List

`#include <list>

std::list<DataType> listName;`

Unveiling List:

- Doubly Linked Delight: Implemented with a doubly linked list.
- Traversal Triumph: No random access; traversal for data access.
- List's Toolkit: Methods include push_front, push_back, pop_front, pop_back, insert, erase, size, empty, and more.

Methods:

1. push_back(value): Adds an element to the end of the list.
2. push_front(value): Adds an element to the beginning of the list.
3. pop_back(): Removes the last element from the list.
4. pop_front(): Removes the first element from the list.
5. emplace_back(): Constructs and adds an element to the end in-place.
6. emplace_front(): Constructs and adds an element to the beginning in-place.
7. insert(position, value): Inserts elements at the specified position.
8. erase(position): Removes the element at the specified position.
9. clear(): Removes all elements from the list.

10. size(): Returns the number of elements in the list.

11. max_size(): Returns the maximum possible number of elements the list can hold.

12. resize(new_size[, value]): Changes the size of the list. Optionally, a value can be provided to initialize new elements.

13. empty(): Checks if the list is empty (i.e., if its size is zero).

14. splice(position, other_list[, position]): Moves elements from another list to the specified position.

15. remove(value): Removes all elements equal to the specified value.

16. remove_if(predicate): Removes elements based on a given predicate.

17. unique(): Removes consecutive duplicate elements from the list.

18. sort(): Sorts the elements of the list in ascending order.

19. reverse(): Reverses the order of elements in the list.

20. merge(other_list): Merges elements from another list into this list in a sorted manner.
21. swap(other_list): Swaps the contents of two lists of the same type.

22. begin(): Returns an iterator to the beginning of the list.

23. end(): Returns an iterator to the end of the list.

24. rbegin(): Returns a reverse iterator to the reverse beginning of the list.

25. rend(): Returns a reverse iterator to the reverse end of the list.