

CSCI 145 -- PA 1

Getting Started with Some Simple Programs

Feel free to discuss and help each other out but does not imply that you can give away your code or your answers! You cannot work with a lab partner for this assignment. **You must always use the required template (JavaDriverTemplate.java or JavaClassTemplate.java from Canvas) and output "Author: Your Name(s)" or "Modified by: Your Name(s)" for each program as applicable.**

Exercise 1 -- Explore Java development environment and try out some lab exercises from chapter 1 of the lab manual on Canvas (optional). Provide only corrected source code and output for the last exercise (**Correcting Syntax Errors** which is **Problems.java** program) from chapter 1 of the lab manual.

Exercise 2 -- Enter the following program below and save it in a file called **Facts.java** (don't forget to use the required template):

```
// Coding template goes here
// A source of some useful facts.
public class Facts
{
    // Prints some simple facts.
    public Static void Main(String[] args)
    {
        System.out.println("Author: Your name");
        System.out.println();
        System.out.println("Some useful facts:")
        System.out.println("Practice makes perfect.");
        System.out.println(Hard work does pay off.");
    }
}
```

1. Compile and fix all syntax errors. Execute the program once it compiled. Confirm that the output is as expected.
2. Add one useful fact of your own to the bottom of the list. Compile and execute the program to see your change.
3. Modify the program so that all the useful facts are indented three spaces. Compile and execute the program to verify your change.

Sample output:

Author: Your name

Some useful facts:
 Practice makes perfect.

```
Hard work does pay off.  
[Your own fact goes here]
```

4. When you are sure that your program is working correctly, capture the final output. Provide both the source code and the output for Facts.java program.

Exercise 3 -- Perform programming exercise 1.10 on page 54 of the textbook (about 9 rows with about 15 characters for each character and only need your first and last initials). Provide both the source code and the output for this program.

Exercise 4 – Write a program to generate the following triangle shape. It is not required, but feel free to use loop(s) for this problem. Provide both the source code and the output for this program.

```
  *  
 * *  
* * *  
* * * *  
* * * * *  
* * * * * *
```

Question 1: List some similarities and some differences between Java language and a programming language that you are familiar with (such as C++). Compare the process of going from source code to executable code.

Question 2: Look up and briefly describe two popular Java development tools other than Eclipse.

Extra Credit (2 points): Given a positive integer, determine whether it is a power of 2 or not (e.g., 1, 2, 4, 8, 16, 32, 64, and 128 are the first few powers of 2). You might have to use things that we have not discussed in this course yet (might have seen those concepts such as selection, loops, and methods in a previous course)! Try the following values: 1, 40, 128, and 4096. Provide both the source code and the output for this program.

Fill out and turn in the PA submission file for this assignment(save as PDF format).