STL AND smart pointer

STL: [cplusplus.com/reference/stl/](https://cplusplus.com/reference/stl/)

Datatype | Decl | Internal add remove search(min/max) OneWay/TwoWay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| STL | Decl | Internal DS | Add | Remove | Search(min/max) |
| Array | Array<int, 5> arr; |  |  |  |  |
| Vector | Vector<int> vec; |  |  |  |  |
| deque | Deque<int> dq(10); | Circular LL |  |  |  |
| Froward\_list |  | Singly LL |  |  |  |
| List |  | DLL |  |  |  |
| Stack |  | Link list | O(1) | O(1) | NA |
| queue |  | Link list | O(1) | O(1) | NA |
| Priority\_queue |  | Max heap | O(Logn) | O(logn) | O(1) |
| set |  | Balanced BST | O(Logn) | O(Logn) | O(Logn) |
| Multiset |  | Balanced BST | O(Logn) | O(Logn) | O(Logn) |
| Map |  | Balanced BST | O(Logn) | O(Logn) | O(Logn) |
| Multimap |  | Balanced BST | O(Logn) | O(Logn) | O(Logn) |
| Unordered\_set |  | Hash map | O(1) | O(1) | O(1) |
| Unordered\_multiset |  | Hash map | O(1) | O(1) | O(1) |
| Unordered\_map |  | Hash map | O(1) | O(1) | O(1) |
| Unordered\_multimap |  | Hash map | O(1) | O(1) | O(1) |
| Bitset | bitset<size> variable\_name(initialization); |  |  |  |  |
| ValArray | valarray<int> varr = { 10, 2, 20, 1, 30 }; |  |  |  |  |