**Lab #2**

**Working with Strings**

The following program illustrates the use of some of the methods in the String class. Study the program to see what it is doing.

public class StringManips

{

public static void main (String[] args)

{

//instantiate the String……

int phraseLength; // number of characters in the phrase String

int middleIndex; // index of the middle character in the String

String firstHalf; // first half of the phrase String

String secondHalf; // second half of the phrase String

String switchedPhrase; // a new phrase with original halves switched

// 1-compute the length and middle index of the phrase

//2- get the substring for each half of the phrase

//3- concatenate the firstHalf at the end of the secondHalf

// print information about the phrase

System.out.println();

System.out.println ("Original phrase: " + phrase);

System.out.println ("Length of the phrase: " + phraseLength +

" characters");

System.out.println ("Index of the middle: " + middleIndex);

System.out.println ("Character at the middle index: " +

phrase.charAt(middleIndex));

System.out.println ("Switched phrase: " + switchedPhrase);

System.out.println();

}

}

The file contains this program. Save the file to your directory and compile and run it. Study the output and make sure you understand the relationship between the code and what is printed. Now modify the file as follows:

1. Declare a variable of type String named *middle3* (put your declaration with the other declarations near the top of the program) and use an assignment statement and the*substring* method to assign *middle3* the substring consisting of the middle three characters of *phrase* (the character at the middle index together with the character to the left of that and the one to the right). Add a println statement to print out the result. Save, compile, and run to test what you have done so far.
2. Add an assignment statement to replace all blank characters in *switchedPhrase* with an asterisk (\*). The result should be stored back in *switchedPhrase* (so switchedPhrase is actually changed). (Do not add another print -- place your statement in the program so that this new value of *switchedPhrase* will be the one printed in the current println statement.) Save, compile, and run your program.
3. Declare two new variables *city* and *state* of type String. Add statements to the program to prompt the user to enter their hometown -- the city and the state. Read in the results using the appropriate Keyboard class method. Then using String class methods create and print a new string that consists of the state name (all in uppercase letters) followed by the city name (all in lowercase letters) followed again by the state name (uppercase). So, if the user enters Lilesville for the city and North Carolina for the state, the program should create and print the string

NORTH CAROLINAlilesvilleNORTH CAROLINA