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 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](https://scs.senecac.on.ca/~oop244/pages/workshops/w2.html#sub)

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.