CST8234 - C Programming

LAB 3

LAB OBJECTIVE

By completing this lab, you will learn to:
* Use make tool to compile and link source files and produce an executable file.

LAB INSTRUCTIONS:

STATEMENT OF THE PROBLEM:

Make is a tool that allows you to easily compile your source code and deploy it. By using Make, you can distribute your program in its raw form, source code, and provide the end user the ability to produce an executable file at their machine.

For Make to work, you need to provide the end user with a file called *makefile*, which includes the full instructions on how to build the source code. *makefile* has its own unique formats can be written in a number of different ways. You can write the *makefile* to include the full

instructions on how to build the program, or you can rely on Make to provide you with implicit recipes.

REQUIREMENTS:

In this lab, you are given 8 C files that resembles a fake program that needs to be compiled. You are tasked with writing the *makefile* needed to make sure the program builds and runs as expected. You will write two versions of the makefile for this program as follow:

1. You will use the full format of makefile, and will be very explicit about the instructions for building the file, including the gcc compile command.
2. You will write a second version of the file which uses Make's ability to implicitly declare recipes for you.
3. Change the userName printed at a successful run of the program to be your first name. Please refer to the screen shot below for details

You will need to read the slides in order to understand the requirements and complete this lab. Please refer to them as soon as possible. You also will need to read the program files provided to understand the dependencies between them so that you can write the correct recipes for building the program.

If you write the correct makefile and compile the program as expected, you should see an output that is similar to the following

```
Input processed
Well done, you've complied and run the program correctly Mohamed
Program ended with exit code: 0
```

PROGRAM FILES

Please make sure to download and use the following files:

- main.c
- commands.h
- commands.c
- defs.h
- users.h
- users.c
- tools.h
- tools.c

SUBMISSION INSTRUCTIONS

- No late submissions are accepted.
- You can work in a group of maximum 2 students to complete this lab. Individual work is also accepted.

- If working in a group, add a Readme.txt file that contain each student name and student number.
- You are required to show your work during the lab time to the instructor.
- You must submit the source code for the program and the makefile. Add all your files under a folder call "lastName-firstName-Lab3", then Zip the file and submit the zip file only. Make sure to submit all files required to compile and run the program on the instructor machine with any errors.
- DON'T submit any extra file please. For example, the binary file (AKA object or output) files like .exe or .o.
- Brightspace is configured to keep the last submission only. Please complete all steps required to finish the lab before your first submission.
- All submission must be done on the main Brightspace shell, 19F_CST8234_010_ALL or 19F_CST8234_020_ALL, not the lab section one.