Security Injections @Towson

Security Injections, Java CS1 - Integer Error

1. Background | 2. Code Responsibly | 3. Laboratory Assignment
4. Security Checklist | 5. Discussion Questions

Security Checklist

Complete the Security Checklist for the program below

▶ Click to see how a checklist works

Vulnerability: *Integer Errors* **Course:** *CS1*	
Check each line of code	**Completed**
1. Click each declaration of an integer variable.	☑ ✓
For each variable from 1:	
2. Click all input operations that assign values to the variable.	☑ ✓
3. Click all mathematical operations involving the variable.	☑ ✓
4. Click all assignments made to the variable.	☑ ✓
Highlighted areas indicate vulnerabilities!	

```
import java.util.Scanner;

public class IntegerCheck {

  public static void main(String[] args) {

    Scanner scan = new Scanner(System.in);
    int i;
    byte b;
    short sh;
    long lon;

    System.out.println("Valid integer is between "
      + Integer.MIN_VALUE + " and " + Integer.MAX_VALUE );
    System.out.println("Valid byte is between "
      + Byte.MIN_VALUE + " and " + Byte.MAX_VALUE );
    System.out.println("Valid short is between "
      + Short.MIN_VALUE + " and " + Short.MAX_VALUE );
    System.out.println("Valid long is between "
      + Long.MIN_VALUE + " and " + Long.MAX_VALUE );

    System.out.print("Type an integer value: ");
    i = scan.nextInt();
    System.out.print("Type a byte value: ");
    b = scan.nextByte();
    System.out.print("Type a short value: ");
    sh = scan.nextShort();
    System.out.print("Type a long value: ");
    lon = scan.nextLong();

    System.out.println("\nYou entered the following values: ");
    System.out.println("Integer: " + i);
    System.out.println("Byte: " + b);
    System.out.println("Short: " + sh);
    System.out.println("Long: " + lon);

    short newsh = (short)(sh * 10);
    System.out.println("Ten times " + sh + " is " + newsh);
    i = Integer.MAX_VALUE + 1;
    System.out.println("Integer Overflow: "
      + Integer.MAX_VALUE + " + 1 = " + i);

  }

}
```

Go To Next Section

This project is supported by the National Science Foundation under grants DUE-1241738 and DUE -0817267. Any opinions, findings, conclusions, or recommendations expressed are those of the authors and do not necessarily reflect the views of the National Science Foundation.