Part A - Introduction

Getting Started

Workshop 1 (out of 10 marks - 1% of your final grade)

In this workshop, you will code and execute a C-language program using a Visual Studio Integrated Development Environment (IDE).

LEARNING OUTCOMES

Upon successful completion of this workshop, you will have demonstrated the abilities:

- to use Visual Studio to code, edit and execute a C-language program
- to login to a remote host using an SSH client
- to transfer source code between a local computer and a remote host using an SFTP client
- to describe to your instructor what you have learned in completing this workshop

SUBMISSION POLICY

Your workshops are divided in two sections; in_lab and at_home.

The "in_lab" section is to be completed **during your assigned lab section**. It is to be completed and submitted by the end of the workshop. If you do not attend the workshop, you can submit the "in_lab" section along with your "at_home" section (a 30% late deduction will be assessed). The "at_home" portion of the workshop is **due no later than four (4) days following the in-lab assigned date (even if that day is a holiday) by 11:59PM.**

All your work (all the files you create or modify) must contain your name, Seneca email and student number.

You are responsible for regularly backing up your work.

IN-LAB: (30%)

For the in-lab part you are to write a C program that displays

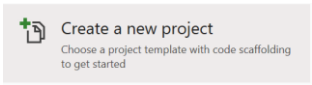
```
>*** Welcome to C Programming ***<
```

on a separate line (only the part between > and < and highlighted in yellow).

Prepare a Visual Studio Solution on your local Computer

Create a Visual Studio 2019 project using the following instructions:

- Start Visual Studio 2019
- Select “Create a new project” from the splash screen:



- Type “**Empty Project**” in the new project filter:

- Select the C++ template:
- Click the NEXT

- Enter “**Workshop1**” as the Project Name
- Set the Location where you want to save the project (use the button with the ellipsis “…”).
  Note: It is strongly advised you use a USB removable/flash drive
- Click the button “**Create**”
- Select Project -> Add New Item
- Select “**Code**” under the “Visual C++” tree (left panel)
- Select “**C++ File (.cpp)**” (right-panel)
- Enter “**w1_lab.c**” as the File Name (bottom-panel)
- Click the button “**Add**”
  - *Make sure the file extension is ALWAYS “.c”. This forces Visual Studio to use the C compiler.*
- Enter your source code
- Select Build | Build Solution
- If unsuccessful, fix your errors and then Select Build | Build Solution (Or <Ctrl>+<Shift>+B)
- If successful, Start without Debugging (Or <Ctrl> + F5)

Test your Solution on the Remote Host (Matrix)

Once your Visual Studio solution runs successfully, test your source file on matrix using the following instructions

- Open an SSH client like PuTTY
- Login to matrix.senecac.on.ca
- Enter your userid and password
- create a directory named w01 and change into that directory
  - mkdir w01 <ENTER>
  - cd w01 <ENTER>
- Open an SFTP client like WinSCP
- Login to matrix.senecac.on.ca
- Enter your userid and password
- Transfer your source file from your local computer to the directory named w01
  - *Make sure the files are transferred in text and not binary, change the transmission setting from automatic to text.*
- Compile and run your solution on matrix
  - gcc w1_lab.c –o w1 <ENTER>
  - w1 <ENTER>

Make sure the output is exactly as required: ***** Welcome to C Programming *****

IN_LAB SUBMISSION:

If not on matrix already, upload your **w1_lab.c** file to your matrix account (see SFTP instructions above). Compile and run your code and make sure that everything works properly.

Then, run the following script from your account: (replace profname.proflastname with your professor's Seneca userid and replace **NAA** with your section)

~profname.proflastname/submit 144w1/NAA_lab <ENTER>

and follow the instructions.

AT_HOME: TITLE (30%)

For the at_home part of your submission, you are to upgrade your program to display:

```
>*********************************<
>*** Welcome to C Programming ***<
>*********************************<
```

Save your solution in a source file named **w1_home.c**

AT-HOME REFLECTION (40%)

In 3 or 4 sentences describe in your own words what you have learned in completing this workshop in a text file named `reflect.txt.`

> **Note: when completing the workshop reflection it is a violation of academic policy to cut and paste content from the course notes or any other published source, or to copy the work of another student.**

AT_HOME SUBMISSION:

If not on matrix already, upload your `w1_home.c,` and `reflect.txt` files to your matrix account (see SFTP instructions above). Compile and run your code and make sure everything works properly.

Then run the following script from your account: (replace profname.proflastname with your professors Seneca userid and replace **NAA** with your section))

~profname.proflastname/submit 144w1/NAA_home <ENTER>

and follow the instructions.