

CSC 220 – Lab 6

April 9, 2014

Due: Friday, April 11, 11:59pm.

Objective:

Exercise strings, conditionals, and loops in Java. Get acquainted with Java documentation of the standard library.

Task:

Design and implement an application that performs the following:

- Prompts the user for input. The user may provide multiple lines of text. The program stops reading input once an empty line is received. **(15 points)**
- The input is concatenated into a single string. **(10 points)**

The program outputs:

- The concatenated input (single println statement). **(2 points)**
- An error message if the whole input is less than 5 characters long. **(5 points)**
- The first substring of length 5 in lexicographic order **(12 points)** and the number of times it appears in the input, separated by a tab. **(12 points)**
- The last substring of length 5 in lexicographic order **(12 points)** and the number of times it appears in the input, separated by a tab. **(12 points)**

Example:

The user provides the following input:

The fox jumped over the lazy brown dog.

This is my first string program and my name is Dimitris.

The program outputs the following:

The fox jumped over the lazy brown dog.This is my first string
program and my name is Dimitris.

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zy br 1

Hints:

- Google 'java string' to find the Java documentation of the String class. Examine carefully the methods that String objects have access to.
- Use a while loop to collect the input from the user. Concatenate the text string in the loop.
- Use a loop to find the first string in lexicographic order of size 5. You can use the same loop to find the last string in lexicographic order.
- Use another loop to count the occurrences of the aforementioned first and last strings. You can use the same loop for both.

The name of the file where you save your program should contain your name, last name first (example SmithJohn_Lab06.java). **(5 points)**

Start your program with a Javadoc comment that has your name, the course number and section, and the title of the assignment **(2 points)**:

```
/** John Smith
 *   CSC220-X
 *   Lab 6
 */
```

Continue with a Javadoc comment that describes the tasks that your program is performing. Be specific. **(2 points)**

Put more comments in strategic places in your program. **(2 points)**

Indent your program. **(4 points)**

Compiling and running Java programs (reminder):

1. Compile your program using the command `javac`.
For example: `javac SmithJohn_Lab06.java`
If you receive errors during the compilation phase, re-edit the source code file and attempt to correct your errors.
2. Once a file successfully compiles, execute it using the `java` program.
For example: `java SmithJohn_Lab06`

What to turn in:

JAR your `java` file (and only your java file, no directories or other files) into a jar archive called `YourName_Lab06.jar`. Substitute `YourName` with your name (last name first)! **(5 points)** When you're done, upload the JAR file to canvas, under category Lab06, by the deadline.

Instructions on how to JAR your files can be found here:

<http://docs.oracle.com/javase/tutorial/deployment/jar/basicsindex.html>

The usage of 'jar' will be explained in class as well.