CS 302 - Week 13

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What are problems with this Exception Handling?

```
class MyException { }
public class Test {
    public static void errMethod( double value) throws MyException {
        if ( value < 5.0) {
            throw new MyException("value < 5.0");
        }
    }
    public static void main( String []args) {
        errMethod( 1.5);
    }
}
```

What is print out?

```java
class MyException {}
public class Test {
    public static void errMethod( double value) throws MyException {
        if ( value < 5.0) {   throw new MyException("value < 5.0");
        System.out.println("thrown from errMethod"); }
    }
    public static void main( String []args) {
        try {
            errMethod( 1.5); System.out.println("after");
        } catch ( Exception e) { e.printStackTrace();
        } catch ( MyException e) { System.out.println( e.getMessage()); throw e;
        } finally { System.out.println("finally"); }
        System.out.println("done.");
    }
```

Formatted Output

```java
public class FormattedPrint {
    public static void main(String[] args) {
        String name = "Fred";
        int num = 100;
        double dNum = 3.1415926;
        System.out.printf("Hello %s\n", name);
        System.out.printf("an int: %d, a double %.2f\n", num, dNum);
    }
}
```

http://docs.oracle.com/javase/7/docs/api/java/util/Formatter.html#syntax

What does this do?

```java
import java.io.*;
class Change {
    public static void main(String[] args) throws Exception {
        if (args.length != 3) {
            System.out.println("Usage: java Change sourceFile oldStr newStr");
            System.exit(1);
        }
        File sourceFile = new File(args[0]);
        if (!sourceFile.exists()) {
            System.out.println("Source file " + args[0] + " does not exist.");
            System.exit(2);
        }
        // more file handling...
    }
}   //Liang, Listing 12.16
```

What does this do?

```
StringBuilder sb = new StringBuilder();
try (  //try with resources, calls close when done
        Scanner input = new Scanner( sourceFile);
) {
    while ( input.hasNext() ) {
        String s1 = input.nextLine();
        String s2 = s1.replaceAll( args[1], args[2]);
        sb.append(s2 + "\n");
    }
}
```

https://docs.oracle.com/javase/tutorial/essential/exceptions/tryResourceClose.html

What does this do?

```
try (
    // Write back to the file
    PrintWriter output = new PrintWriter(sourceFile);
) {
    output.printf("%s", sb.toString());
}
```

Problems?

new File("../programs/First.java");

What does this do?

```
public class Show {
    public static void show( File file, int depth) {
        File [] files = file.listFiles();
        for ( int i = 0; i < files.length; i++){
            System.out.printf("%" + (depth*2) + "s%s\n", "", files[i].getName());
            if ( files[i].isDirectory())
                show( files[i], depth+1);
        }
    }
    public static void main(String[] args) {
        File file = new File(".");
        show( file, 1);
    }
}
```

What does this do?

```java
public class ReadFromURL {
    public static void main(String[] args) {
        try {
            java.net.URL url = new java.net.URL("https://www.google.com");
            try (    Scanner input = new Scanner(url.openStream());
            ) {
                while (input.hasNext()) {
                    String line = input.nextLine();
                    System.out.println(line);
                }
            } //end try-with-resources Scanner
        } catch (java.io.IOException e) {
            e.printStackTrace();
        }
    }
```