Bus Booking System Documentation

# 1. Overview:

The Bus Booking System is a console-based application designed to allow users to book bus tickets, view their bookings, cancel tickets, and for admins to manage buses. It differentiates between two types of users: regular users and admins. Admins can add and edit buses, while users can book and manage their tickets. The system handles bus details like routes, available seats, and departure times.

# 2. Classes and Methods:

The system is organized into the following main classes:  
- `Bus`: This class stores details of a bus including bus number, route, available seats, and departure time.  
- `User`: This class represents a user, storing the user's name, username, email, password, and a list of booked buses.  
- `Admin`: A static class that handles admin functionalities such as adding buses, editing bus information, and booking seats for users.  
- `UserData`: A static class that manages the list of users, ticket booking, and cancellation operations.

# 3. Functionality:

The Bus Booking System supports the following functionalities:  
- \*\*User Functions:\*\*  
 - User sign-up and login.  
 - Ticket booking based on route and time.  
 - Viewing booked tickets.  
 - Canceling booked tickets.  
- \*\*Admin Functions:\*\*  
 - Adding new buses with route and departure time.  
 - Editing bus details like available seats, route, and time.  
 - Viewing all buses and their details.

# 4. Data Structures Used:

The system uses the following data structures:  
- \*\*ArrayList (Java)\*\*: The `ArrayList` is used for storing dynamic lists of buses and users.  
 - `List<Bus>` for storing all the bus information.  
 - `List<User>` for maintaining the list of registered users.  
 - `List<Bus>` inside the `User` class to keep track of the user's booked buses.