

OOPL Assignment – 9

Factory Design Pattern

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Batch : F10
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Code :-

1] Car.java

```
/*
Name:-Atharva Kinikar
Div :- SE10
Batch :- F10
Roll No :23241
*/

public abstract class Car {

    public Car(CarType model, ManufacturerType manufacturer)
    {
        this.model = model;
        this.manufacturer = manufacturer;
        arrangeParts();
    }

    private void arrangeParts() {
        System.out.println("Car Manufacturing Started");
    }

    protected abstract void construct();

    private CarType model = null;
    private ManufacturerType manufacturer = null;

    public CarType getModel() {
```

```

        return model;
    }

    public void setModel(CarType model) {
        this.model = model;
    }

    public ManufacturerType getManufacturer() {
        return manufacturer;
    }

    public void setManufacturer(ManufacturerType
manufacturer) {
        this.manufacturer = manufacturer;
    }
}

```

2] CarFactory.java

```

/*
Name:-Atharva Kinikar
Div :- SE10
Batch :- F10
Roll No :23241
*/

public class CarFactory {
    public static Car buildCar(CarType model,
ManufacturerType manufacturer) {

        Car car = null;

        switch (model) {
            case SMALL:
                car = new SmallCar();
                break;
            case SEDAN:
                car = new SedanCar();
                break;

```

```

        case LUXURY:
            car = new LuxuryCar();
            break;
        default:
            System.out.println("Invalid Choice !!!");
            break;
    }
    return car;
}
}

```

3] CarType.java

```

public enum CarType{
    SMALL, SEDAN, LUXURY
}

```

4] LuxuryCar.java

```

public class LuxuryCar extends Car{
    LuxuryCar(){
        super(CarType.LUXURY, ManufacturerType.BMW);
        construct();
    }

    @Override
    protected void construct() {
        System.out.println("Building the Luxury car");
        System.out.println("Model Name : BMW 520d");
    }
}

```

5] SedanCar.java

```

public class SedanCar extends Car{
    SedanCar(){
        super(CarType.SEDAN, ManufacturerType.SKODA);
        construct();
    }
}

```

```

@Override
protected void construct() {
    System.out.println("Building the Sedan");
    System.out.println("Model Name : Skoda Octavia");
}
}

```

6] SmallCar.java

```

public class SmallCar extends Car{
    SmallCar(){
        super(CarType.SMALL, ManufacturerType.HYUNDAI);
        construct();
    }

    @Override
    protected void construct() {
        System.out.println("Building Small Car ");
        System.out.println("Model Name : Hyundai i20");
    }
}

```

7] TestFactoryPattern.java

```

public class TestFactoryPattern{

    public static void main(String[] args) {

        System.out.println("CAR FACTORY\n");
        System.out.println(CarFactory.buildCar(CarType.SMALL
, ManufacturerType.HYUNDAI));
        System.out.println();

        System.out.println(CarFactory.buildCar(CarType.SEDAN
, ManufacturerType.SKODA));
        System.out.println();
    }
}

```

```
        System.out.println(CarFactory.buildCar(CarType.LUXURY, ManufacturerType.BMW));  
    }  
}
```

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TestFactoryPattern.java - assign 9 - Visual Studio Code

PROBLEMSOUTPUTDEBUG CONSOLETERMINAL

Code + -

Windows PowerShell

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Try the new cross-platform PowerShell <https://aka.ms/powershell>

PS C:\Users\Kinikar\Desktop\P.I.C.T\SEM 3\OOP LAB\Assignments\assign 9> cd "c:\Users\Kinikar\Desktop\P.I.C.T\SEM 3\OOP LAB\Assignments\assign 9\" ; if (\$?) { javac TestFactoryPattern.java } ; if (\$?) { java TestFactoryPattern }

CAR FACTORY

Car Manufacturing Started

Building Small Car

Model Name : Hyundai i20

SmallCar@69222c14

Car Manufacturing Started

Building the Sedan

Model Name : Skoda Octavia

SedanCar@782830e

Car Manufacturing Started

Building the Luxury car

Model Name : BMW 520d

LuxuryCar@3fb4f649

PS C:\Users\Kinikar\Desktop\P.I.C.T\SEM 3\OOP LAB\Assignments\assign 9>

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