

## Notes for Quiz 2

### 1) Writing/understanding an equals method.

- a) Complete the equals method in the following class. Two Palette objects are equal if they have the same name and their arrays, colors, have the same elements in the same order.

```
public class Palette {
    private Color[] colors;
    private String name;

    public Palette(Color[] c, String n) {
        colors = c;
        name = n;
    }

    public boolean equals(Object obj) {
        if (obj instanceof Palette) {
            // Write your code here

        } else {
        }
    }
}
```

- b) If the Palette class were to be inherited, how would you modify the equals method? Explain why?

- 2) Review the differences between alias, shallow copy, and deep copy from the exercises done in class (see the class calendar). Then, work through the questions below:

<pre>public class A {     public B b;     public A(B b) {         this.b = b;     }     public A copy() {         // code     } }</pre>	<pre>public class B {     public int[] intArray;     // constructors, methods, ...     public B copy() {         // returns a deep copy of B     } }</pre>
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In classes A and B, a copy method is implemented. You can assume that the copy method in B is correctly programmed and returns a deep copy. This question relates to the copy method within A:

In place of the comment // code in class A, consider these 3 possibilities

Case 1	Case 2	Case 3
<b>A copy = this; return copy;</b>	<b>A copy = new A(this.b); return copy;</b>	<b>A copy = new A(this.b); copy.b = b.copy(); return copy;</b>

- a) State whether any of the following conditions is true (T) or false (F) within the copy method of A (just before the line return copy.) Assume that b is never null and that intArray is never null or empty.

	Case 1	Case 2	Case 3
<b>this.b == copy.b</b>			
<b>this.b.intArray == copy.b.intArray</b>			
<b>this.b.intArray[0] == copy.b.intArray[0]</b>			

- b) Draw an object diagram illustrating case 3