Introduction

Labs for CSCI 141 are designed to help you learn the use of new tools and introduce you to new concepts in a logical and structured fashion. Your TA will guide you through the lab.

Notation

There are two basic fonts in use in this document (and this is common to many other help documents and computer books you will use). One is the font that I have used so far in this document and then there is this font which is a fixed width font that I will use to denote exact things you should type, exact names of menus to use, website addresses and so on. If you have questions about this notation ask your TA for clarification.

Other Tips

For this first lab please be extra patient. Students will progress through the lab at different speeds. It is perfectly OK to talk with your classmates about things in this lab. When you get to step 4d it is perfectly acceptable to work together with classmates and experiment together. The important thing to remember is that when you’re working with classmates the goal is to understand what’s going on and not just complete the task as quickly as possible.
Lab elements

1. **Activate your computer science account.**

   The Computer Science Department has its own network and computers that are separate from the university’s as a whole. Your username on the computer science network is the same as your general university username. However, you have to activate this account specifically which basically means you need to set up a password so you can log in.

   If you’ve taken a CSCI course in the recent past (CSCI 101, 102, 103, 140, 172 etc.) then you might have already set up a password so you can log in. But if not you need to do that first. You have two options for how to proceed:

   (a) If you have a cell phone or laptop that can access WWU’s wireless network you can go to the following website to set your Computer Science password:

      http://password.cs.wwu.edu

   (b) You can log in to Windows on one of the lab machines with the following credentials:

      username = reset
      password = P@$$w0rD

      and from there you can reset your password as above. Note that the password above uses a capital P and D and the number 0.

   When you set your password it must be sufficiently complex. Specifically, you must pick a password that is at least 8 characters long that does not contain your first or last name. It also must contain upper case letters, lower case letters, numbers and symbols (specifically, your password must contain three out of those four types of characters). Your TA can help you with the rules if you’re having trouble.

   Examples of good passwords are **I like hockey!** and **gr8_gatSBY** but do not use these exact passwords!

2. **Go to the Canvas page for the course**

   Make sure you can find the sample programs from class on the home page. You can also find them under the “Files” tab in the left hand menu.

   Then go to the “Discussions” page and reply to the thread that pertains to your lab time. Just introduce yourself and tell us something fun or interesting so people can get to know you.

3. **Create a folder for your work in Windows**

   I want you to create a folder (which is also referred to as a directory) for your CSCI 141 work. You should create this folder on the N: drive. This networked drive is accessible from any computer in the lab and it’s better to put your files on the N: drive instead of the desktop because the more files you have on your desktop the longer it will take you to log on to the computers.
4. Type in the following program using Thonny on Windows

(a.) You can open Thonny by clicking on the window in the lower left of the screen and then typing Thonny. Windows has many ways to “pin” that program to the taskbar or set up shortcuts to it on the desktop if you’d like.

(b.) Once you open Thonny you should create a new file and then type in the following program. Be sure to save your program to the local \N drive. You may create subdirectories on the \N drive to keep your stuff more organized (e.g. you can create a folder for each lab session and each homework assignment if you want).

```
# PUT YOUR NAME AND LAB SECTION IN THIS COMMENT AT THE TOP

string1 = input("Enter a string: ")
length1 = len(string1)

print ("The length of your string is ", length1)

num1_str = input("Enter an integer: ")
num1_int = int(num1_str)

print ("I will now repeat your string that many times")
print (string1 * num1_int)

print ("\n \n")

num2_str = input("Enter another integer: ")
num2_int = int(num2_str)

print ("The product of the two integers you entered is", num1_int * num2_int)
```

(c.) Run this program.

In Thonny you can either go to the Run menu and click Run Current Script or you can click the green play button ☀️, or you can use the keyboard shortcut by just hitting F5.

Did it work like you suspected? Notice the repeated string all appeared on one line (and if it was a long string or you repeated it many times it might have wrapped around to a new line).

I want you to play around with this program to get a feel for how things work and what kinds of error messages you get from simple errors.

(d.) First try to make it so that the string repeats many times but that each repetition occurs on a unique line.

This is similar to example 4 from class.

(e.) Change the number of spaces in between the double quotes in the print statements. See the effect when you run it?

(f.) Try changing variable names so that some lines use the variable name that has some capital letters in it and other lines use the variable name without any capital letters. Does the error generated by that change make sense to you? Explain it
to a classmate, listen to their explanation, and talk about it if you have different explanations.

(g.) Make other changes to your program that cause errors and notice the cause and effect relationship. Take your time here and carefully read the error messages. Understanding those messages will help save you time down the road.

Again, talk to a classmate about the changes you made and what errors resulted.

(h.) Edit your program so it is just like the original code listed above before you turn it in.

Be sure your program file is named `lastname_firstname_lab1.py`

5. **Turn in your program to Canvas**

Go to the link for turning in Lab 1. Be sure to upload the Python file you just created and be sure it is named as specified above.

6. **Learn how to reboot a computer into Windows**

All of the computers in CF 162 and 164 are dual-boot computers. This means they have different operating systems they can run. You may sit down in front of a computer that is set to Ubuntu Linux when you want to be in Windows or vice versa. For the homework assignments in this class you may do your work under Windows or Linux (and if you have a Mac as your personal computer you can install Thonny on there and everything should work the same way as the lab). I expect most everyone is at least somewhat familiar with Windows. Starting next week you will learn how to create and run Python programs in Linux.

(a) Click the Window icon in the lower left and find the icon to restart the computer.

(b) When the computer restarts it will give you options for **Ubuntu Linux** and **Windows**. Choose Linux.

(c) Type in your Computer Science username and password to enter Linux. If you have time you can play around in Linux if you want. Next week’s lab will start with showing you how to run Python programs in Linux so don’t feel obligated now to play around in Linux.

(d) Now find the icon at the top that lets you log off of Linux and notice the screen that results. You may see this screen when you come into the lab sometime when you want to use Windows. Shut down the computer and reboot and choose Windows.

Congratulations, you have completed your first lab assignment for CSCI 141.

Before you leave make sure your TA has a record of your attendance and also double check with your TA to make sure the Python program you created was turned into Canvas and that you successfully posted a message to the correct forum.

Other labs will be more involved than this we just wanted you to get your feet wet today.