★ Containers library

⇒ Collection of class templates & algorithms that allows programmers to easily implement common data structures.

⇒ There are three classes of Containers:

① Sequence Containers.

- (a) array
  - ↳ Static contiguous array
- (b) vector
  - ↳ dynamic contiguous array
- (c) deque
  - ↳ double-ended queue
  - ↳ Allows fast insertion & deletion at both its beginning and its end.
- (d) forward_list
  - ↳ singly-linked list.
  - ↳ fast insertion and removal of elements from anywhere in the container

ⓒ list
  ↳ doubly-linked list
  ↳ bidirectional iteration capability

② Associative Containers

Sorted
↑ data structures that can be quickly searched
(O(log n) complexity)

ⓐ set
  ↳ Collection of unique keys, sorted by keys.

ⓑ map
  ↳ Collection of key-value pairs, sorted by keys, keys are unique.

ⓒ multiset
  ↳ Collection of keys, sorted by keys

ⓓ multimap
  ↳ Collection of key-value pairs, sorted by keys

③ Unordered associative Containers

⇒ Implements unsorted (hashed) data structures that can be quickly searched
(O(1) amortized
O(n) worst-case Complexity)

ⓐ unordered_set
ⓑ Unordered_map
ⓒ Unordered_multiset
ⓓ Unordered_multimap

⊛ Container adaptors

- Provides a different interface for Sequential containers.

ⓐ Stack
   └→ LIFO datastructure

ⓑ queue
   └→ FIFO datastructure

ⓒ Priority_queue