TASK 4: Hotel Reservation System

This Java program is a console-based hotel reservation system. It allows users to search, book, and cancel hotel room reservations. The system supports room categorization (Standard, Deluxe, Suite) and uses OOP principles to manage bookings and room availability.

```
import java.util.*;

class Room {
    int roomNumber;
    String type;
    boolean isBooked;

    Room(int roomNumber, String type) {
        this.roomNumber = roomNumber;
        this.type = type;
        this.isBooked = false;
    }

    void book() {
        isBooked = true;
    }

    void cancel() {
        isBooked = false;
    }
}

public class HotelReservationSystem {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        ArrayList<Room> rooms = new ArrayList<>();

        // Initialize rooms
        for (int i = 1; i <= 5; i++) rooms.add(new Room(i, "Standard"));
        for (int i = 6; i <= 10; i++) rooms.add(new Room(i, "Deluxe"));
        for (int i = 11; i <= 15; i++) rooms.add(new Room(i, "Suite"));

        while (true) {
                System.out.println("\n1. View Available Rooms\n2. Book Room\n3. Cancel Booking\n4. Exit");
            System.out.print("Choose an option: ");
```

```
        int choice = sc.nextInt();

        switch (choice) {
            case 1:
                System.out.println("Available Rooms:");
                for (Room r : rooms) {
                    if (!r.isBooked) {
                        System.out.println("Room " + r.roomNumber + " - " + r.type);
                    }
                }
                break;
            case 2:
                System.out.print("Enter room number to book: ");
                int bookNum = sc.nextInt();
                if (bookNum > 0 && bookNum <= rooms.size() && !rooms.get(bookNum - 1).isBooked) {
                    rooms.get(bookNum - 1).book();
                    System.out.println("Room " + bookNum + " booked successfully.");
                } else {
                    System.out.println("Invalid or already booked room.");
                }
                break;
            case 3:
                System.out.print("Enter room number to cancel booking: ");
                int cancelNum = sc.nextInt();
                        if (cancelNum > 0 && cancelNum <= rooms.size() && rooms.get(cancelNum -
1).isBooked) {
                    rooms.get(cancelNum - 1).cancel();
                    System.out.println("Booking for Room " + cancelNum + " cancelled.");
                } else {
                    System.out.println("Invalid or not booked room.");
                }
                break;
            case 4:
                System.out.println("Exiting...");
                sc.close();
                return;
            default:
                System.out.println("Invalid option.");
        }
    }
}
```