

//Badge.java

```
package smd;

public class Badge {
    private int ID;
    private String name;
    public Badge(int iD, String name) {
        super();
        ID = iD;
        this.name = name;
    }
    public int getID() {
        return ID;
    }
    public void setID(int iD) {
        ID = iD;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();
        builder.append("[ID->");
        builder.append(ID);
        builder.append(", Name->");
        builder.append(name);

        return builder.toString();
    }
}
```

//Bus.java

```
package smd;

import smd.Bus;

public class Bus {
    private long chassisNo;
    private int busNo;
    Driver driver;
    Conductor conductor;
    static int i ;
    public Bus(long chassisNo, int busNo, Driver driver, Conductor conductor) {
        super();
        this.chassisNo = chassisNo;
    }
}
```

```

        this.busNo = busNo;
        this.driver = driver;
        this.conductor = conductor;
        i = 1;
    }
    public long getChassisNo() {
        return chassisNo;
    }
    public void setChassisNo(long chassisNo) {
        this.chassisNo = chassisNo;
    }
    public int getBusNo() {
        return busNo;
    }
    public void setBusNo(int busNo) {
        this.busNo = busNo;
    }
    public Driver getD() {
        return driver;
    }
    public void setD(Driver d) {
        this.driver = d;
    }
    public Conductor getC() {
        return conductor;
    }
    public void setC(Conductor c) {
        this.conductor = c;
    }
    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();
        builder.append("\n\t\t");
        builder.append("Bus " +(i++)+ "-[ChassisNo->");
        builder.append(chassisNo);
        builder.append(", BusNo->");
        builder.append(busNo);
        builder.append(", Driver->");
        builder.append(driver);
        builder.append(", Conductor->");
        builder.append(conductor);
        builder.append("]");
        builder.append("\n\t\t");
        return builder.toString();
    }
}

```

//BusDepot.java

```

package smd;

import java.util.ArrayList;

```

```

public class BusDepot {
    static int i ;
    ArrayList<Bus> bus = new ArrayList<Bus>();

    public BusDepot(ArrayList<Bus> bus) {
        super();
        this.bus = bus;
        i = 1 ;
    }

    public ArrayList<Bus> getBus() {
        return bus;
    }

    public void setBus(ArrayList<Bus> bus) {
        this.bus = bus;
    }

    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();
        builder.append("BusDepot" + (i++) );
        builder.append(bus);

        return builder.toString();
    }
}

```

//Conductor.java

```

package smd;

import smd.Employee;

public class Conductor extends Employee{
    private int tvn;
    public Conductor(Badge b,int tvn) {
        super(b);
        this.tvn=tvn;
        // TODO Auto-generated constructor stub
    }
    public int getTvn() {
        return tvn;
    }
    public void setTvn(int tvn) {
        this.tvn = tvn;
    }
    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();

```

```

        builder.append("[");
        builder.append("ID->");
        builder.append(b.getID());
        builder.append(" , Name->");
        builder.append(b.getName());
        builder.append(" , TVM->");
        builder.append(tvm);
        builder.append("]");
        return builder.toString();
    }
}

```

//Driver.java

```

package smd;

import smd.Employee;

public class Driver extends Employee{

    public Driver(Badge b) {
        super(b);
        // TODO Auto-generated constructor stub
    }
}

```

//Employee.java

```

package smd;

public class Employee {

    Badge b;
    public Employee(Badge b) {
        //      super();
        this.b= b;
    }
    public Badge getB() {
        return b;
    }
    public void setB(Badge b) {
        this.b = b;
    }
    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();

        builder.append(b);
    }
}

```

```

        builder.append("]");
        return builder.toString();
    }

```

```

}

```

//TransportSystem.java

```

package smd;

import java.util.*;

public class TransportSystem {

    ArrayList<BusDepot> depot = new ArrayList<BusDepot>();

    public TransportSystem(ArrayList<BusDepot> depot) {
        super();
        this.depot = depot;
    }

    public ArrayList<BusDepot> getDepot() {
        return depot;
    }

    public void setDepot(ArrayList<BusDepot> depot) {
        this.depot = depot;
    }

    public void display()
    {
        for(BusDepot t : depot){
            System.out.println(t);
        }
    }

    @Override
    public String toString() {
        StringBuilder builder = new StringBuilder();
        builder.append("TransportSystem [depot=");
        builder.append(depot);
        builder.append("]");
        return builder.toString();
    }

}

```

//Test.java

```

package smd;

import java.util.ArrayList;

```

```

public class Test {

    public static void main(String[] args) {

        Badge b1 = new Badge(01, "Rahul");
        Badge b2 = new Badge(02, "Ajay");
        Badge b3 = new Badge(03, "Amit");
        Badge b4 = new Badge(04, "Rohan");
        Badge b5 = new Badge(05, "Amay");
        Badge b6 = new Badge(06, "Ramesh");
        Badge b7 = new Badge(07, "Suresh");
        Badge b8 = new Badge(11, "Rajesh");
        Badge b9 = new Badge(12, "Amol");

        Conductor c1 = new Conductor(b1, 111);
        Conductor c2 = new Conductor(b2, 112);
        Conductor c3 = new Conductor(b3, 113);
        Conductor c4 = new Conductor(b4, 114);
        Conductor c5 = new Conductor(b5, 115);

        Driver d1 = new Driver(b2);
        Driver d2 = new Driver(b6);
        Driver d3 = new Driver(b7);
        Driver d4 = new Driver(b8);
        Driver d5 = new Driver(b9);

        Bus bus1 = new Bus(12345678, 7563, d1, c1);
        Bus bus2 = new Bus(13728374, 9876, d2, c2);
        Bus bus3 = new Bus(98456321, 3422, d3, c3);
        Bus bus4 = new Bus(34563217, 5455, d4, c4);
        Bus bus5 = new Bus(87654321, 5453, d5, c5);

        ArrayList<Bus> busDepot = new ArrayList<Bus>();
        busDepot.add(bus1);
        busDepot.add(bus2);
        busDepot.add(bus3);

        ArrayList<Bus> busDepot2 = new ArrayList<Bus>();
        busDepot2.add(bus4);
        busDepot2.add(bus5);

        BusDepot bd1 = new BusDepot(busDepot);
        BusDepot bd2 = new BusDepot(busDepot2);
        ArrayList<BusDepot> transportSystemBusDepot = new ArrayList<BusDepot>();
        transportSystemBusDepot.add(bd1);
        transportSystemBusDepot.add(bd2);

        TransportSystem ts1 = new TransportSystem(transportSystemBusDepot);
    }
}

```

```
        System.out.println("Transport system : ");
        ts1.display();
    }
}
```

//Output

Transport system :

```
BusDepot1[
    Bus 1-[ChassisNo->12345678, BusNo->7563, Driver->[ID->2, Name->Ajay],
    Conductor->[ID->1 , Name->Rahul, TVM->111]]
    ,
    Bus 2-[ChassisNo->13728374, BusNo->9876, Driver->[ID->6, Name->Ramesh],
    Conductor->[ID->2 , Name->Ajay, TVM->112]]
    ,
    Bus 3-[ChassisNo->98456321, BusNo->3422, Driver->[ID->7, Name->Suresh],
    Conductor->[ID->3 , Name->Amit, TVM->113]]
]
BusDepot2[
    Bus 4-[ChassisNo->34563217, BusNo->5455, Driver->[ID->11, Name->Rajesh],
    Conductor->[ID->4 , Name->Rohan, TVM->114]]
    ,
    Bus 5-[ChassisNo->87654321, BusNo->5453, Driver->[ID->12, Name->Amol],
    Conductor->[ID->5 , Name->Amay, TVM->115]]
]
```