Honor Pledge

On my honor, I have neither given nor received any unauthorized aid on this quiz.

By typing your first and last name in the space provided below you are electronically signing to indicate that:

(1) You are the person who is taking this quiz.

(2) You read and understood the Honor Pledge and you agree to be bound by it.

Question 1. (4 pts) Willy Wazoo implemented boxed Integers with the interning pattern.

```
import java.util.*;

class WillysInteger {
   private int value;
   private WillysInteger(int value) {
      this.value = value;
   }
   private static Map<WillysInteger, WillysInteger> cache =
                                    new HashMap<WillysInteger, WillysInteger>();
   public static WillysInteger valueOf(int value) {
     WillysInteger tmp = new WillysInteger(value);
     if (cache.containsKey(tmp))
       return cache.get(tmp);
     else {
       cache.put(tmp,tmp);
       return tmp;
     }
   }
}
```

Unfortunately, Willy forgot something. What is it?

Help Willy fix his code. Willy's code is given below, you need to change it:

Question 2. (2 pts) Which design pattern(s) traverse composites? Select all that apply:

Question 3. (2 pts) Consider code from slides 55 – 56 in DesignPatterns2.pdf (or BooleanDemo.java from the Examples). Write the code to create an instance of expression `not (x or not true) or y and z`:

Question 4. (2 pts) You have a class that accepts and returns values of fuel economy in MPG (miles per gallon), but for your problem fuel economy is stated as "fuel consumption" in liters per 100 kilometers (L/100 km). The design pattern that would best solve your problem is: