

CSC 120

Programming Project #1

Due Date: *uploaded online no later than 9:30am on Thursday, February 2nd*

Objectives:

- To understand program logic.
- To trace through code that contains assignment statements, method calls in the String class, user input and output statements.
- To gain experience using the Eclipse IDE.
- To debug a program so that it produces the proper output.

Specifications:

Understanding Program Logic: Trace through the program below to determine what it does. Create a trace table on a piece of paper to show what is stored in each variable as the program executes. You should show each of the following variables: `fullName`, `someString`, `anotherString`, `posOfPeriod`, `numChars`, and `posOfSpace`. In addition, show what is displayed on the screen.

Assume the user types the following as the input into the dialog box:

Rear Admiral Grace M. Hopper

[illegible]

Debugging Program Logic: Download *Project1.java* from Blackboard. Create a project called **proj1** (all lowercase, no spaces). Within this project create a class called *Project1* (the project name should begin with a capital letter, everything else is lower case, no spaces). Be careful to create your project and class correctly. Use your lab1 handout as a reference. Remember to specify the package name as proj1 when you create the Project1 class.

Open the Project1.java file you downloaded and copy/paste it into the class you just created, deleting the code that was there initially.

This program is supposed to ask the user for his/her first and last name in a single input dialog. It should also prompt the user to enter his/her midterm exam grade as well as his/her final exam grade. The program should then create output in the following format (pay attention to blank lines).

```
Name: Postner, Lori

There are 4 letters in my first name
There are 7 letters in my last name
There are 11 letters in my full name

First initial: L
Last initial: P

Midterm: 89.5
Final Exam: 95.0

Average: 92.25
```

Run the program, type in *Lori Postner*, *89.5* and *95.0* when prompted for input. Look at the output carefully. It is not formatted as the sample above. Determine what the problems are and fix them so that the program works properly. **As you make your changes, write comments in your code to explain each change you make and why you made that change.**

Be sure to test it with several different inputs to make sure it works properly regardless of the names and grades entered.

When you are done, place a comment at the beginning of your program that includes the *title* of the program (something like Project 1: Parsing a Name), a *description* of what the program does (this should be 2-3 sentences that explains what your program does as if you were talking to someone who doesn't know anything about programming) and your name as the *author*.

Citation Policy:

This assignment should be worked on individually to help you practice the material covered in class. However, you may work with other students as long as you cite the name(s) of who you worked with and all students understand the assignment submitted. Failure to cite other people is considered plagiarism. You should never email your program to another student or let someone take a picture of your code. You may receive help from your instructor or from the Computer Learning Center in B225.

Grading:

This assignment will be graded in 2 parts.

Part 1: Correctness of the tracing example and the program submitted. Does the program submitted meet the requirements? Does it display all information? Are the values correct? Have you commented your code? (60 points)

Part 2: Grade on an in class quiz. On the due date, you will take a 10 minute quiz at the beginning of class based upon the assignment you submit. You will be asked to trace code similar to the code trace in this project and to answer questions about the code you wrote. ***Bring a printout with line numbers*** to class with you to use as you take the quiz. The printout must match the program you uploaded to blackboard and contain your name. Please make sure you are on time for class. Students who are late may not have enough time to complete the quiz or may miss it entirely. (40 pts)

Submission:

Hand in the following at the beginning of class on February 2nd

- The answers to the questions on the sheet attached.
- The trace table of the first program.
- A printout of your source code (java statements) for the fixed Project1.java.
- A printout of the execution (output) of your program for Project1.java ***with your name and two exam grades entered as the input.***

Upload the Project1.java file for grading by 9:30am on February 2nd.

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Due: Thursday, February 2nd

Name: _____

How many hours did it take you to complete this assignment? (circle one)

- < 1
- 1-3
- 3-5
- 5-7
- > 7

Where did you work on this assignment? (circle all that apply)

- home
- school
- work

How did you go about getting help on this assignment? (circle all that apply)

- talked with an assistant in the computer learning center (who?)
- talked with my professor
- talked with another student(s) – please provide name(s)
- read the textbook
- looked at notes from class
- looked at lab exercises
- used a web resource (please specify the URL) _____
- other _____ (please specify)

Is there anything that doesn't work as you'd like or expect? If so, what?

Did you find anything difficult when you were writing this program? If so, please describe your difficulty here.