I. Debugging Skills

1. Use a walkthrough table.

<https://ict.senecacollege.ca/~btp100/pages/content/walks.html#wal>

2. Use printf statements to \*trace\* your code. Look for clues in the output of your program.

3. When a program has function calls, use Visual Studio Debugger.

4. two video clips [10 minutes, 9 minutes]

<https://ict.senecacollege.ca//~peter.liu/onlineF2020/btp100/DebuggingSkill_1.mp4>

<https://ict.senecacollege.ca//~peter.liu/onlineF2020/btp100/Debugger_VS2019.mp4>

II. Visual Studio Debugger

<https://docs.microsoft.com/en-us/visualstudio/debugger/debugger-feature-tour?view=vs-2019>

A. Practical Tips

1. Set breakpoints (in the source file).
2. Press F5 . [Debug > Start Debugging (F5)]
3. Use Step Commands.

At a breakpoint, step though the code.

1. Step In: Debug > Step Into (F11).

Note: F11 is very useful for tracking the EXECUTION FLOW (i.e. FLOW OF CONTROL) of a

program! e.g. function calls

1. Step Over: Debug > Step Over (F10)
2. Step Out: Debug > Step Out (shift + F11)
3. View/Examine the values of variables.
4. the Autos window/tab
5. the Locals window/tab

B. Tutorial: Debug C++ Code in Visual Studio

<https://docs.microsoft.com/en-us/visualstudio/debugger/getting-started-with-the-debugger-cpp?view=vs-2019>

C. YouTube

IPC144 (Seneca)Tutorial

<https://youtu.be/tfdMnOGJPtM> (printf)

<https://youtu.be/BLzzGeJ5jjc> (Visual Studio Debugger)

Debugging with Breakpoints in Visual Studio

<https://www.youtube.com/watch?v=7ab4z9u7Q_I>

Using the Visual Studio Debugger

<https://www.youtube.com/watch?v=sACkw915kmg>