LAB1 CPIT-252

Q1. How would you fix this code to print the correct total quantity, 3?

- By changing the variable quantity to static.

```
1   package com.company;
2
3   public class Product {
4       private int id;
5       private double price;
6       private String name;
7       private static int quantity;
```

Q2.The Product class should not be instantiated directed. Only concrete classes should be instantiated. What would you do to fix this?

- By changing the product class to abstract class

```
public abstract class Product {
```

Q3.Change the main class to utilize the use of Polymorphism and iterate through an array of Products using the enhanced for statement (a.k.a For-Each Loop)?

```
3   import java.time.LocalDate;
4   public class Main {
5
6       public static void main(String[] args) {
7           Product p1 = new FoodProduct( id: 6745,  price: 5.50,  name: "Penne Pasta", LocalDate.now());
8           Product p2 = new FoodProduct( id: 8853,  price: 6.50,  name: "Spaghetti Pasta",LocalDate.now());
9           Product p3 = new FoodProduct( id: 2106,  price: 4.50,  name: "Linguine Pasta",LocalDate.now());
10          Product p4 = new FoodProduct( id: 3452, price: 10.0, name: "Cheddar cheese", LocalDate.now());
11          LocalDate.parse("2022-06-07");
12          ElectricProduct p5 = new ElectricProduct( id: 4875, price: 30.0, name: "Extension cord", voltage: "220v");
13          Product [] addProduct = {p1, p2, p3, p4, p5};
14          for(Product product : addProduct){
15              System.out.println(product.toString());
```

Q4.What would you do to prevent subclasses from overriding the addToShoppingCart() method of the Product class without changing its visibility?

```
19      public final void addToShoppingCart(){
20          System.out.println(this.name + " has been added to the shopping cart.");
21      }
```

Q5.Why is this considered bad? How would you fix it?

- Because we can't change some information from the main class and that isn't flexible, we can fix it buy using setters and getters.

```
41      public void setOrderId(int orderId) {
42          this.orderId = orderId;
43      }
44      public int getOrderId() {
45          return orderId;
46      }
47      public void setOrderStatus(String orderStatus) {
48          this.orderStatus = orderStatus;
49      }
50      public String getOrderStatus() {
51          return orderStatus;
52      }
```

Q6.Why is this considered bad? How would you fix it?

- We just need to change the weight's permission to protected so it can be reached by the subclasses and by the other classes in the same package.

```
protected double weight;
```