B.5 — Introduction to C++23

learncpp.com/cpp-tutorial/introduction-to-c23/

What is C++23?

In February of 2023, the ISO (International Organization for Standardization) approved a new version of C++, called C++23.

New improvements in C++23

For your interest, here's a list of the major changes that C++23 adds. Note that this list is not comprehensive, but rather intended to highlight some of the key changes of interest.

- Constexpr <cmath> (e.g. `std::abs()`), and <cstdlib> (6.6 -- Relational operators and floating point comparisons).
- Constexpr `std::bitset` and `std::unique_ptr` (no lesson yet).
- Explicit `this` parameter (No lesson yet).
- Formatted printing functions `std::print` and `std::println` (no lesson yet)
- Literal suffixes for `std::size_t` and the corresponding signed type (5.2 -- Literals).
- Multidimensional subscript `operator[]` (Mentioned in lesson 17.13 -- Multidimensional std::array).
- Multidimensional span `std::mdspan` (17.13 -- Multidimensional std::array).
- Preprocessor directives `#elifdef` and `#elifndef` (no lesson yet).
- Preprocessor directive `#warning` (no lesson yet).
- Stacktrace library (no lesson yet)
- Standard library modules `std` (and `std.compat`) (no lesson yet).
- Static `operator()` and `operator[]` (no lesson yet).
- `std::expected` (no lesson yet).
- `std::ranges` algorithms `starts_with`, `ends_with`, `contains` (no lesson yet)
- `std::string::contains` and `std::string_view::contains` (no lesson yet)
- `std::to_underlying` to get the underlying type of enum (13.6 -- Scoped enumerations (enum classes)).
- `std::unreachable()` (no lesson yet).
- Using unknown pointers and references in constant expressions (17.2 -- std::array length and indexing).