C++ STL Algorithms
for_each()
Find()

- InputIterator find (InputIterator first, InputIterator last, const T& val);
  - Return iterator to first element equal to val
- Examples/r8/find1.cpp
  - To compile: make find1.x
Count()

• `count (InputIterator first, InputIterator last, const T& val);`
  – Count number of elements equal to `val`

• **Examples/r8/count1.cpp**
  – To compile: make `count1.x`
max() and min()

- template <class T> const T& max (const T& a, const T& b);
  - Return largest of the two
- template <class T> const T& min (const T& a, const T& b);
  - Return smallest of the two
- Examples/r8/max_min1.cpp
max_element() and min_element()

- Get maximum and minimum element respectively, in a range, specified using iterators
- Examples/r8/max_min_element1.cpp
  - To compile: make max_min_element1.x
Sorting

- `sort()`: does not guarantee orders of equal elements
- `stable_sort()`: stable sort
- `is_sorted()`: check if elements are sorted
- Examples/r8/sort1.cpp
Reverse()

- Reverse elements in the range
- Examples/r8/reverse1.cpp
Copy()

- OutputIterator copy (InputIterator first, InputIterator last, OutputIterator result);
  - Copy elements in the range to destination

- Examples/r8/copy1.cpp
Transform()

• Applies some operation on the elements in a range

  OutputIterator transform (InputIterator first1, InputIterator last1,
  OutputIterator result, UnaryOperation op);

• There is another form of the function

• Examples/r8/transform1.cpp
  – To compile: make transform1.x
Replace()

- void replace (ForwardIterator first, ForwardIterator last, const T& old_value, const T& new_value);
  - Change all old_value to new_value, in the given range

- Examples/r8/replace1.cpp
Remove()

- ForwardIterator remove (ForwardIterator first, ForwardIterator last, const T& val);
  - Delete elements with a given value
  - Note that this function cannot alter properties of container such as size.
  - Return iterator to an element follows the last element not deleted

- Examples/r8/remove1.cpp
  - Pay attention to the output of the program
Unique()

• ForwardIterator unique (ForwardIterator first, ForwardIterator last);
  – Removes all but the first element from every consecutive group of equivalent elements in the range [first,last).
  – Similarly, it cannot alter the properties of container
  – Return iterator to element follows last element not deleted

• Examples/r8/remove_duplicate2.cpp