Installing VS Code

Matthew Thompson – MatThompson@lincoln.ac.uk – 25/09/2023

This guide is intended for anyone not using Windows (or just doesn't want to use VS Community 2022). This method is recommended for laptops, due to the more compact IDE.

1 Install a compiler

Linux already has a C and C++ compiler installed by default - Windows and MacOS do not. So, for Mac and Windows users, the following step must be completed.

1.1 MacOS

Installing a C++ compiler on MacOS is as simple as running one command in the Terminal. To do this, open a terminal and type:

```
xcode-select --install
```

From here, you may have some MacOS popups, click accept/install to them all. You can close the terminal once this has been completed.

1.2 Windows

To install a C++ compiler in Windows, you can either install VS Community 2022, or run MinGW-w64 (linked here). My advise would be if you wish to use VS Code, then use MinGW-w64 (requires a little more setup).

2 Install VS Code

VS Code can be downloaded from this site (linked here). Note that on Linux, there is no GUI installer, and this will need to be done in the terminal.

3 Install C/C++ Extensions

Once you are in VS Code, head the extensions tab in the sidebar (looks like some blocks). You should search for and install the following packages:

- C/C++
- Code Runner
- C/C++ Themes (not necessary, but nice to have)

4 Create and Run HelloWorld.cpp

You should make a new local folder (C++ compilers sometimes have issues working with .cpp files in remote folders). Once you have made that, go to File -> Open Folder, and select the folder. Now, go to File -> New File, type in “HelloWorld.cpp” (no spaces) and create the file. Once you have done that, you can paste in the following:

```
// paste this into HelloWorld.cpp
#include <iostream>

using namespace std;
int main(){
        string name;
        cout<<"Hello World!";

        return 0;
}
```

Now, go to the dropdown in the top right hand corner - it should have two options: Debug and Run. We just want to run, so click run. You will now have a prompt to pick your compiler. Pick any of the ones listed (it shouldn’t matter). The Output tab will now show "Hello World!", plus some run data. This is fine for output only programs, however for programs which require user input, as the output tab does not allow input, this will not work. As such, go to Settings and search “Code-runner: Run In Terminal”. Tick the box and close the tab. Congrats, you have installed VS Code for C++! It is also worth noting that VS Code is a powerful IDE that accepts most programming languages, so you may wish to use it to run Python scripts as well.