

```
public interface Truck {  
    public int getAxles();  
    public int getTotalWeight();  
    public String getMake();  
}
```

```
public class FordTruck implements Truck {  
    private final int axles;  
    private final int totalWeight;  
    private final String make;
```

```
    public FordTruck(int axles, int totalWeight) {  
        this.axles = axles;  
        this.totalWeight = totalWeight;  
        this.make = "Ford";  
    }
```

```
    public int getAxles() {  
        return axles;  
    }
```

```
    public int getTotalWeight() {  
        return totalWeight;  
    }
```

```
    public String getMake() {  
        return make;  
    }  
}
```

```
public class NissanTruck implements Truck {  
    private final int axles;  
    private final int totalWeight;  
    private final String make;
```

```
    public NissanTruck(int axles, int totalWeight) {  
        this.axles = axles;  
        this.totalWeight = totalWeight;  
        this.make = "Nissan";  
    }
```

```
    public int getAxles() {  
        return axles;  
    }
```

```
    public int getTotalWeight() {  
        return totalWeight;  
    }
```

```
    public String getMake() {  
        return make;  
    }  
}
```

```
public class DaewooTruck implements Truck {  
    private final int axles;  
    private final int totalWeight;  
    private final String make;
```

```
  
    public DaewooTruck(int axles, int totalWeight) {  
        this.axles = axles;  
        this.totalWeight = totalWeight;  
        this.make = "Daewoo";  
    }
```

```
  
    public int getAxles() {  
        return axles;  
    }
```

```
  
    public int getTotalWeight() {  
        return totalWeight;  
    }
```

```
  
    public String getMake() {  
        return make;  
    }  
}
```

```
  
public interface TollBooth {  
    public void calculateToll(Truck truck);  
    public void displayData();  
    public void collectReceipts();  
}
```

```
  
public class AlleghenyTollBooth implements TollBooth {  
    private int totalTrucks;  
    private int totalReceipts;
```

```
  
    public AlleghenyTollBooth() {  
        totalTrucks = 0;  
        totalReceipts = 0;  
    }
```

```
  
    public void calculateToll(Truck truck) {  
        int axles = truck.getAxles();  
        int weight = truck.getTotalWeight();  
        int toll = (axles * 5) + ((weight / 500) * 10);  
        totalTrucks++;  
        totalReceipts += toll;  
        System.out.println("Arrival of " + truck.getMake() + " Truck");  
        System.out.println("Truck arrival - Axles: " + axles +  
            " Total weight: " + weight + " Toll due: $" + toll);  
    }
```

```
  
    public void displayData() {  
        System.out.println("Totals since last collection - Receipts: $" + totalReceipts + " Trucks: " +  
            totalTrucks);  
    }
```

```
}
```

```
public void collectReceipts() {  
    System.out.println("*** Collecting receipts ***");  
    displayData();  
    totalTrucks = 0;  
    totalReceipts = 0;  
    System.out.println("***** Reset Receipts *****");  
    displayData();  
}  
}
```

```
public class TestTollBooth {  
    public static void main(String[] args) {  
        TollBooth booth = new AlleghenyTollBooth();
```

```
        Truck ford = new FordTruck(5, 12500); // 5 axles, 12500 kg  
        Truck nissan = new NissanTruck(2, 5000); // 2 axles, 5000 kg  
        Truck daewoo = new DaewooTruck(6, 17000); // 6 axles, 17000 kg
```

```
        booth.calculateToll(ford);  
        booth.calculateToll(nissan);  
        booth.calculateToll(daewoo);
```

```
        booth.displayData();  
        booth.collectReceipts();  
    }  
}
```