

**Code:**

```
class Box {  
    double length;  
    double width;  
    double height;  
  
    // Default constructor  
    Box() {  
        length = -1;  
        width = -1;  
        height = -1;  
    }  
    // Parameterized constructor  
    Box(double len, double wid, double hgt) {  
        length = len;  
        width = wid;  
        height = hgt;  
    }  
    // Copy constructor  
    Box(Box ob) {  
        length = ob.length;  
        width = ob.width;  
        height = ob.height;  
    }  
    Box(double len)  
    {  
        width=height=length=len;  
    }  
  
    // Method to calculate volume  
    double volume() {  
    return length * width * height;  
    }
```

```
}
```

```
// Define the BoxWeight class that extends Box
```

```
class BoxWeight extends Box {
```

```
double weight;
```

```
    // Default constructor
```

```
    BoxWeight() {
```

```
        super();
```

```
        weight = -1;
```

```
    }
```

```
    // Parameterized constructor
```

```
    BoxWeight(double len, double wid, double hgt, double wt) {
```

```
super(len, wid, hgt);
```

```
        weight = wt;
```

```
    }
```

```
    // Copy constructor
```

```
    BoxWeight(BoxWeight ob) {
```

```
super(ob);
```

```
        weight = ob.weight;
```

```
    }
```

```
    BoxWeight(double len, double wt)
```

```
    {
```

```
        super(len);
```

```
        weight=wt;
```

```
    }
```

```
}
```

```
// Define the Shipment class that extends BoxWeight
```

```
class Shipment extends BoxWeight {
```

```
double cost;
```

```
    // Default constructor
```

```
    Shipment() {
```

```
        super();
```

```

        cost = -1;
    }
    // Parameterized constructor
    Shipment(double len, double wid, double hgt, double wt, double c) {
super(len, wid, hgt, wt);
        cost = c;
    }
    // Copy constructor
    Shipment(Shipment ob) {
super(ob);
        cost = ob.cost;
    }
    Shipment(double len, double wt, double c)
    {
        super(len,wt);
        cost=c;
    }
}

publicclass BoxClassApplication
{
publicstaticvoid main(String[] args)
{
    Shipment shipment1 =new Shipment(10, 20, 15, 10, 3.41);
    Shipment shipment2 =new Shipment(2, 3, 4, 0.76, 1.28);
    double vol;
    vol = shipment1.volume();
    System.out.println("Volume of shipment1 is " + vol);
    System.out.println("Weight of shipment1 is "+ shipment1.weight);
    System.out.println("Shipping cost: $" + shipment1.cost);
    System.out.println();
    vol = shipment2.volume();
    System.out.println("Volume of shipment2 is " + vol);
    System.out.println("Weight of shipment2 is "+ shipment2.weight);
    System.out.println("Shipping cost: $" + shipment2.cost);

```

}

}