

Sessions and C

Due: October 14, 2019 on myCourses at 23:55

Lab D will provide some background help for this mini assignment.

QUESTION 1: The Login Script

For this question you will need to:

- Determine which login script your shell uses when you ssh or putty
- Modify your login script as specified below
- Comment the login script with your changes
- Upload a zipped version of the login script

Modify your login script in all the following ways:

- ☐ Display “Welcome <\$username> to SOCS Bash!”
(from shell memory, check syntax)
- ☐ Alias `ls -l-a` to `la` `alias la 'ls -l-a'`
- ☐ Set your history to 10 `set history = 10`
- ☐ Set your prompt to: your user name, current directory (dynamic) `prompt [%n] [%~]`
- ☐ Who | `grep` one or more of your friends
- ☐ Plus one other thing of your liking (make sure to comment this one for the TA)

You can test your login script at the command prompt by using the `source` command. If you do not remember this command check our class notes or do `man source` at the command line. BUT, you must actually test your login script, in the end, by logging into your account, to see if the login script you modified is the actual one ssh/putty was using.

QUESTION 2: Your First C Program

Write a C program called: `triangles SIZE`

Example: `./triangles 3`

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

Where:

- `SIZE` is the size of the right triangle

Use `vi` to create the program.

Use `gcc` to compile the program into the `triangles` executable name.

The program must do the following in the order presented:

1. If a command line variable was passed to the program then assign the integer variable `size` to that value.
2. If there was no command line variable, then prompt the user to input an integer number for the variable `size`.
3. The variable `size` must be greater than zero. If it is not, then display the error message: "An incorrect triangle size was inputted. The size must be greater than 0 and an integer number. Syntax: `./triangles SIZE`".
4. Using a loop, display the triangle.
5. Program terminates.

Examples:

Size = 1

*

Size = 2

*

**

Size = 3

*

**

You must use **mimi.cs.mcgill.ca** to create the solutions to this assignment. You cannot use your Mac command-line, Windows command-line, nor a Linux distro installed locally on your laptop. You can `ssh` or `putty` from your laptop to **mimi**, or you can go to the third floor of Trottier and use any of those labs, to complete this assignment.

WHAT TO HAND IN

Everything must be submitted to My Courses before the due date. Remember that you can hand in your assignment up to two days late but there will be a penalty of 5% each day. After that, your assignment will not be accepted. Please hand in the following:

- The login script file
- The C program source file: `triangles.c`
- **Do not hand in the executable, but hand in a `readme.txt` file with the `gcc` command you would use to compile `triangles.c`**
- Zip all these files so that myCourses will receive them correctly.

- Make sure to add comments to your script and C program.
- **Add you name and student ID number as a comment.**

HOW IT WILL BE GRADED

THE TESTING SCRIPT

The TA will run a testing script when evaluating your assignment. This test script is included in the assignment. You can use this testing script as you write your solution to verify that your program runs correctly. The script file is called `mini3tester.sh`.

POINTS AWARDED

The assignment is worth a total of 20 points.

- 10 points for Question 1
 - 2 point – correct login script
 - 1 point – Welcome echo
 - 2 point – Alias
 - 1 point – History
 - 2 point – Prompt
 - 1 point – Who | grep
 - 1 point – One other of your own choosing
- 10 points for Question 2
 - 2 points – command line argument
 - 2 points – prompt to read size
 - 1 point – Checking for the command line argument
 - 1 point – Checking size > 0 with error message
 - 4 points – Correctly printing out triangles

GRADING RULES

The following rules are followed by the TA when grading assignments:

- A program must run in order to get a grade (even if it does not run well). If it does not run (does not compile) it will receive a zero. (Make sure to run your programs from `mimi.cs.mcgill.ca`).
- The TA will grade using the `mimi.cs.mcgill.ca` server.
- All questions are graded proportionally. This means that if 40% of the question is correct, you will receive 40% of the grade.