

Exercise 2: Implementing the Factory Method Pattern

```
// Product interface
interface Vehicle {
    void drive();
}

// Concrete products
class Car implements Vehicle {
    public void drive() {
        System.out.println("Driving a car");
    }
}

class Truck implements Vehicle {
    public void drive() {
        System.out.println("Driving a truck");
    }
}

// Creator abstract class
abstract class VehicleFactory {
    public abstract Vehicle createVehicle();
    public Vehicle getVehicle() {
        Vehicle vehicle = createVehicle();
        return vehicle;
    }
}

// Concrete creators
```

```
class CarFactory extends VehicleFactory {  
    public Vehicle createVehicle() {  
        return new Car();  
    }  
}
```

```
class TruckFactory extends VehicleFactory {  
    public Vehicle createVehicle() {  
        return new Truck();  
    }  
}
```

```
public class Main {  
    public static void main(String[] args) {  
        VehicleFactory carFactory = new CarFactory();  
        Vehicle car = carFactory.getVehicle();  
        car.drive();  
  
        VehicleFactory truckFactory = new TruckFactory();  
        Vehicle truck = truckFactory.getVehicle();  
        truck.drive();  
    }  
}
```

Output :

Driving a car

Driving a truck