

C++ examples

I will collect some of the C++ examples that I have made while learning "modern" C++ in this repository. Each subdirectory corresponds to a different example and produces an executable in `build`.

- hello - a "hello world" could not be missing here, use it as a base for new examples
- plot - a small example for doing numerics with `std::array`, we also use the `sciplot` library to display a function using `gnuplot`. Install `gnuplot-qt` for the UI to work.

coroutines

- `coro_task` - a simple example of a coroutine-based task scheduler

Pointer to implementation - pimpl

- `pimpl` - see Item 22 in *Effective Modern C++* by Scott Meyers

stdexec - std::execution proposal for C++26

Some examples for the [P2300 proposal](#). See also <https://www.hpcwire.com/2022/12/05/new-c-sender-library-enables-portable-asynchrony/>

- `stdexec_hello` - a hello world with `stdexec` <https://github.dev/NVIDIA/stdexec>
- `stdexec_mandel` - a mandelbrot example using "bulk"
- `stdexec_partasks` - a parallel tasks example using "when_all"

type erasure

As presented in <https://youtu.be/qn6OqefuH08>. Also see <https://meetingcpp.com/mcpp/slides/2021/Type%20Erasure%20-%20A%20Design%20Analysis9268.pdf>

- `type_erasure` - type erasure as presented by Klaus Igelberger

Setup

I use VS Code with the following extensions:

- C/C++ (Microsoft)
- CMake
- CMake Tools
- C/C++ Advanced Lint (configured to use clang-15 and c++20, see `.vscode/settings.json`)

The clang-12 compiler is used as "active kit" in CMake Tools.