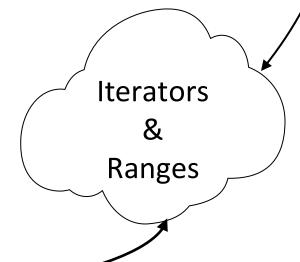
# C++ Standard Library

#### **ALGORITHMS**

- 1. Search Algorithms
- 2. Comparison Algorithms
- 3. Counting Algorithms
- 4. Sequence Modifying Algorithms
- 5. Operational Algorithms
- 6. Swap Algorithms
- 7. Partition Algorithms
- 8. Sorting Algorithms
- 9. Binary Search Algorithms
- 10. Minimum/Maximum Algorithms
- 11. Numerical Processing Algorithms
- 12. Permutation Algorithms

#### **CONTAINERS**

- 1. vector
- 2. list
- 3. forward list
- 4. deque
- 5. array
- 6. queue
- 7. priority\_queue
- 8. stack
- 9. set
- 10. multiset
- 11. map
- 12. multimap
- 13. unordered\_map
- 14. unordered\_multimap
- 15. unordered set
- 16. unordered\_multiset
- 17. bitset



#### 1. Search Algorithms

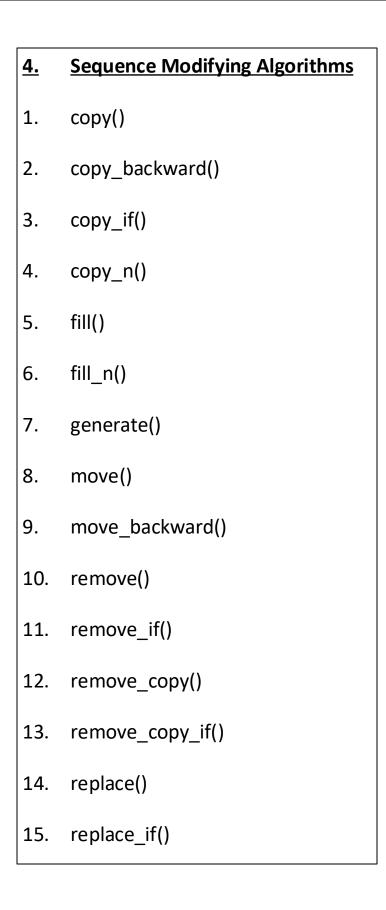
- adjacent\_find()
- 2. find()
- 3. find\_if()
- 4. find\_first\_of()
- 5. find\_if\_not()
- 6. find\_end()
- 7. search()
- 8. search\_n()

### 2. Comparison Algorithms

- 1. equal()
- 2. mismatch()
- 3. lexicographical\_compare()
- 4. lexicographical\_compare\_three\_way()

## 3. Counting Algorithms

- 1. all\_of()
- 2. any\_of()
- 3. none\_of()
- 4. count()
- 5. count\_if()



#### ... 4. Sequence Modifying Algorithms

- 16. replace\_copy()
- 17. replace\_copy\_if()
- 18. reverse()
- 19. reverse\_copy()
- 20. rotate()
- 21. rotate\_copy()
- 22. sample()
- 23. shift\_left()
- 24. shift\_right()
- 25. shuffle()
- 26. random\_shuffle()
- 27. transform()
- 28. unique()
- 29. unique\_copy()

### 5. Operational Algorithms

- 1. for\_each()
- 2. for\_each\_n()

#### 6. Swap Algorithms

- 1. iter\_swap()
- 2. swap\_ranges()

#### 7. Partition Algorithms

- 1. is\_partitioned()
- 2. partition()
- stable\_partition()
- 4. partition\_copy()
- 5. partition\_point()

## 8. Sorting Algorithms

- 1. is\_sorted()
- 2. is\_sorted\_until()
- 3. nth\_element()
- 4. partial\_sort()
- partial\_sort\_copy()
- 6. stable\_sort()
- 7. sort()

#### 9. Binary Search Algorithms

- lower\_bound()
- upper\_bound()
- 3. equal\_range()
- 4. binary\_search()

### 10. Set Algorithms

- inplace\_merge()
- 2. merge()
- 3. includes()
- 4. set\_union()
- 5. set\_intersection()
- 6. set\_difference()
- 7. set\_symmetric\_difference()

#### 11. Heap Algorithm

- 1. is\_heap()
- 2. is\_heap\_until()
- 3. make\_heap()
- 4. push\_heap()
- 5. pop\_heap()
- 6. sort\_heap()

<u>12.</u>	Minimum/Maximum Algorithms
1.	clamp()
2.	min()
3.	max()
4.	minmax()
5.	min_element()
6.	max_element()
7.	minmax_element()

#### <u>13.</u> **Numerical Processing Algorithms** 1. iota() adjacent\_difference() 2. partial\_sum() 3. exclusive\_scan() 4. inclusive\_scan() 5. transform\_exclusive\_scan() 6. transform\_inclusive\_scan() 7. accumulate() 8. inner\_product() 9. reduce() 10.

#### 14. Permutation Algorithms

transform\_reduce()

1. is\_permutation()

11.

- next\_permutation()
- prev\_permutation()

	Containers
1	vector
2	list
3	forward_list
4	deque
5	array
6	queue
7	priority_queue
8	stack
9	set
10	multiset
11	map
12	multimap
13	unordered_map
14	unordered_multimap
15	unordered_set
16	unordered_multiset
17	bitset

Alg	Algorithms	
1	Search	
2	Comparison	
3	Counting	
4	Sequence Modifying	
5	Operational	
6	Swap	
7	Partition	
8	Sorting	
9	Binary Search	
10	Set	
11	Неар	
12	Minimum/Maximum	
13	Numerical Processing	
14	Permutation	

1. Search Al	1. Search Algorithms	
adjacent_find()		
find()		
find_if()		
find_first_of()		
find_if_not()		
find_end()		
search()		
search_n()		

2. Comparison Alg	orithms
equal()	
mismatch()	
lexicographical_compare()	
lexicographical_compare_three_way()	

3. Coun	ting Algorithms
all_of()	
any_of()	
none_of()	
count()	
count_if()	

4. Sequence Modifying Algorithms
copy()
copy_backward()
copy_if()
copy_n()
fill()
fill_n()
generate()
move()
move_backward()
remove()
remove_if()
remove_copy()
remove_copy_if()
replace()
replace_if()
replace_copy()
replace_copy_if()

4. Sequence M	Sequence Modifying Algorithms	
(contd.)		
reverse()		
reverse_copy()		
rotate()		
rotate_copy()		
sample()		
shift_left()		
shift_right()		
shuffle()		
random_shuffle()		
transform()		
unique()		
unique_copy()		

5. Operational Algorithms	
for_each()	
for_each_n()	

6. Swap Algo	Swap Algorithms	
iter_swap()		
swap_ranges()		

7. Pa	rtition Alg	gorithms
is_partitioned()		
partition(	()	
stable_pa	artition()	
partition_	_copy()	
partition_	_point()	

8. Sorting Algorit	hms
is_sorted()	
is_sorted_until()	
nth_element()	
partial_sort()	
partial_sort_copy()	
stable_sort()	
sort()	

9.	Binary Search Algorithms		
lower_	_bound()		
upper	_bound()		
equal_	_range()		
binary	_search()		

10. Set Algorithms	
inplace_merge()	
merge()	
includes()	
set_union()	
set_intersection()	
set_difference()	
set_symmetric_difference()	

11. Heap Algorithm		
is_heap()		
<pre>is_heap_until()</pre>		
make_heap()		
push_heap()		
pop_heap()		
sort_heap()		

12. Minimum/Maximum Algorithms		
clamp()		
min()		
max()		
minmax()		
min_element()		
max_element()		
minmax_element()		

13. Numerical Processing Algorithms		
iota()		
adjacent_difference()		
partial_sum()		
exclusive_scan()		
inclusive_scan()		
transform_exclusive_scan()		
transform_inclusive_scan()		
accumulate()		
inner_product()		
reduce()		
transform_reduce()		

14. Permutation Algorithms	
is_permutation()	
next_permutation()	
prev_permutation()	