

Lab 4

Using String Methods and Writing a Program from Scratch

The following exercises are to be completed during lab class. If you do not have time to finish during lab, they must be completed before the beginning of the following lab session.

Set-Up

- Create a new project in your Eclipse workspace named: **Lab04**
- In the *src* folder, create a package named: **edu.ilstu**

Part 1 - Using String Methods

A partial String API is included at the end of lab if you need to look up methods.

1. Create a new class with a main method called *StringExperiment.java*
 - a. Remember to include required comment blocks
2. Declare three String variables called: `firstName`, `middleName`, and `lastName`
 - a. Initialize each with your names
3. Do each of the following:
 - a. Print your full name with a space between each name.
 - i. First Middle Last
 - b. Print your first name, middle initial followed by a period, and last name.
 - i. First M. Last
 - c. Print your first name in all uppercase letters and last name in all lowercase letters.
 - i. FIRST last
 - d. Print the length of your last name. Be sure to give it a label.
 - i. Length of last name = 4

- e. Calculate the middle position in your last name and print the letter that is there. If your name has an even number of letters, it will be one to the right of the middle.
 - i. s
 - f. Print the last letter in your first name.
 - i. t
4. Compile, debug, and run.

Part 2 - Create a Program from Scratch

Write the program from the pseudocode you wrote for Pre-Lab 4

1. Create a new class with a main method called `TimeCalculator`.
 - a. Be sure to include comment blocks.
2. Use constants for the constants for number of seconds in an hour and number of seconds in a minute.
3. Compile the program and debug, repeating until it compiles successfully.
4. Record the results of running your program with your 3 sets of test data.
Does it match your expected results calculated in pre-lab?

		Actual Results		
	Number of Seconds	Hours	Minutes	Seconds
1				
2				
3				

To Be Submitted

The following files should be zipped together into a file called `Lab04.zip` and submitted to ReggieNet by the beginning of your next lab.

- `StringExperiment.java`
- `TimeCalculator.java`

Partial String API

charAt
<pre>public char charAt(int index) Returns the char value at the specified index.</pre>
indexOf
<pre>public int indexOf(String str) Returns the index within this string of the first occurrence of the specified character.</pre>
lastIndexOf
<pre>public int lastIndexOf(String str) Returns the index within this string of the last occurrence of the specified substring.</pre>
length
<pre>public int length() Returns the length of this string.</pre>
substring
<pre>public String substring(int beginIndex) Returns a new string that is a substring of this string.</pre>
<pre>public String substring(int beginIndex, int endIndex) Returns a new string that is a substring of this string.</pre>
toLowerCase
<pre>public String toLowerCase() Converts all of the characters in this String to lower case</pre>
toUpperCase
<pre>public String toUpperCase() Converts all of the characters in this String to upper case</pre>