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OOPS WITH JAVA

MINI PROJECT : HOTEL MANAGEMENT SYSTEM

HOTEL MANAGEMENT SYSTEM

Program :

```
Import java.util.*;

Class Room {

    Private int id;

    Private String type; // e.g., Single, Double, Suite

    Private double price;

    Private boolean isAvailable;

    Public Room(int id, String type, double price) {

        This.id = id;

        This.type = type;

        This.price = price;

        This.isAvailable = true;

    }

    Public int getId() {

        Return id;

    }

    Public String getType() {

        Return type;

    }

    Public double getPrice() {

        Return price;

    }

    Public boolean isAvailable() {

        Return isAvailable;

    }

    Public void bookRoom() {

        If (isAvailable) {
```

```

        isAvailable = false;
    } else {
        System.out.println("Room is already booked.");
    }
}

Public void releaseRoom() {
    isAvailable = true;
}

@Override
Public String toString() {
    Return "Room ID: " + id + ", Type: " + type + ", Price: $" + price +
        ", Available: " + (isAvailable ? "Yes" : "No");
}
}

Class Hotel {
    Private Map<Integer, Room> rooms = new HashMap<>();

    Public void addRoom(Room room) {
        Rooms.put(room.getId(), room);
    }

    Public void viewRooms() {
        If (rooms.isEmpty()) {
            System.out.println("No rooms available in the hotel.");
            Return;
        }

        For (Room room : rooms.values()) {
            System.out.println(room);
        }
    }
}

```

```

Public void bookRoom(int roomId) {
    Room room = rooms.get(roomId);
    If (room != null && room.isAvailable()) {
        Room.bookRoom();
        System.out.println("You have successfully booked the room: " + room.getType());
    } else if (room != null) {
        System.out.println("Sorry, the room is not available.");
    } else {
        System.out.println("Room not found.");
    }
}

Public void releaseRoom(int roomId) {
    Room room = rooms.get(roomId);
    If (room != null && !room.isAvailable()) {
        Room.releaseRoom();
        System.out.println("You have successfully released the room: " + room.getType());
    } else if (room != null) {
        System.out.println("The room was not booked.");
    } else {
        System.out.println("Room not found.");
    }
}

Public class HotelManagementSystem {
    Public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        Hotel hotel = new Hotel();
        While (true) {
            System.out.println("\nHotel Management System");

```

```
System.out.println("1. Add Room");
System.out.println("2. View Rooms");
System.out.println("3. Book Room");
System.out.println("4. Release Room");
System.out.println("5. Exit");
System.out.print("Enter your choice: ");
Int choice = scanner.nextInt();
Scanner.nextLine(); // Consume newline
Switch (choice) {
    Case 1:
        System.out.print("Enter Room ID: ");
        Int id = scanner.nextInt();
        Scanner.nextLine(); // Consume newline
        System.out.print("Enter Room Type (Single/Double/Suite): ");
        String type = scanner.nextLine();
        System.out.print("Enter Room Price: ");
        Double price = scanner.nextDouble();
        Hotel.addRoom(new Room(id, type, price));
        System.out.println("Room added successfully.");
        Break;
    Case 2:
        Hotel.viewRooms();
        Break;
    Case 3:
        System.out.print("Enter Room ID to book: ");
        Int bookId = scanner.nextInt();
        Hotel.bookRoom(bookId);
        Break;
    Case 4:
```

```
System.out.print("Enter Room ID to release: ");
```

```
Int releaseId = scanner.nextInt();
```

```
Hotel.releaseRoom(releaseId);
```

```
Break;
```

```
Case 5:
```

```
System.out.println("Exiting...");
```

```
Scanner.close();
```

```
Return;
```

```
Default:
```

```
System.out.println("Invalid choice. Please try again.");
```

```
}
```

```
}
```

```
}
```

```
}
```