


THE STL ALGORITHMS CHEAT SHEET

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ZIP ALGORITHMS

inner_product zip_reduce
transform_reduce¹⁷ zip_reduce
transform zip_with
mismatch zip_find_not
equal zip_reduce*

ORDER LOGN ALGORITHMS

binary_search
lower_bound
upper_bound
equal_range
partition_point

CODE REVIEW A

sort $O(n \log n)$
partial_sort $O(n) - O(n^2)$
nth_element $O(n)$

CODE REVIEW B

find_if $O(n)$
lower_bound $O(\log n)$

ALGORITHM RELATIONSHIPS

is_sorted -> is_sorted_until -> adjacent_find -> mismatch

THE ALGORITHM INTUITION TABLE

Algorithm	Indexes Viewed	Accumulator	Reduce / Map	Default Op
accumulate reduce ¹⁷	1	Yes	Reduce	plus{}
	count, count_if, min_element, max_element, minmax_element			
partial_sum inclusive_scan ¹⁷	1	Yes	Map	plus{}
find_if	1	No	Reduce	-
	find, all_of, any_of, none_of			
transform	1/2	No	Map	-
	replace ¹⁷ , replace_if ¹⁷			
adjacent_difference	2	No	Map	minus{}
inner_product transform_reduce ¹⁷	1/2	Yes	Reduce	plus{ multiplies{}
transform_inclusive_scan ¹⁷	1/2	Yes	Map	-
mismatch	1/2	No	Reduce	equal{}
adjacent_find	2	No	Reduce	equal{}

Note: non-accumulator reductions all short-circuit

THE TWIN ALGORITHMS

to be announced (at a future conference)