Bash Programming
Lab C

A mentoring section is provided at the end of this lab.

The labs, for this course, are designed to be completed on your own at home or in the 3rd floor Trottier labs. These labs are not graded. You do not hand in these labs. If you prefer to work on a lab with your TA tutorial group, then check the schedule for your TA's tutorial session. You will find this schedule in our MyCourses page under Content/Course Information/Instructions & TA Coordinates. Since the university has limited lab space, your TA might ask you to bring your laptop and work in a classroom instead of a lab.

This lab is about programming in Bash.

Some labs will have a question zero. These questions will not be covered by the TA during the tutorial. It is extra content meant for you to do on your own.

QUESTION ZERO: Optional problem

The following are great links that will help you learn to program in Bash:

- Introduction: https://linuxhint.com/30_bash_script_examples/
- Intermediate: http://matt.might.net/articles/bash-by-example/
- Some advanced: https://www.macs.hw.ac.uk/~hwloidl/Courses/LinuxIntro/x945.html

QUESTION ONE: Try to write some scripts

From the web links from Question Zero, copy and run the following programs from the "some advanced" link https://www.macs.hw.ac.uk/~hwloidl/Courses/LinuxIntro/x945.html :

I suggest the following:

Version 1: Explicit For loop

Version 2: Using a Shell Function

QUESTION TWO: Write your own script

Modify **Version 2: Using a Shell Function** to return, properly, the value from count_lines(). Look at our class notes to see ways we can return values from functions. Write two versions of this script. In each version try a different way to return a value.

You have completed your lab.

TA MENTORING SECTION

Begin the class by logging into mimi and creating a very simple hello world bash script. Show the class how to vi or vim the file. Then chmod it for execution. Then run the script. Wait for everyone to do this. Help people who are having trouble. Go through this process step by step.

Now, show on the project the “Version 1: Explicit For Loop” code. Go line by line through the code explaining what each statement does. Then, show the class how they can copy-paste-adjust the code to vi or vim on mimi. Keep in mind that quotes and carriage returns may not transfer well. The copied code may need to be adjusted before executing. Execute the code. Wait for the class to do them same. Help them if they have trouble.

Lastly, discuss (with examples) passing parameters and returning values from Bash functions. You can look at the lecture slides for examples. Write a simple function that adds two numbers and returns the value to the main. The main prints the result to the screen.

Now, show on the projector the “Version 2: Using a Shell Function” code. Go line by line through the code explaining what each statement does. Help the class get their code running on mimi. Finish up question two with them, showing different ways to return the result.

If the students have further questions, please help them.

Note, do not answer assignment questions during this period.