

1. STL : Standard Template Library

- a. Vector
- b. Stack
- c. Queue
- d. Deque
- e. Priority Queue
- f. **Set** [sort + unique, distinct]
- g. **Multiset**
- h. **Map**

2. STL Set Operations : insert $O(\log n)$, erase $O(\log n)$, find $O(\log n)$, size $O(1)$ printing $O(n)$. end() is the last element's next pointer. For non existing value it returns end pointer

3. STL Multiset : Values are sorted only not mandatory to have distinct. insert , size, find same as set, Except **erase()** Erase function delete all occurrence of that value in multiset. To delete a single occurrence we can use : **erase(find())** . if erase(end() pointer) multiset will be crashed.

4. STL Pair : keep two data type in a pair : pair < int, string > Sorting with pair to know the previous index, pair is NEEDED.

5. STL Map : Pair of {key, value} Map = {1, 10}, {2, 20}, {3, 30} Map will be in sorted order based on key. Map insert = $O(\log N)$ Map access = $O(\log N)$ Map Print = $O(N)$