import java.util.\*;

class Room {

int roomNumber;

String type;

boolean isBooked;

String customerName;

Room(int roomNumber, String type) {

this.roomNumber = roomNumber;

this.type = type;

this.isBooked = false;

this.customerName = "";

}

}

public class HotelReservationSystem {

static List<Room> rooms = new ArrayList<>();

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

initializeRooms();

int choice;

do {

System.out.println("\n=== Hotel Reservation System ===");

System.out.println("1. View Available Rooms");

System.out.println("2. Book a Room");

System.out.println("3. Cancel Booking");

System.out.println("4. View All Bookings");

System.out.println("0. Exit");

System.out.print("Enter your choice: ");

choice = sc.nextInt();

sc.nextLine(); // Consume newline

switch (choice) {

case 1:

viewAvailableRooms();

break;

case 2:

bookRoom(sc);

break;

case 3:

cancelBooking(sc);

break;

case 4:

viewAllBookings();

break;

case 0:

System.out.println("Exiting... Thank you!");

break;

default:

System.out.println("Invalid option.");

}

} while (choice != 0);

sc.close();

}

// Initialize rooms

static void initializeRooms() {

rooms.add(new Room(101, "Single"));

rooms.add(new Room(102, "Single"));

rooms.add(new Room(201, "Double"));

rooms.add(new Room(202, "Double"));

rooms.add(new Room(301, "Suite"));

}

// View all available rooms

static void viewAvailableRooms() {

System.out.println("\n--- Available Rooms ---");

for (Room room : rooms) {

if (!room.isBooked) {

System.out.println("Room " + room.roomNumber + " (" + room.type + ")");

}

}

}

// Book a room

static void bookRoom(Scanner sc) {

System.out.print("Enter room number to book: ");

int roomNum = sc.nextInt();

sc.nextLine();

Room room = getRoomByNumber(roomNum);

if (room != null) {

if (!room.isBooked) {

System.out.print("Enter your name: ");

String name = sc.nextLine();

room.isBooked = true;

room.customerName = name;

System.out.println("Room " + room.roomNumber + " booked successfully for " + name + "!");

} else {

System.out.println("Room is already booked.");

}

} else {

System.out.println("Invalid room number.");

}

}

// Cancel booking

static void cancelBooking(Scanner sc) {

System.out.print("Enter room number to cancel booking: ");

int roomNum = sc.nextInt();

Room room = getRoomByNumber(roomNum);

if (room != null) {

if (room.isBooked) {

System.out.println("Booking for " + room.customerName + " canceled.");

room.isBooked = false;

room.customerName = "";

} else {

System.out.println("Room is not booked.");

}

} else {

System.out.println("Invalid room number.");

}

}

// View all bookings

static void viewAllBookings() {

System.out.println("\n--- All Bookings ---");

for (Room room : rooms) {

if (room.isBooked) {

System.out.println("Room " + room.roomNumber + " (" + room.type + ") - Booked by " + room.customerName);

}

}

}

// Helper: Get room by number

static Room getRoomByNumber(int roomNumber) {

for (Room room : rooms) {

if (room.roomNumber == roomNumber) {

return room;

}

}

return null;

}

}