

Oct 02, 16 10:48

jkgiffor – p4

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=                               Print Date: Sun Oct  2 10:48:01 2016                               =
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=====
=                               Source Files                               =
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~~~~~
~                               File: ManipulateString.java                               ~
~~~~~

import java.io.*;
import java.util.*;

// ~~~~~ 3PIO Comments for ManipulateString Class ~~~~~//
//Purpose: do all th emanipulations to a string
//Input: Various depending on method/constructor called
//Pre Condition: code compiles
//Output: Various depending on method/constructor called
//Post Condition: Various depending on method/constructor called
//Note: n/a
// ~~~~~//

public class ManipulateString {

    private String statement;
    private final String university = "Saginaw Valley State University";
    private final String course = "Computer Science & Information Systems";
    private final String uniAbb = "SVSU";
    private final String courseAbb = "CSIS";

    // ~~~~~ 3PIO Comments for No args constructor ~~~~~//
    //Purpose: set statement to blank
    //Input: n/a
    //Pre Condition: code compiles and constructor is called
    //Output: n/a
    //Post Condition: statement is set to blank
    //Note: n/a
    // ~~~~~//
    ManipulateString(){
        statement = "";
    }

    // ~~~~~ 3PIO Comments for String args constructor ~~~~~//
    //Purpose: set statement to user input
    //Input: string
    //Pre Condition: code compiles and constructor is called
    //Output: n/a
    //Post Condition: statement is set to user input
    //Note: n/a
    // ~~~~~//
    ManipulateString(String inStatement){
        statement = inStatement.trim();
    }

    // ~~~~~ 3PIO Comments for getLength method ~~~~~//
    //Purpose: get the length of the string
    //Input: n/a
    //Pre Condition: statement is set to a value
    //Output: integer
    //Post Condition: the length of the string is returned
    //Note: n/a
    // ~~~~~//

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    public int getLength(){
        return statement.length();
    }

    // ~~~~~ 3PIO Comments for getFirstChar method ~~~~~//
    //Purpose: get the first character of the string
    //Input: n/a
    //Pre Condition: statement is set to a value
    //Output: char
    //Post Condition: the first character of the string is returned
    //Note: n/a
// ~~~~~//
    public char getFirstChar(){
        return statement.charAt(0);
    }

    // ~~~~~ 3PIO Comments for getLastChar method ~~~~~//
    //Purpose: get the last character of the string
    //Input: n/a
    //Pre Condition: statement is set to a value
    //Output: char
    //Post Condition: the last character of the string is returned
    //Note: n/a
// ~~~~~//
    public char getLastChar(){
        return statement.charAt(this.getLength() - 1);
    }

    // ~~~~~ 3PIO Comments for getUpperString method ~~~~~//
    //Purpose: get the uppercase version of the string
    //Input: n/a
    //Pre Condition: statement is set to a value
    //Output: string
    //Post Condition: the uppercase version of the string is returned
    //Note: n/a
// ~~~~~//
    public String getUpperString(){
        return statement.toUpperCase();
    }

    // ~~~~~ 3PIO Comments for addToString method ~~~~~//
    //Purpose: add university to the end of the string
    //Input: n/a
    //Pre Condition: statement is set to a value
    //Output: n/a
    //Post Condition: the university is set to the end of the string
    //Note: n/a
// ~~~~~//
    public void addToString(){
        statement = statement + university + "-" + course;
    }

    // ~~~~~ 3PIO Comments for replaceString method ~~~~~//
    //Purpose: replace the university and course with their short hand version
    //Input: n/a
    //Pre Condition: the statement is set to a value
    //Output: n/a
    //Post Condition: the university and course are replaced in the string with the short hand versions
    //Note: n/a
// ~~~~~//
    public void replaceString(){
        statement = statement.replaceAll(university, uniAbb);
        statement = statement.replaceAll(course, courseAbb);
    }

    // ~~~~~ 3PIO Comments for removeNewLine method ~~~~~//

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//Purpose: remove all of the new line characters from the string
//Input: n/a
//Pre Condition: the statement is set to a value
//Output: n/a
//Post Condition: all of the new line characters are removed from the string
//Note: n/a
// ~~~~~
public void removeNewLine(){
    statement = statement.replaceAll("\n", "");
}

// ~~~~~ 3PIO Comments for getLastIndexOfUniversity method ~~~~~//
//Purpose: get the last index of the university short hand
//Input: n/a
//Pre Condition: the statement is set to a value and the university short hands are set
//Output: int
//Post Condition: the index of the last university short hand is returned
//Note: n/a
// ~~~~~
public int getLastIndexOfUniversity(){
    return statement.lastIndexOf(uniAbb);
}

// ~~~~~ 3PIO Comments for wordCount method ~~~~~//
//Purpose: get the number of words in the string
//Input: n/a
//Pre Condition: the statement is set to a value
//Output: int
//Post Condition: the number of words in the string is returned
//Note: n/a
// ~~~~~
public int wordCount(){
    return statement.trim().split("\\s+").length;
}

// ~~~~~ 3PIO Comments for reverseString method ~~~~~//
//Purpose: the string is reversed
//Input: n/a
//Pre Condition: the statement is set to a value
//Output: n/a
//Post Condition: the string is reversed
//Note: n/a
// ~~~~~
public void reverseString(){
    StringBuilder myString = new StringBuilder(statement);
    statement = myString.reverse().toString();
}

// ~~~~~ 3PIO Comments for getString method ~~~~~//
//Purpose: get the string
//Input: n/a
//Pre Condition: the statement is set to a value
//Output: string
//Post Condition: the string is returned
//Note: n/a
// ~~~~~
public String getString(){
    return statement;
}

// ~~~~~ 3PIO Comments for setString method ~~~~~//
//Purpose: set the string
//Input: string
//Pre Condition: constructor is created and method is called
//Output: n/a

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//Post Condition: the string is set to the given value
//Note: n/a
// ~~~~~
public void setString(String inStatement){
    statement = inStatement;
}

}

~~~~~
~                               File: p4.java                               ~
~~~~~

// p4.java
//*****
// YOUR NAME: Jerome Gifford
//
// COURSE TITLE: Computer Programming II
//
// COURSE NUMBER: CS216
//
// PROF NAME: Moe Bidgoli
//
// ASSIGNMENT NUMBER: #4
//
// DUE DATE: 10-3-16
//
// POSSIBLE POINTS: 10 Points
//
// PURPOSE: A string is read in from a file and manipulated in various ways, including getting its Length
// 1st and last char, converting it to upper case, replacing and adding substrings, getting the word count of the string,
// and reversing the string.
//
//*****

import java.io.*;
import java.util.*;
import java.lang.*;

public class p4 {

    // ~~~~~ 3PIO Comments for Client side code ~~~~~//
    //Purpose: print out modifications to a string
    //Input: n/a
    //Pre Condition: the code compiles
    //Output: n/a
    //Post Condition: the manipulated strings are printed out as needed.
    //Note: n/a
    // ~~~~~//

    public static void main(String[] args) {
        Scanner inFile = new Scanner(System.in);
        String statement = "";

        while (inFile.hasNextLine()){
            if (statement.equals(""))
                statement = inFile.nextLine() + "\n";
            else
                statement = statement + inFile.nextLine() + "\n";
        }

        System.out.print(statement);
        ManipulateString modify = new ManipulateString(statement);
        System.out.println("Length: " + modify.getLength());
        System.out.println("1st Char: " + modify.getFirstChar());
        System.out.println("Last Char: " + modify.getLastChar());
    }
}

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        System.out.println(modify.getUpperString());
        modify.addToString();
        modify.replaceString();
        modify.removeNewLine();
        System.out.println(modify.getString());
        System.out.println("Last Index of SVSU: " + modify.getLastIndexOfUniversity());
        System.out.println("Word Count: " + modify.wordCount());
        modify.reverseString();
        System.out.println("Reverse: " + modify.getString());
        System.out.println("Length: " + modify.getLength());
    }
}

```

```

=====
=                               Data Files                               =
=====

```

```

~~~~~
~                               File: p4216f1.fl6                               ~
~~~~~

```

This is MB form Computer Science & Information Systems of Saginaw Valley State University.
This is your first test data file.
mom dad

```

-----
-                               Execution                               -
-----

```

This is MB form Computer Science & Information Systems of Saginaw Valley State University.
This is your first test data file.
mom dad

```

Length: 133
1st Char: T
Last Char: d
THIS IS MB FORM COMPUTER SCIENCE & INFORMATION SYSTEMS OF SAGINAW VALLEY STATE UNIVERSITY.
THIS IS YOUR FIRST TEST DATA FILE.
MOM DAD
This is MB form CSIS of SVSU.This is your first test data file.mom dadSVSU-CSIS
Last Index of SVSU: 70
Word Count: 14
Reverse: SISC-USVSDad mom.elif atad tset tsrif ruoy si sihT.USVS fo SISC mrof BM si sihT
Length: 79

```

```

~~~~~
~                               File: p4216f2.fl6                               ~
~~~~~

```

He is a Computer Science & Information Systems student.

```

-----
-                               Execution                               -
-----

```

```

He is a Computer Science & Information Systems student.
Length: 55
1st Char: H
Last Char: .
HE IS A COMPUTER SCIENCE & INFORMATION SYSTEMS STUDENT.
He is a CSIS student.SVSU-CSIS
Last Index of SVSU: 21

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Word Count: 5
Reverse: SISC-USVS.tneduts SISC a si eH
Length: 30

~~~~~  
~ File: p4216f3.f16 ~  
~~~~~

mom

- Execution -

mom
Length: 3
1st Char: m
Last Char: m
MOM
momSVSU-CSIS
Last Index of SVSU: 3
Word Count: 1
Reverse: SISC-USVSmom
Length: 12