**GOAL**: Learn the procedure to enter a program, compile and build it, and get it to work. Most of this will be needed ALL semester for almost every assignment.

**STEP 1: GETTING STARTED** – get an account**.**

Log on with your ECS account.

CLASS ACCOUNTS: If you do not have an ECS account, the instructor will request a set of class accounts from the ECS IT people, and then one at a time, I will email them to you via your SacLink account .

**LOGGING ON TO Athena:**

**STEP 2a: Logging in from home on a Windows machine.**

[One Time Step] Download PuTTY or another terminal program to your computer.

Open PuTTY.

In the box labeled Host Name, type **athena.ecs.csus.edu**

Click on Open (lower right of the window).

You will get a window to **athena** with a prompt to “Log in as”.

Enter your User-Name for your ECS account or for your Class Account.

Examples: bielr, cs6041, cs60514

Enter your Password. (Nothing will show on the screen as you type it.)

You will now have a prompt similar to the one I got**: [bielr@athena ~]>**

**STEP 2b: Logging in from home on a Mac machine.**

Open up a terminal/console window and type the following:

ssh yourECSname@athena.ecs.csus.edu

Press: Enter

When prompted, type “yes” to accept the server’s key.

Then enter your password. (Nothing will show on the screen as you type it.)

**STEP 2c: Using the C complier on your Mac**

I personally have no Mac experience. The ECS IT department found the following links that ought to help you:

<https://www.cs.auckland.ac.nz/~paul/C/Mac/>

<https://mkyong.com/mac/how-to-install-gcc-compiler-on-mac-os-x/>

**STEP 2d: Using the C complier on your Linux computer**

**STEP 3: GETTING SET UP TO START**

You should now be logged into *athena* or your own Linux computer. Type the following instructions.

**mkdir csc60** Create a directory (subfolder) for this class

**cd csc60** Moveto the new directory **🡪** more on next page

**mkdir lab1** Create a directory for this assignment

**cd lab1** Move to the new directory

**STEP 4: START ENTERING YOUR PROGRAM.**

At the prompt “>”, type: **vim lab1.c**

Go into insert mode by typing: **i**

Start typing in your program in this window. (Remember, no mouse)

For this Lab1, enter in the program that appears below *inside the box* below.

(PS: You **don’t** have to create the box.)

Type your own full name (both first and last) in all the places needed.

Start typing at the left edge of the screen.

Use the indentation style as shown.

Attribution for the quote is required. You may print the quote & attribution in one *printf* or two lines.

Pay attention to your punctuation and spelling. Presentation is important.

***Teacher Comments****:*

**/\*-------------------------\*/**  *Don’t count the dashes. Approximate.*

**/\* Your Name Here \*/** *Put Your-Name here, both first & last*.

**/\* Lab 1 \*/** *"/\* \*/" = comment symbol.*

**#include <stdio.h>** *{Preprocessing directives for*

**#include <stdlib.h>** *{the compiler.*

**int main (void)** *Line required in each program.*

**{**

**printf("\nLab 1. \n\n");**

**printf(“Hello World.\n”);** *Be sure to indent for clarity*

**printf("Hi, Your Name. \n\n");** *Put your First & Last name here!*

**printf("Quote. \n\n");** ***Put your quote here*** *instead of the word “Quote”*

Attribution for the quote is required.

**return EXIT\_SUCCESS;** *Capitalize EXIT\_SUCCESS*

**}**

**/\*-------------------------\*/**

**5: SAVE YOUR WORK, COMPILE IT, AND SEE THE RESULTS.**

Get out of insert mode by typing: **Esc**  (escape key)

To save your work and quit, type: **:wq**

The shell prompt returns.

Type: **gcc lab1.c** (This compiles the program and sends the output to a file called **a.out**)

If you have compile errors, they will appear, and they will need to be fixed.

The prompt returns. **🡪 more on next page**

If you have no errors, type **a.out** and the output of your program will display.

If typing **a.out** does NOT work, try: **./a.out**

The results of my program appear below.

[bielr@athena ~/csc60]34> a.out

Lab 1.

Hello World.

Hi, Ruthann Biel.

Be yourself; everyone else is already taken.  
- Oscar Wilde NOTICE: the attribution ( who created

the quote) is required.

[bielr@athena ~/csc60]35>

**Comments**:

* Your instructor is picky about presentation.
* There should be an empty line between *a.out* and *Lab 1,* and again at the end before the prompt returns.
* I expect your output to have empty lines where they show above.
* Use proper English and proper punctuation in your quote.
* Save your creativity for the quote.

**To show your line numbers in VIM:**

1. Press the **Esc** key if you are currently in insert or append mode.
2. Type the colon ( **: )**. The cursor should reappear at the lower left corner of the screen next to a colon (:) prompt.
3. After the colon, enter the following command: **set number** followed by the Enter Key.
4. A column of sequential line numbers will then appear at the left side of the screen.

**If you have Errors:**

*If you have errors*, it is OK, a normal course of events. Examine the Error Message list. Sometimes the second or third message makes more sense than the first error message. One code error can cause SEVERAL error messages.

Fix your errors and save your changes. Go back to the top of STEP 5.

Repeat until you have NO ERRORS.

🡪 more on next page

**MAJOR REMINDER**.

Every time you change the code, you must **redo** the COMPILE (which is the **gcc**

line) before you run the program, or you will NOT see any changes when you

run the program. !!!

**STEP 6. PREPARE YOUR FILE FOR GRADING.**

When all is well and correct, and you are still on *athena*,

* type: **script StudentName\_lab1.txt** Script will keep a log of your session.

Please use Your name instead of “StudentName”

Use both your first and last name.

* At the prompt, type: **gcc lab1.c**  To compile the program.
* At the prompt, type: **a.out** To run the program.
* After the program run is complete, type: **exit** To leave the script session.

NOTE: If you forget to type **exit** to leave *script*, your script file will be empty!!!

**STEP 7: Move your files to be accessible to your browser.**

Go to Power Point File *1Linix Start*, slide #7 for solutions to this situation.

You need to move the two files listed in Step 8.

**STEP 8: Turn in your work. 18 points**

Go to Canvas and turn in two files:

1. **lab1.c** …the code file
2. **StudentName\_lab1.txt** …the script file

**STEP 9: LOG OFF EVERYTHING.**

Type “**exit**” when you are ready to leave athena.

Close as much software and hardware as necessary for safety, depending on your location.