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header

<chrono>

Time library

chrono is the name of a header, but also of a sub-namespace: All the elements in this header (except for the `common_type` specializations) are not defined directly under the `std` namespace (like most of the standard library) but under the `std::chrono` namespace.

The elements in this header deal with time. This is done mainly by means of three concepts:

Durations

They measure time spans, like: one minute, two hours, or ten milliseconds. In this library, they are represented with objects of the `duration` class template, that couples a *count representation* and a *period precision* (e.g., ten milliseconds has ten as *count representation* and milliseconds as *period precision*).

Time points

A reference to a specific point in time, like one's birthday, today's dawn, or when the next train passes. In this library, objects of the `time_point` class template express this by using a `duration` relative to an *epoch* (which is a fixed point in time common to all `time_point` objects using the same clock).

Clocks

A framework that relates a *time point* to real physical time. The library provides at least three clocks that provide means to express the current time as a `time_point`: `system_clock`, `steady_clock` and `high_resolution_clock`.

For typical examples, see `steady_clock` or `system_clock`.

Classes

duration and time_point:

<code>duration</code>	Duration (class template)
<code>time_point</code>	Time point (class template)

clocks:

<code>system_clock</code>	System clock (class)
<code>steady_clock</code>	Steady clock (class)
<code>high_resolution_clock</code>	High resolution clock (class)

traits:

<code>treat_as_floating_point</code>	Treat as floating point (class template)
<code>duration_values</code>	Duration values (class template)
<code>common_type (duration)</code>	Specialization of <code>common_type</code> for <code>duration</code> (class template)

Functions

<code>duration_cast</code>	Duration cast (function template)
<code>time_point_cast</code>	Time_point cast (function template)

Class instantiation typedefs

The following convenience typedefs of instantiations of `duration` are also defined in this namespace:

<code>hours</code>	Duration in hours (class)
<code>minutes</code>	Duration in minutes (class)
<code>seconds</code>	Duration in seconds (class)
<code>milliseconds</code>	Duration in milliseconds (class)
<code>microseconds</code>	Duration in microseconds (class)
<code>nanoseconds</code>	Duration in nanoseconds (class)