ATTENDANCE

Code:

```java
package com.mycompany.busreservationsystem;

import java.util.*;
public class BusReservationSystem {

        static boolean[] seats = new boolean[40]; // 40 seats, false = available
        public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
            OUTER:
            while (true) {
                System.out.println("\n--- Bus Reservation System ---");
                System.out.println("1. View Seats");
                System.out.println("2. Book Seat");
                System.out.println("3. Cancel Booking");
                System.out.println("4. Exit");
                System.out.print("Enter your choice: ");
                try {
                    int choice = sc.nextInt();
                    switch (choice) {
                        case 1:
                            viewSeats();
                            break;
                        case 2:
                            bookSeat(sc);
                            break;
                        case 3:
                            cancelSeat(sc);
                            break;

                        case 4:
                            System.out.println("Exiting... Thank you!");
                            break OUTER;
                        default:
                            System.out.println("Please enter a number from 1 to 4.");
                            break;
                    }
                }catch (Exception e) {
                    System.out.println("Invalid input! Please enter numbers only.");
                    sc.nextLine(); // clear input
                }
            }
    }
    static void viewSeats() {
        System.out.println("Seat Availability (0 = Available, 1 = Booked):");
        for (int i = 0; i < 40; i++) {
            if (seats[i]) {
                System.out.print("1 ");
            } else {
                System.out.print("0 ");
            }
            if ((i + 1) % 10 == 0) {
                System.out.println();
            }
        }
    }
    static void bookSeat(Scanner sc) {
        System.out.print("Enter seat number to book (1-40): ");
```

```java
        try {
            int seatNum = sc.nextInt();
            if (seatNum < 1 || seatNum > 40) {
                System.out.println("Invalid seat number.");
            } else if (seats[seatNum - 1]) {
                System.out.println("Seat already booked.");
            } else {
                seats[seatNum - 1] = true;
                System.out.println("Seat " + seatNum + " booked successfully.");
            }
        } catch (Exception e) {
            System.out.println("Please enter a valid number.");
            sc.nextLine(); // clear wrong input
        }
    }
    static void cancelSeat(Scanner sc) {
        System.out.print("Enter seat number to cancel (1-40): ");
        try {
            int seatNum = sc.nextInt();
            if (seatNum < 1 || seatNum > 40) {
                System.out.println("Invalid seat number.");
            } else if (!seats[seatNum - 1]) {
                System.out.println("Seat is not booked.");
            } else {
                seats[seatNum - 1] = false;
                System.out.println("Seat " + seatNum + " booking cancelled.");
            }
        } catch (Exception e) {

            System.out.println("Please enter a valid number.");
            sc.nextLine(); // clear wrong input
        }
    }
}
```

Output:

```
--- Bus Reservation System ---
1. View Seats
2. Book Seat
3. Cancel Booking
4. Exit
Enter your choice: 2
Enter seat number to book (1-40): 35
Seat 35 booked successfully.

--- Bus Reservation System ---
1. View Seats
2. Book Seat
3. Cancel Booking
4. Exit
Enter your choice: 2
Enter seat number to book (1-40): 45
Invalid seat number.

--- Bus Reservation System ---
1. View Seats
2. Book Seat
3. Cancel Booking
4. Exit
Enter your choice: 2
Enter seat number to book (1-40): 10
Seat 10 booked successfully.

--- Bus Reservation System ---
1. View Seats
2. Book Seat
3. Cancel Booking
4. Exit
Enter your choice: 1
Seat Availability (0 = Available, 1 = Booked):
0 0 0 0 0 0 0 0 0 1
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0

--- Bus Reservation System ---
1. View Seats
2. Book Seat
3. Cancel Booking
4. Exit
Enter your choice: 4
Exiting... Thank you!
```