

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 the line between two red arrows:

```
          1          2          3          4
123456789012345678901234567890123456789012
-> | IPC144 SCP Workshop One | <-
```

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 2017 project using the following instructions:

- Start Visual Studio 2017
- Select File → New → **Project...**
- Select Visual C++ → Windows Desktop → **Windows Desktop Wizard**
- Enter Workshop1 as the Project Name | Select OK
- Set Application Type: **Console Application (.exe)**
- Uncheck **Precompiled Header**
- Uncheck **Security Development Lifecycle (SDL) checks**
- Check **Empty Project** | Click OK
- Select Project -> Add New Item
- Select Code | C++ file | Enter w1_lab.c as the File Name | Press OK
 - *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 (see the in-lab yellow section)

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)

```
~profname.proflastname/submit 144_w1_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:

```

      1           2           3           4
123456789012345678901234567890123456789012
->  +-----+-----+-----+-----+ <-
->  |                                     | <-
->  |          IPC144 SCP Workshop One   | <-
->  |                                     | <-
->  +-----+-----+-----+-----+ <-

```

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`, `reflect.txt` 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)

```
~profname.proflastname/submit 144_w1_home <ENTER>
```

and follow the instructions.