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CS394: Java Programming
Lab3, Due: 20150913

1. What gets printed by the following program? Is there any change that can be made in function f() that will change the value printed in main()? If so, show the change below. If not, explain why not.

This prints "some value" to the console.

While there might be a way to change f() to modify the value of s, I don't think it can be done within the scope of what we've covered in class. This is because parameters in Java are passed by value and are therefore copied into functions rather than as a specific address.

2. Again, this prints "some value" to the console. This can actually be fixed this time.

replacing the line `s = new StringBuffer("value")` with
`s.replace(0, s.length(), "value");`

This is because `StringBuffer` is mutable. This is why it has a method called `replace()` because it is intended to be changed.

Part B

```
public static void main(String[] args) {
    Random ran = new Random();
    int checkedCount = 0;
    int uncheckedCount = 0;
    int noExceptionsCount = 0;

    for (int i = 0; i < 100; i++) {
        switch (ran.nextInt(3)) {
            case 0: //unchecked exception
                try{
                    Object a[] = new String[1];
                    a[0] = new Integer(1234); //tries to store Integer as String
                } catch (ArrayStoreException ase) {
                    uncheckedCount++;
                    System.out.print("Unchecked Exception!\n");
                }
                break;
            case 1: //checked exception
                try {
                    //Tries to parse alphabetic characters as Integer
                    Integer j = Integer.parseInt("Butt");
                } catch (NumberFormatException n) {
                    checkedCount++;
                    System.out.print("Checked exception!\n");
                }
                break;
            case 2: //No exceptions
                System.out.print("I'm not exceptional.\n");
                noExceptionsCount++;
                break;
            default:
                System.out.print("default");
                break;
        }
    }
    //Print counts!
    System.out.print("\nChecked Exceptions:  " + checkedCount + '\n');
    System.out.print("Unchecked Exceptions:  " + uncheckedCount + '\n');
    System.out.print("No Exceptions:      " + noExceptionsCount + '\n');
    System.out.print("TOTAL:          " + Integer.sum(checkedCount, uncheckedCount + noExceptionsCount) + '\n');
}
```

Part C

```
import java.io.*;

public class Lab2 {
    public static void main(String[] args) {
        try {
            FileInputStream file = new
FileInputStream("C:\\Users\\EW043872\\IdeaProjects\\Lab#2\\src\\Lab3Object2.ser");
            ObjectInputStream obj = new ObjectInputStream(file);
            PersistentStorage ps = (PersistentStorage) obj.readObject();
            System.out.print(ps.getInstanceSecret() + '\n');
            System.out.print(ps.getComputedSecret());
        } catch (FileNotFoundException e) {
            e.printStackTrace();
        } catch (IOException i){
            i.printStackTrace();
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
    }
}
```

```
"C:\Program ...
Java is awesome
C:\Users\EW043872\IdeaProjects\Lab#2
Process finished with exit code 0
```