Time Point

This lesson gives a brief introduction to time point and its usage in C++ with the help of interactive examples.

The time point `std::chrono::time_point` is defined by the starting point (epoch) and the additional time duration. The class template consists of two components: clock and time duration. By default, the time duration is derived from the clock.

```
template<
  class Clock,
  class Duration= typename Clock::duration
>
class time_point;
```

The following four special time points depend on the clock:

- *epoch*: the starting point of the clock
- *now*: the current time
- *min*: the minimum time point that the clock can have
- *max*: the maximum time point that the clock can have

The accuracy of the minimum and maximum time point depends on the clock used: `std::system::system_clock`, `std::chrono::steady_clock` or `std::chrono::high_resolution_clock`.

C++ gives no guarantee about the accuracy, the starting point, or the valid time range of a clock. The starting point of `std::chrono::system_clock` is typically 1st January 1970, the so-called UNIX-epoch. It holds further that `std::chrono::high_resolution_clock` has the highest accuracy.