*** *– Students may feel allocation is unfair.  
3️⃣* ***Errors & Discrepancies*** *– Mistakes in room assignments.  
4️⃣* ***Difficulty in Managing Large Data*** *– Hard to track and update.  
Our system overcomes these limitations through an automated and structured approach."*

**🟢 Member 2: Problem & Proposed Solution**

**6. Problem Statement**

**Say:**  
*"The traditional hostel room allocation process is inefficient, leading to delays, mismanagement, and student dissatisfaction. Our goal is to develop a secure and automated system that streamlines the process, ensures fairness, and provides transparency for students and administrators."*

**7. Proposed System**

**Say:**  
\*"Our **Hostel Room Allocation System** allows students to register, log in, and choose rooms based on availability and preference. The system provides multiple allocation strategies, including:

* **First Come First Serve (FCFS)**
* **Priority-based allocation** (e.g., seniors get priority)
* **Randomized allocation**
* **Graph-based allocation** (for optimal distribution)

Admins can manage rooms, view student requests, and allocate rooms efficiently. The system is built with a **secure login** system using student admission numbers for authentication."\*

**8. System Architecture**

*(Show the diagram)*  
**Say:**  
*"This is the architecture of our system. The user interface interacts with the backend, which processes the data and connects to the MySQL database. The admin panel allows managing students, rooms, and allocations. APIs handle authentication and data transactions securely."*

**9. UML Diagrams**

*(Show Use Case Diagram, Activity Diagram, etc.)*  
**Say:**  
*"Here are the UML diagrams representing different functionalities of our system. The* ***Use Case Diagram*** *shows interactions between students, admins, and the system. The* ***Activity Diagram*** *outlines the process flow of hostel allocation, from registration to room assignment."*

**🟢 Member 3: Technical Implementation**

**10. Database Design (ER Diagram & Tables)**

*(Show ER Diagram & tables for student, admin, room allocation, etc.)*  
**Say:**  
\*"Our database consists of tables for **students, rooms, allocations, admins, and feedback**.

* The **Student Table** stores student details and login credentials.
* The **Room Table** keeps track of available rooms and allocations.
* The **Admin Table** stores admin login details and privileges.
* The **Allocation Table** maintains assigned rooms for students.  
  This structured database ensures efficient data retrieval and updates."\*

**11. Modules & Features**

*(Explain student and admin functionalities)*  
**Say:**  
\*"Our system consists of two main modules:  
🔹 **Student Module** – Registration, Login, Room Selection, Feedback  
🔹 **Admin Module** – Manage Rooms, Approve Allocations, View Student Data"

*"Some additional features include:  
✔* ***Secure Authentication*** *using Admission Numbers  
✔* ***Dynamic Room Availability Check*** *✔* ***Different Allocation Strategies*** *✔* ***Admin Dashboard for Room Management****"*

**12. Technologies Used**

**Say:**  
*"For frontend, we used* ***HTML, CSS, JavaScript*** *for an interactive UI.  
For backend, we used* ***Python Flask*** *to create APIs that communicate with our* ***MySQL database****.  
We implemented* ***Flask-CORS for secure API handling*** *and used* ***Flask-MySQL-Connector*** *to integrate MySQL with Python. Security measures like password hashing and input validation are also included."*

**13. Implementation & UI Screens**

*(Show login, room selection, and admin panel UI screenshots)*  
**Say:**  
*"Here are some screenshots of our system in action. This is the* ***login page****, followed by the* ***student dashboard****, where users can select available rooms. The* ***admin panel*** *allows room management and student allocations."*

**🟢 Member 4: Challenges, Conclusion & Future Scope**

**14. Challenges Faced**

**Say:**  
*"During development, we faced challenges such as:  
1️⃣* ***Integrating different allocation strategies efficiently.*** *2️⃣* ***Ensuring secure authentication for students.*** *3️⃣* ***Handling database queries for real-time room availability.*** *Through debugging and testing, we overcame these challenges and improved our system."*

**15. Conclusion**

**Say:**  
*"Our* ***Hostel Room Allocation System*** *automates and simplifies hostel management, reducing manual effort and ensuring fairness. By integrating* ***secure authentication, multiple allocation strategies, and a user-friendly interface****, we make the process transparent and efficient for students and admins alike."*

**16. Future Scope**

**Say:**  
*"For future improvements, we plan to:  
✔* ***Implement Biometric Authentication*** *for student verification  
✔* ***Add Payment Integration*** *for hostel fee management  
✔* ***Enhance Mobile Responsiveness*** *for easy access via phones  
✔* ***Use AI-based Allocation*** *for optimal room assignments  
These enhancements will further improve system efficiency and security."*

**17. References**

**Say:**  
*"We referred to various research papers, existing hostel management systems, and technical documentation to build this project. Thank you!"*

App.py

Algorithms

Requirements

Static

Templates

Student

Admin

Base

Database