

The Java Programming Structure

IFT 194: HW 1

Brandon Doyle
bdoyle5@asu.edu
1215232174

Dr. Usha Jagannathan
Usha.Jagannathan@asu.edu

August 8, 2018

Summary

Exceptions aren't always errors	2
Placing Exception Handlers	2
Throwing Exceptions	2

Exceptions aren't always errors

For this section we're given a class `CountLetters` (cf. [Figure 1](#)) that reads a word from the user and prints the number of occurrences of each letter in the word.

```
package lab_6;
import java.util.Scanner;
public class CountLetters
{
    public static final int ALPHABET_LENGTH = 26;
    public static final char[] ALPHABET = "abcdefghijklmnopqrstuvwxyz".toCharArray();

    public static void main(String[] args)
    {
        try (var scnr = new Scanner(System.in)) {
            int counts[] = new int[ALPHABET_LENGTH];
            String input;

            do {
                System.out.print("Enter a single word (letters only): ");
                input = scnr.next();

                // Ensure the input is only letters
                if (!input.matches("[a-zA-Z]*")) {
                    System.out.println("*** Error: Please enter only letters");
                    continue;
                }

                break;
            } while (true);

            // Build counts
            for (char c : input.toLowerCase().toCharArray())
                counts[c - 'a']++;

            // Print spectrum
            for (int i = 0; i < ALPHABET_LENGTH; ++i)
                if (counts[i] != 0)
                    System.out.printf("%c: %d\n", ALPHABET[i], counts[i]);
        }
    }
}
```

Figure 1: `CountLetters.java`

Placing Exception Handlers

Throwing Exceptions