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BSSE23058

## Quiz-3 (CLO-2)

BSSE-2023 (A&B)

Dr. Muhammad Asif

### Software Requirement Engineering

SE203-T (Spring-25)

Information Technology University (ITU) - Lahore

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Time: 15min

Marks=10

#### Question 1: Missing Base Component Implementation

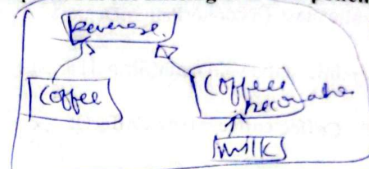
The following code tries to implement the Decorator Pattern, but it is incomplete. Fix the missing base component implementation.

*class here*  
class Coffee extends Beverage {  
 @Override  
 public String getDescription() {  
  
 return "Plain Coffee";  
 }  
  
 @Override  
 public double getCost() {  
  
 return 5.0; }  
}

*Beverage*  
class CoffeeDecorator extends Coffee {  
 Beverage beverage;  
 protected Coffee coffee;  
 public CoffeeDecorator(Coffee coffee) {  
 this.beverage = beverage;  
 this.coffee = coffee; }  
}

@Override  
public String getDescription() {  
  
 return coffee.getDescription(); }  
  
@Override  
public double getCost() {  
  
 return coffee.getCost(); }  
}

*Beverage.beverage = coffee;*  
class Milk extends CoffeeDecorator {  
 public Milk(Coffee coffee) {  
 this.beverage = coffee;  
 this.coffee = coffee;  
 }  
}



*this should be abstract function that should be overridden.*  
~~public abstract double getCost();~~

*There should be another class that should be added. i.e. Coffee is Coffee decorator class*  
public abstract class Beverage {  
 public String getDescription();  
 public double getCost();  
}

32 code

*private Beverage beverage;*

*super(coffee); }*

@Override

public String getDescription() {

return super.getDescription() + ", Milk"; }

@Override

public double getCost() {

return super.getCost() + 2.0; }

public class DecoratorPatternDemo {

public static void main(String[] args) {

Coffee coffee = new Coffee();

coffee = new Milk(coffee);

System.out.println("Description: " + coffee.getDescription());

System.out.println("Cost: " + coffee.getCost()); }

}, Chocolate Topping"; }

*Beverage beverage = new Beverage();  
beverage = new Coffee(Milk);  
~~beverage =~~*

*beverage.*

*beverage.*

?