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| DIUTransportManagementSystem |
| +main(args: String[]): void |

**UML**

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| DIUTransportManagement |
| -main(args: String[]) |

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| DIUTransportApp |
| -main(args: String[]) |

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| Bus |
| -busName: String  -busNumber: String  -capacity: int  -hasAC: boolean |
| +getBusName(): String  +getBusNumber(): Strin  +getCapacity(): int  +hasAC(): boolean |

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| --- |
| BusDestination |
| -destination: String |

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| FacultyBus |
| -bus: Bus  -destination: BusDestination |

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| --- |
| StudentBus |
| -bus: Bus  -destination: BusDestination |

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| --- |
| ScheduleApp |
| -schedule: BusSchedule |

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| --- |
| BusSchedule |
| -buses: List<Bus> |
| +addBus(bus: Bus): void  +displaySchedule():void |

**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;

}

}