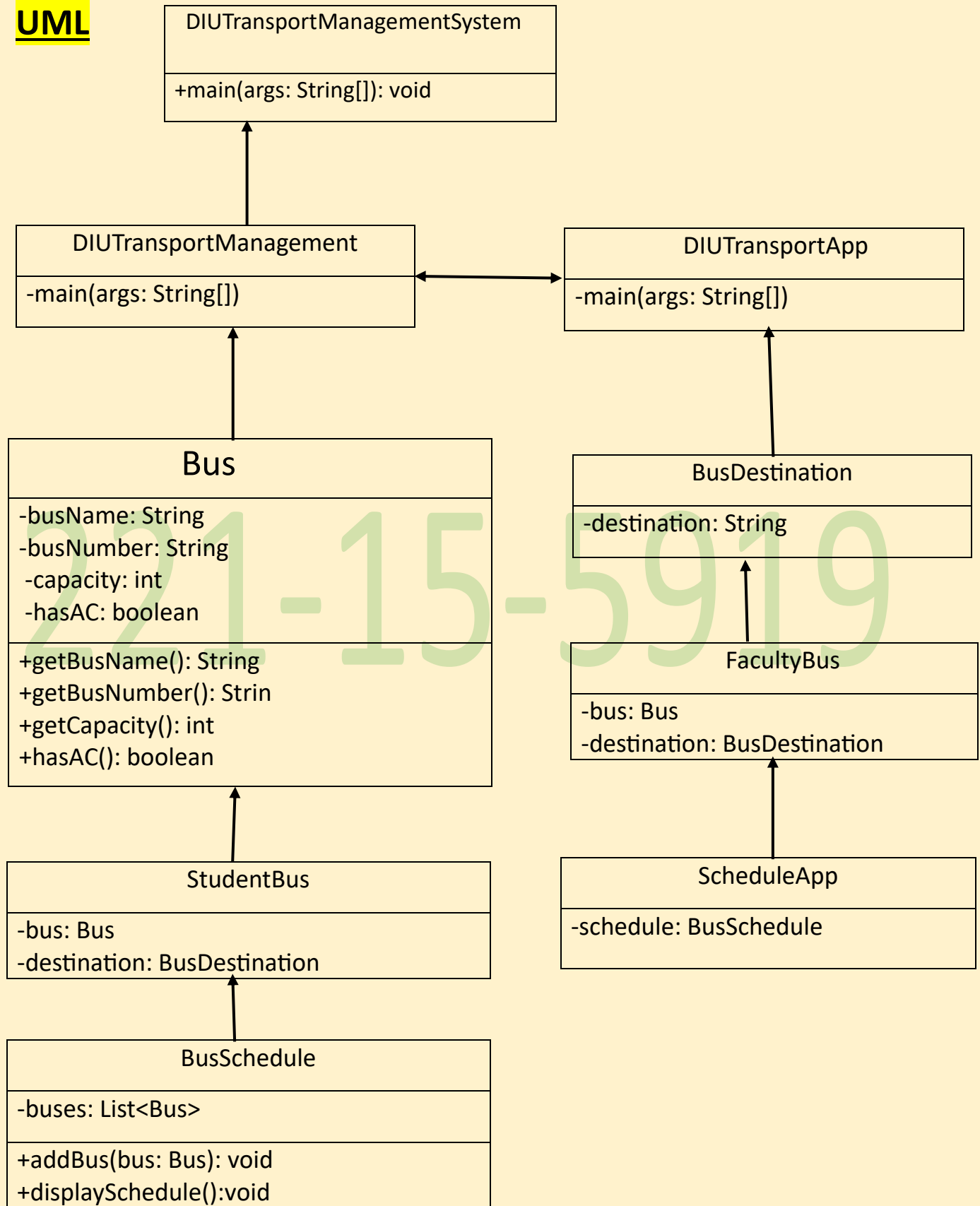


UML



CODE

```
import java.util.ArrayList;

import java.util.List;

public class DIUTransportManagementSystem {

    public static void main(String[] args) {

        System.out.println("Welcome to DIU Transport Management System!");

        // Create bus destinations

        BusDestination dhanmondiDestination = new BusDestination("Dhanmondi");
        BusDestination uttaraDestination = new BusDestination("Uttara");
        BusDestination tongiDestination = new BusDestination("Tongi");
        BusDestination savarDestination = new BusDestination("Savar");
        BusDestination narayonganjDestination = new
        BusDestination("Narayonganj");

        // Create buses

        Bus sujarmukhiBus = new Bus("SUJARMUKHI", "S001", 40, false);
        Bus dolphinBus = new Bus("DOLPHIN", "S002", 35, false);
        Bus rajunigandaBus = new Bus("RAJUNIGANDA", "F001", 25, true);

        // Create student buses

        StudentBus studentBus1 = new StudentBus(sujarmukhiBus,
        dhanmondiDestination);
```

```
StudentBus studentBus2 = new StudentBus(dolphinBus,  
dhanmondiDestination);
```

```
// Create faculty bus
```

```
FacultyBus facultyBus = new FacultyBus(rajunigandaBus,uttaraDestination);
```

```
// Create bus schedule
```

```
BusSchedule busSchedule = new BusSchedule();
```

```
busSchedule.addBus(studentBus1.getBus());
```

```
busSchedule.addBus(studentBus2.getBus());
```

```
busSchedule.addBus(facultyBus.getBus());
```

```
// Display bus schedule
```

```
System.out.println("----- Bus Schedule -----");
```

```
busSchedule.displaySchedule();
```

```
}
```

```
}
```

```
class Bus {
```

```
    private String busName;
```

```
    private String busNumber;
```

```
    private int capacity;
```

```
    private boolean hasAC;
```

```
    public Bus(String busName, String busNumber, int capacity, boolean hasAC) {
```

```
    this.busName = busName;
    this.busNumber = busNumber;
    this.capacity = capacity;
    this.hasAC = hasAC;
}
```

```
public String getBusName() {
    return busName;
}
```

```
public String getBusNumber() {
    return busNumber;
}
```

```
public int getCapacity() {
    return capacity;
}
```

```
public boolean hasAC() {
    return hasAC;
}
}
```

```
class BusDestination {
```

```
private String destination;
```

```
public BusDestination(String destination) {  
    this.destination = destination;  
}
```

```
public String getDestination() {  
    return destination;  
}  
}
```

```
class BusSchedule {  
    private List<Bus> buses;
```

```
public BusSchedule() {  
    buses = new ArrayList<>();  
}
```

```
public void addBus(Bus bus) {  
    buses.add(bus);  
}
```

```
public void displaySchedule() {  
    for (Bus bus : buses) {
```

```
        System.out.println("Bus Name: " + bus.getBusName());
        System.out.println("Bus Number: " + bus.getBusNumber());
        System.out.println("Capacity: " + bus.getCapacity());
        System.out.println("Has AC: " + (bus.hasAC() ? "Yes" : "No"));
        System.out.println();
    }
}
}
```

```
class StudentBus {
    private Bus bus;
    private BusDestination destination;

    public StudentBus(Bus bus, BusDestination destination) {
        this.bus = bus;
        this.destination = destination;
    }

    public Bus getBus() {
        return bus;
    }

    public BusDestination getDestination() {
        return destination;
    }
}
```

```
}  
}
```

```
class FacultyBus {  
    private Bus bus;  
    private BusDestination destination;  
  
    public FacultyBus(Bus bus, BusDestination destination) {  
        this.bus = bus;  
        this.destination = destination;  
    }  
  
    public Bus getBus() {  
        return bus;  
    }  
  
    public BusDestination getDestination() {  
        return destination;  
    }  
}
```