

Advance CPP

Duration : 25 Hrs

Templates

- What are templates,
- Basic syntax,
- Function templates,
- Class templates,
- When to use templates,
- Typical problems when using templates.

STL Sequential containers

- Types of sequential containers
 - vector, deque, list and their API,
- Sequential container adapters
 - stack, queue and priority queue,
- Dealing with objects as container elements,
- Usage – when to use what.

STL Associative containers

- Types of associative containers,
- set and multiset – behaviour and API,
- map and multimap – behaviour and API,
- Putting objects into set and map,
- Usage – when to use what.

Non-modifying STL algorithms

- Definition of a non-modifying algorithm
- List of non-modifying algorithms:
 - for_each,
 - find, find_if, find_end, find_first_of, adjacent_find,
 - count, count_if,
 - mismatch, equal, search, search_n,
- Container compatibility.

Impetus IT Services Pvt.Ltd.

B-16, First floor, Sant Tukaram Vyapar Sankul, Sector - 24, Nigdi, Pune, Maharashtra. India. Pin – 411044.

Mobile 9970600774, 9730012775 | Board 91-20-27640406 | Fax 91-20-27641703

Email : hrishikesh@impetusitservices.com | Website <http://impetusits.in>

Modifying STL algorithms

- Definition of a modifying algorithm,
- List of modifying algorithms:
 - transform, copy, copy_backward,
 - swap, swap_ranges, iter_swap,
 - replace,
 - fill, fill_n, generate, generate_n,
 - remove, remove_if,
 - unique, unique_copy, reverse, reverse_copy,
 - rotate, partition, stable_partition
 - Container compatibility.

Sorting STL operations

- List of sorting algorithms:
 - random_shuffle, sort, stable_partition,
 - lower_bound, upper_bound, equal_range, binary_search,
- Containers compatibility,
- Sorting of objects.

STL merge operations

- List of merging algorithms:
 - merge, includes, min_element, max_element, inplace_merge,
- STL operations for sets,.

STL utilities and functional library

- STL “small” tools,
- List of useful functors,

STL advanced I/O

- Classes which provide the input and output capability,
- Console I/O,
- Formatting,
- File I/O,
- Strings I/O,

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