C++ [materials](https://www.codecademy.com/learn/learn-c-plus-plus/modules/learn-cpp-hello-world/cheatsheet)

* Running [C++ in VSCode](https://www.youtube.com/watch?v=hKCYP4HWisE%5d)
* [Data Structure](https://www.codecademy.com/learn/c-plus-plus-for-programmers/modules/cpp-built-in-data-structures/cheatsheet) in C++

[Codecademy cheatsheets](https://www.codecademy.com/resources/cheatsheets/all)

Running [C++ locally](https://www.youtube.com/watch?v=GxHLErBLgI8) – Windows

**Note**: In the video above, some of the instructions for downloading and installing g++ are outdated.

* **At 2:54** in the video, navigate to [https://www.msys2.org](https://www.msys2.org/) instead of mingw.org.
* Under the “Installation” heading, complete steps 1 through 4 to download and install MSYS2. We recommend that you choose the default folder for installation.
* Complete steps 5 through 7 to ensure all packages are up to date and to install g++. Be sure to enter the commands exactly!
* To use the tools that you have downloaded and installed, you will need to add them to the PATH environment variable. Pick up in the video at 4:17 for instructions on how to do this, but note that the directory you add will be different! If you used the default installation location (C:\msys64), the directory you should add to PATH is C:\msys64\mingw64\bin. If you installed MSYS2 elsewhere, simply add \mingw64\bin to your installation location.

In C++, there are **many different ways of classifying errors**, but they can be boiled down to four categories:

* Compile-time errors: Errors found by the compiler.
* Link-time errors: Errors found by the linker when it is trying to combine object files into an executable program.
* Run-time errors: Errors found by checks in a running program.
* Logic errors: Errors found by the programmer looking for the causes of erroneous results.