CMake

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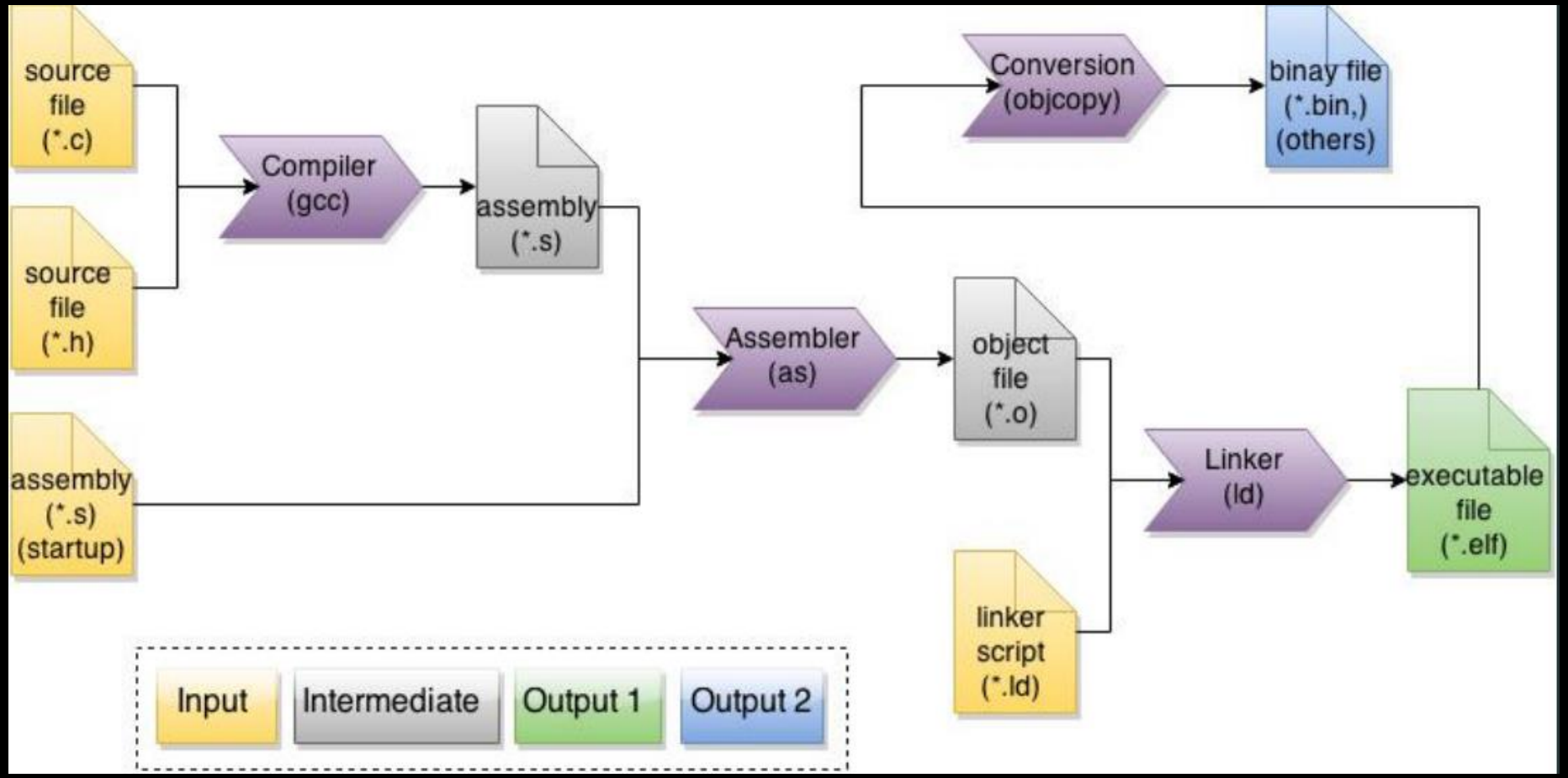
Let's start with the basic

Normally in IDE, there are 2 main steps:

1. build/compile
2. debug/run/flash

So, what is done behind the scene?

Build process in C/C++



Demo of simple program

Let’s try tutorial1 program consisted of just 4 lines of code!

What is Cmake?

- cross-platform free and open-source software
- for build automation, testing, packaging and installation of software by using a compiler-independent method.
- CMake is not a build system but rather it generates another system's build files

Demo of simple program

Let’s try tutorial2 program which includes other directory!

Examples of Cmake commands

- add_subdirectory()
- add_executable()
- add_library()
- add_custom_command()
- add_custom_target()

- target_include_directories()
- target_link_libraries()
- target_compile_options()

Examples of Cmake commands

- include()
- macro()
- file()
- list()

- get_filename_component()

FAQ

1. For microcontroller application, why we don’t use IDE? Since it is easy and fast to start?

-> Higher flexibility (board target, robot)

-> Code reusability (driver, control logic)

-> Better control for environment

2. Where should the CMakeLists.txt file be located?

-> Depends on the application, for every subdirectory added using add_subdirectory(), the folder should contains CMakeLists.txt

3. Why there are a lot of CMakeLists.txt files?

-> To make each folder as a single component and thus easier to be reused, more flexible and cleaner

Q & A

Thank you for your time