

Object Oriented Programming

POLYMORPHISM

Method Overriding

If subclass (child class) has the same method as declared in the parent class, it is known as method overriding in Java.

Usage of Java Method Overriding:

- Method overriding is used to provide the specific implementation of a method which is already provided by its superclass.
- Method overriding is used for runtime polymorphism

Method Overriding

Rules for Java Method Overriding:

- The method must have the same name as in the parent class
- The method must have the same parameter as in the parent class.
- There must be an IS-A relationship (inheritance).
- A static method cannot be overridden.

Method Overriding

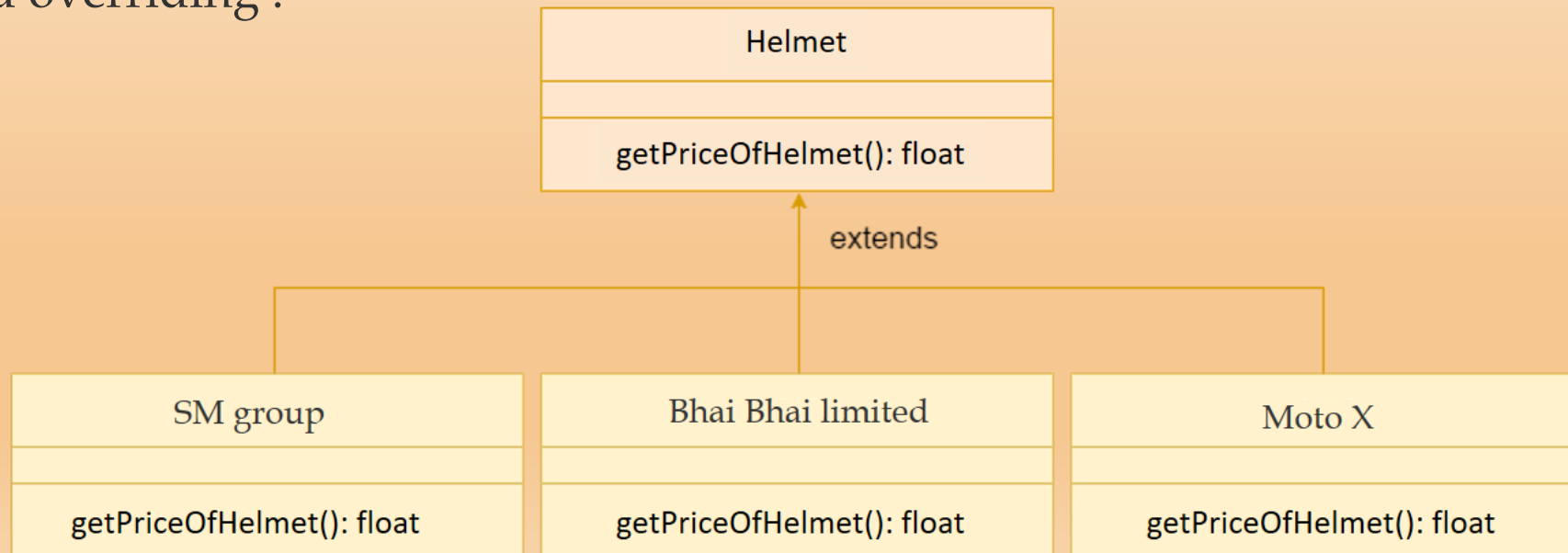
```
class Vehicle{
    //defining a method
    void run(){
        System.out.println("Vehicle is running");
    } }
//Creating a child class
class Bike2 extends Vehicle{
    //defining the same method as in the parent class
    void run(){
        System.out.println("Bike is running safely");
    }
    public static void main(String args[]){
        Bike2 obj = new Bike2();    //creating object
        obj.run();    //calling method
    }
}
```

Output:

Bike is running safely

Method Overriding

Consider a scenario where Marketplace is a class that provides functionality to get the price of a SMK full face helmet. However, the price of the helmet varies according to seller. For example, SM group, Bhai Bhai limited and Moto X sell the helmet at 2500 Tk, 2700 Tk, and 2650 Tk. Write a Program in JAVA to show the prices of the helmet using method overriding .



Method Overriding

```
class Helmet{
float getPriceOfHelmet() {
    return 0;
} }
class SMG extends Helmet{
float getPriceOfHelmet(){
    return 2500;
} }
class BBL extends Helmet{
float getPriceOfHelmet() {
    return 2700;
} }
class MotoX extends Helmet {
float getPriceOfHelmet() {
    return 2650;
} }
```

```
class Test2{
public static void main(String args[]){
    SMG s=new SMG();
    BBL b=new BBL();
    MotoX m=new MotoX();
    System.out.println("SMG price is: "+s.getPriceOfHelmet());
    System.out.println("BBL price is: "+b.getPriceOfHelmet());
    System.out.println("MotoX price is: "+m.getPriceOfHelmet());
}
}
```

Output:

```
SMG price is: 2500.00
BBL price is: 2700.00
MotoX price is: 2650.00
```

Thank You