



**ITMO UNIVERSITY**

# **How to Win Coding Competitions: Secrets of Champions**

**Week 3: Sorting and Search Algorithms**

**Lecture 9: Sorting: Guidelines for standard libraries**

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- ▶ If you write quicksort, write it randomized

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- ▶ Comparator for `std::sort` and `std::stable_sort`:
  - ▶ An optional argument `x` which can be called as `x(a, b)` and returns whether  $a < b$ 
    - ▶ Pointer to function (old style, not inlinable, so not recommended)
    - ▶ A class with `bool operator()(T const &, T const &) const`

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  - ▶ `Comparator`: an implementation of `java.util.Comparator<T>` interface
    - ▶ Implement `public int compare(T, T)` with result types “<”, “=”, “>”
    - ▶ In Java 8, can be done by a lambda